LIST OF ATTACHMENTS

Affidavit of Scott Laleman

Exhibit 1	FCC Form 470
Exhibit 2	South San Antonio's 2005 Request for Proposal
Exhibit 3a	Bid submitted by Avnet
Exhibit 3b	Bid submitted by AT&T
Exhibit 3c	Bid submitted by Presidio
Exhibit 3d	Bid submitted by from RxTechnologies
Exhibit 4	Competitive Bidding Matrix
Exhibit 5	Letter from Sandra A. Soto, Information on RFP 05-48 dated February 9, 2009
Exhibit 6	Board Minutes from February 16, 2005 Board Meeting, attachment (South San Antonio Department of Technology Memorandum)
Exhibit 7	Avnet Contract with South San Antonio
Exhibit 8	Notification of Commitment Adjustment Letter dated June 21
Exhibit 9	Notice of Intent to Deny Letter (Nov. 8, 2013)
Exhibit 10	Email from Jane Kellogg, Kellogg and Sovereign, to Jeff Walsh, USAC, Nov. 22, 2013
Exhibit 11	USAC Decision on Appeal (Aug. 29, 2017)
Exhibit 12	Bid Documentation dated Jan. 21, 2017
Exhibit 13	South San Antonio Express News advertisements
Exhibit 14	SBC Letter dated Jan. 27, 2005 asking to remove sub-contractor clause

Affidavit of Scott Laleman

I, Scott Laleman, swear:

1. That I am the Director of Technology of the South San Antonio Independent School District. I was hired by the district for that position in August 2016.
2. That I have read the foregoing appeal and avow the information stated therein is true and correct to the best of my knowledge and belief.

Scott Laleman
Director of Technology
South San Antonio Independent School District
5622 Ray Ellison Boulevard
San Antonio, TX 78242

Subscribed and sworn to before me this 26 day of October, 2017.

[Seal]

Notary Public

MICHELLE MARTINEZ
My Notary ID # 130846940
Expires October 3, 2020

Exhibit 1

FCC Form

Approval by OMB
3060-0806

470

Schools and Libraries Universal Service
Description of Services Requested
and Certification Form

Estimated Average Burden Hours Per Response: 4.0 hours

This form is designed to help you describe the eligible telecommunications-related services you seek so that this data can be posted on the Fund Administrator website and interested service providers can identify you as a potential customer and compete to serve you.

Please read instructions before beginning this application. (To be completed by entity that will negotiate with providers.)

Block 1: Applicant Address and Identifications

Form 470 Application Number: 493980000533369

Applicant's Form Identifier: yr8 internal conn

Application Status: CERTIFIED

Posting Date: 01/12/2005

Allowable Contract Date: 02/09/2005

Certification Received Date: 01/12/2005

1. Name of Applicant:
SOUTH SAN ANTONIO IND SCH DIST

2. Funding Year:	3. Your Entity Number
07/01/2005 - 06/30/2006	141548

4a. Applicant's Street Address, P.O.Box, or Route Number
2515 BOBCAT LANE

City	State	Zip Code
SAN ANTONIO	TX	78224 - 1226

b. Telephone number ext.	c. Fax number
(210) 977- 7000	(210) 977- 7021

5. Type Of Applicant

- ○ Individual School (individual public or non-public school)
- ◉ School District (LEA;public or non-public[e.g., diocesan] local district representing multiple schools)
- ○ Library (including library system, library outlet/branch or library consortium as defined under LSTA)
- ○ Consortium (intermediate service agencies, states, state networks, special consortia of schools and/or libraries)

6a. Contact Person's Name: Sandra A. Soto

*First, if the Contact Person's Street Address is the same as in **Item 4** above, check this box. If not, please complete the entries for the Street Address below.*

6b. Street Address, P.O.Box, or Route Number
2515 BOBCAT LANE

City	State	Zip Code
SAN ANTONIO	TX	78224 - 1226

Check the box next to your preferred mode of contact and provide your contact information. One box MUST be checked and an entry provided.

○	**6c. Telephone Number** (210) 977- 7377
○	**6d. Fax Number** (210) 977- 7378
○	**6e. E-mail Address** ssoto@southsanisd net

Block 2: Summary Description of Needs or Services Requested

7 This Form 470 describes (check all that apply):

a. ☐ Tariffed or month-to-month services to be provided without a written contract. A new Form 470 must be filed for non-contracted tariffed or month-to-month services for each funding year.

b. ☑ Services for which a new written contract is sought for the funding year in Item 2.

Check if you are seeking ☐ a multi-year contract and/or ☐ a contract featuring voluntary extensions

c. ☐ A multi-year contract signed on or before 7/10/97 but for which no Form 470 has been filed in a previous funding year.

NOTE: Services that are covered by a signed, written contract executed pursuant to posting of a Form 470 in a previous funding year OR a contract signed on/before 7/10/97 and previously reported on a Form 470 as an existing contract do NOT require filing of a new Form 470.

What kinds of service are you seeking: Telecommunications Services, Internet Access, Internal Connections Other than Basic Maintenance, or Basic Maintenance of Internal Connections? Refer to the Eligible Services List at www.sl.universalservice.org for examples. Check the relevant category or categories (8, 9, 10 and/or 11 below), and answer the questions in each category you select.

8 ☐ **Telecommunications Services**

Do you have a Request for Proposal (RFP) that specifies the services you are seeking ? If you check YES, your RFP must be available to all interested bidders for at least 28 days. If you check YES and your RFP is not available to all interested bidders, or if you check NO and you have or intend to have an RFP, you risk denial of your funding requests.

a ○ **YES**, I have released or intend to release an RFP for these services. It is available or will become available on the Web at or via (check one):

☐ the Contact Person in Item 6 or ☐ the contact listed in Item 12.

b ○ **NO**, I have not released and do not intend to release an RFP for these services.

Whether you check YES or NO, you must list below the Telecommunications Services you seek. Specify each service or function (e.g., local voice service) and quantity and/or capacity (e.g., 20 existing lines plus 10 new ones). See the Eligible Services List at www.sl.universalservice.org for examples of eligible Telecommunications services. Remember that only eligible telecommunications providers can provide these services under the universal service support mechanism. Attach additional lines if needed.

c ○ **Check this box if you prefer discounts on your bill.**	○ **Check this box if you prefer reimbursement after paying your bill in full.**	○ **Check this box if you do not have a preference.**

9 ☐ **Internet Access**

Do you have a Request for Proposal (RFP) that specifies the services you are seeking ? If you check YES, your RFP must be available to all interested bidders for at least 28 days. If you check YES and your RFP is not available to all interested bidders, or if you check NO and you have or intend to have an RFP, you risk denial of your funding requests.

a ○ **YES**, I have released or intend to release an RFP for these services. It is available or will become available on the Web at or via (check one):
☐ the Contact Person in Item 6 or ☐ the contact listed in Item 12.

b ○ **NO**, I have not released and do not intend to release an RFP for these services.

Whether you check YES or NO, you must list below the Internet Access Services you seek. Specify each service or function (e.g., monthly Internet service) and quantity and/or capacity (e.g., for 500 users). See the Eligible Services List at www.sl.universalservice.org for examples of eligible Internet Access services. Attach additional lines if needed.

c ○ **Check this box if you prefer discounts on your bill.**	○ **Check this box if you prefer reimbursement after paying your bill in full.**	○ **Check this box if you do not have a preference.**

10 ☑ **Internal Connections Other than Basic Maintenance**

Do you have a Request for Proposal (RFP) that specifies the services you are seeking ? If you check YES, your RFP must be available to all interested bidders for at least 28 days. If you check YES and your RFP is not available to all interested bidders, or if you check NO and you have or intend to have an RFP, you risk denial of your funding requests.

a ◉ **YES**, I have released or intend to release an RFP for these services. It is available or will become available on the Web at **www.southsanisd.net** or via (check one):
☐ the Contact Person in Item 6 or ☐ the contact listed in Item 12.

b ○ **NO**, I have not released and do not intend to release an RFP for these services.

Whether you check YES or NO, you must list below the Internal Connections Services you seek. Specify each service or function (e.g., a router, hub and cabling) and quantity and/or capacity (e.g., connecting 1 classroom of 30 students). See the Eligible Services List at www.sl.universalservice.org for examples of eligible Internal Connections services. Attach additional lines if needed.

c ○ **Check this box if you prefer discounts on your bill.**	○ **Check this box if you prefer reimbursement after paying your bill in full.**	○ **Check this box if you do not have a preference.**

11 ☐ **Basic Maintenance of Internal Connections**

Do you have a Request for Proposal (RFP) that specifies the services you are seeking ? If you check YES, your RFP must be available to all interested bidders for at least 28 days. If you check YES and your RFP is not available to all interested bidders, or if you check NO and you have or intend to have an RFP, you risk denial of your funding requests.

a ○ **YES**, I have released or intend to release an RFP for these services. It is available or will become available on the Web at or via (check one):
☐ the Contact Person in Item 6 or ☐ the contact listed in Item 12.

b ○ **NO**, I have not released and do not intend to release an RFP for these services.

Whether you check YES or NO, you must list below the Basic Maintenance Services you seek. Specify each service or function (e.g.,basic maintenance of routers) and quantity and/or capacity (e.g., for 10 routers). See the Eligible Services List at www.sl.universalservice.org for examples of eligible Basic Maintenance services. Attach additional lines if needed.

c ○ **Check this box if you prefer discounts on your bill.**	○ **Check this box if you prefer reimbursement after paying your bill in full.**	○ **Check this box if you do not have a preference.**

12 (Optional) Please name the person on your staff or project who can provide additional technical details or answer specific questions from service providers about the services you are seeking. This need not be the contact person listed in Item 6 nor the Authorized Person who signs this form.

Name: **S Soto**	Title: **Director of Technology**
Telephone number **(210) 977 - 7377**	
Fax number **(210) 977 - 7378**	

E-mail Address
ssoto@southsanisd net

13a. ☑ Check this box if there are any restrictions imposed by state or local laws or regulations on how or when service providers may contact you or on other bidding procedures. Please describe below any such restrictions or procedures, and/or provide a Web address where they are posted and a contact name and telephone number. **All contact for RFP must be done so through the US Postal Mail to the district address and at the attention of the Purchasing Department. Vendor must be a state of Texas CISV Catalog Information Systems Vendor. Vendor must be a Cisco Gold Partner and a HP Gold/Premier Authorized Reseller.**

☐ Check this box if no state and local procurement/competitive bidding requirements apply to the procurement of services sought on this Form 470.

13b. If you have plans to purchase additional services in future years, or expect to seek new contracts for existing services, you may summarize below (including the likely timeframes). If you are requesting services for a funding year for which a Form 470 cannot yet be filed online, include that information here. If you intend to enter into a multi-year contract based on this posting or a contract featuring as option for voluntary extensions you may provide that information below. If you have plans on how to purchase additional services in future years, or expect to seek new contracts for existing services, summarize below(including the likely timeframes). The South San Antonio ISD may consider multi-year pricing as an item when awarding the RFP and its relation to "most cost effective for the district"

Block 3: Technology Assessment

14. ☐ **Basic telephone service only:** If your application is for basic telephone service and voice mail only, check this box and skip to Item **16**. Basic telephone service is defined as wireline or wireless single line voice service (local, cellular/PCS, and/or long distance) and mandatory fees associated with such service (e.g., federal and state taxes and universal service fees).

15. Although the following services and facilities are ineligible for support, they are usually necessary to make effective use of the eligible services requested in this application. Unless you indicated in Item **14** that your application is ONLY for basic telephone service, you must check one or both boxes in **15a** through **15e**. You may provide details for purchases being sought.

a. Desktop communications software: Software required ☐ has been purchased; and/or ☐ is being sought.

b. Electrical systems: ☐ adequate electrical capacity is in place or has already been arranged; and/or ☐ upgrading for additional electrical capacity is being sought.

c. Computers: a sufficient quantity of computers ☐ has been purchased; and/or ☐ is being sought.

d. Computer hardware maintenance: adequate arrangements ☐ have been made; and/or ☐ are being sought.

e. Staff development: ☐ all staff have had an appropriate level of training /additional training has already been scheduled; and/or ☐ training is being sought.

f. Additional details: Use this space to provide additional details to help providers to identify the ineligible services you desire.

Block 4: Recipients of Service

16. Eligible Entities That Will Receive Services:

Check the ONE choice (Item **16a, 16b or 16c**) that best describes this application and the eligible entities that will receive the services described in this application.You will then list in Item **17** the entity/entities that will pay the bills for these services.

a. ○ Individual school or single-site library.

b. ○ Statewide application for (enter 2-letter state code) representing (check all that apply):

- ☐ All public schools/districts in the state:
- ☐ All non-public schools in the state:
- ☐ All libraries in the state:

If your statewide application includes INELIGIBLE entities, check here. ☐ **If checked, complete Item 18.**

c. ○ School district, library system, or consortium application to serve multiple eligible entities:

Number of eligible entities	**18**
For these eligible sites, please provide the following	
Area Codes (list each unique area code)	**Prefixes associated with each area code (first 3 digits of phone number) separate with commas, leave no spaces**
210	623
210	645
210	977

17. Billed Entities

17. Billed Entities: List the entity/entities that will be paying the bills directly to the provider for the services requested in this application. These are known as Billed Entities. At least one line of this item must be completed. If a Billed Entity cited on your Form 471 is not listed below, funding may be denied for the funding requests associated with this Form 470.

Entity Number	Entity
90657	MIGUEL CARRILLO ELEMENTARY SCH
90929	FIVE PALMS ELEMENTARY SCHOOL
152201	SOUTH SAN ANTONIO WEST CAMPUS HIGH SCHOOL
90662	DWIGHT MIDDLE SCHOOL
90805	KINDRED ELEMENTARY SCHOOL
16024101	NEW MIDDLE SCHOOL
220873	ROY BENAVIDEZ ELEMENTARY SCHOOL
141548	SOUTH SAN ANTONIO IND SCH DIST

90670	PALO ALTO ELEMENTARY SCHOOL
90663	ALTERNATIVE SCHOOL
90806	HUTCHINS ELEMENTARY SCHOOL
90666	ATHENS ELEMENTARY SCHOOL
90804	SOUTH SAN ANTONIO HIGH SCHOOL
90930	NEIL ARMSTRONG ELEM SCHOOL
90669	PRICE ELEMENTARY SCHOOL
90808	ABRAHAM KAZEN MIDDLE SCHOOL
16024104	NEW LEARNING CENTER
90932	ALAN B SHEPARD MIDDLE SCHOOL
90928	ROYALGATE ELEMENTARY SCHOOL

18. Ineligible Participating Entities
List the names of any entity/entities here for whom services are requested that are not eligible for the Universal Service Program.

Ineligible Participating Entity	Area Code	Prefix

Block 5: Certification

19. ☐ **I certify that the applicant includes:(Check one or both.)**

a. ☑ schools under the statutory definitions of elementary and secondary schools found in the **No Child Left Behind Act of 2001, 20 U.S.C.Secs.7081(18) and (38)**, that do not operate as for-profit businesses, and do not have endowments exceeding $50 million; and/or

b. ☐ libraries or library consortia eligible for assistance from a State library administrative agency under the Library Services and Technology Act of 1996 that do not operate as for-profit businesses and whose budgets are completely separate from any school (including, but not limited to elementary and secondary schools, colleges, and universities).

20. ☐ **I certify that all of the individual schools, libraries, and library consortia receiving services under this application are covered by technology plans that are written, that cover all 12 months of the funding year, and that have been or will be approved by a state or other authorized body, an SLD-certified technology plan approver, prior to the commencement of service. The plans were written at the following level(s):**

a. ☐ individual technology plans for using the services requested in the application; and/or

b. ☑ higher-level technology plans for using the services requested in the application; or

c. ☐ no technology plan needed; application requests basic local, cellular, PCS, and/or long distance telephone service and/or voice mail only

21. ☐ I certify that I will post my Form 470 and (if applicable) make my RFP available for at least 28 days before considering all bids received and selecting a service provider. I certify that all bids submitted will be carefully considered and the bid selected will be for the most cost-effective service or equipment offering, with price being the primary factor, and will be the most cost-effective means of meeting educational needs and technology plan goals. I certify that I will retain required documents for a period of at least five years after the last day of service delivered. I certify that I will retain all documents necessary to demonstrate compliance with the statute and Commission rules regarding the application for, receipt of, and delivery of services receiving schools and libraries discounts. I acknowledge that I may be audited pursuant to participation in the schools and libraries program.

22. ☑ I certify that the services the applicant purchases at discounts provided by 47 U.S.C. Sec. 254 will be used solely for educational purposes and will not be sold, resold, or transferred in consideration for money or any other thing of value, except as permitted by the Commission's rules at 47 C.F.R. Sec. 54.500(k). Additionally, I certify that the entity or entities listed on this application have not received anything of value or a promise of anything of value, other than the services and equipment sought by means of this form, from the service provider, or any representative or agent thereof or any consultant in connection with this request for services.

23. ☑ I acknowledge that support under this support mechanism is conditional upon the school(s) and/or library(ies) I represent securing access, separately or through this program, to all of the resources, including computers, training, software, internal connections, maintenance, and electrical capacity necessary to use the services purchased effectively. I recognize that some of the aforementioned resources are not eligible for support.

24. ☑ I certify that I am authorized to order telecommunications and other supported services for the eligible entity(ies). I certify that I am authorized to submit this request on behalf of the eligible entity (ies) listed on this application, that I have examined this request, and to the best of my knowledge, information, and belief, all statements of fact contained herein are true.

25. ☐ I certify that I have reviewed all applicable state and local procurement/competitive bidding requirements and that I have complied with them. I acknowledge that persons willfully making false statements on this form can be punished by fine or forfeiture, under the Commissions Act, 47 U.S.C. Secs. 502, 503(b), or fine or imprisonment under Title 18 of the United States Code, 18 U.S.C. Sec. 1001.

26. ☐ I acknowledge that FCC rules provide that persons who have been convicted of criminal violations or held civilly liable for certain acts arising from their participation in the schools and libraries support mechanism are subject to suspension and debarment from the program.

27. Signature of authorized person: ☑

28. Date (mm/dd/yyyy): **01/12/2005**

29. Printed name of authorized person: **Dr. Nabor Cortez**

30. Title or position of authorized person: **Superintendent**

31a. Address of authorized person: **2515 Bobcat**
City: **San Antonio** State: **TX** Zip: **78224**

31b. Telephone number of authorized person: **(210) 977 - 7000** ext. **45**

31c. Fax number of authorized person: **(210) 9777378**

31d. E-mail address number of authorized person: **ncortez@southsanisd.net**

31e. Name of authorized person's employer:

Service provider involvement with preparation or certification of a Form 470 can taint the competitive bidding process and result in the denial of funding requests. For more information,

refer to the SLD web site at www.sl.universalservice.org or call the Client Service Bureau at 1-888-203-8100.

NOTICE: Section 54.504 of the Federal Communications Commission's rules requires all schools and libraries ordering services that are eligible for and seeking universal service discounts to file this Description of Services Requested and Certification Form (FCC Form 470) with the Universal Service Administrator. 47 C.F.R. § 54.504. The collection of information stems from the Commission's authority under Section 254 of the Communications Act of 1934, as amended. 47 U.S.C. § 254. The data in the report will be used to ensure that schools and libraries comply with the competitive bidding requirement contained in 47 C.F.R. § 54.504. All schools and libraries planning to order services eligible for universal service discounts must file this form themselves or as part of a consortium.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

The FCC is authorized under the Communications Act of 1934, as amended, to collect the information we request in this form. We will use the information you provide to determine whether approving this application is in the public interest. If we believe there may be a violation or a potential violation of any applicable statute, regulation, rule or order, your application may be referred to the Federal, state, or local agency responsible for investigating, prosecuting, enforcing, or implementing the statute, rule, regulation or order. In certain cases, the information in your application may be disclosed to the Department of Justice or a court or adjudicative body when (a) the FCC; or (b) any employee of the FCC; or (c) the United States Government is a party of a proceeding before the body or has an interest in the proceeding. In addition, information provided in or submitted with this form or in response to subsequent inquiries may also be subject to disclosure consistent with the Communications Act of 1934, FCC regulations, the Freedom of Information Act, 5 U.S.C. § 552, or other applicable law.

If you owe a past due debt to the federal government, the information you provide may also be disclosed to the Department of the Treasury Financial Management Service, other Federal agencies and/or your employer to offset your salary, IRS tax refund or other payments to collect that debt. The FCC may also provide the information to these agencies through the matching of computer records when authorized.

If you do not provide the information we request on the form, the FCC may delay processing of your application or may return your application without action.

The foregoing Notice is required by the Paperwork Reduction Act of 1995, Pub. L. No. 104-13, 44 U.S.C. § 3501, et seq.

Public reporting burden for this collection of information is estimated to average 4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing, and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the reporting burden to the Federal Communications Commission, Performance Evaluation and Records Management, Washington, DC 20554.

Please submit this form to:
SLD-Form 470
P.O. Box 7026
Lawrence, Kansas 66044-7026
1-888-203-8100

For express delivery services or U.S. Postal Service, Return Receipt Requested, mail this form to:
SLD Forms
ATTN: SLD Form 470
3833 Greenway Drive
Lawrence, Kansas 66046
1-888-203-8100

FCC Form 470
October 2004

New Search | Return To Search Results

Exhibit 2

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224

January 24, 2005

Contractors:

The South San Antonio Independent School District is requesting sealed proposals on **CISCO Wireless Network Systems and Network Upgrades , RFP #05-48.**

Please submit **two (2) copies** of your proposal on the appropriate enclosed forms no later than **2:00 P.M., TUESDAY, FEBRUARY 8, 2005.**

Proposals received after the indicated date and time will not be accepted.

Mail or deliver your proposals to:

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
PURCHASING DEPARTMENT
2515 BOBCAT LANE
SAN ANTONIO, TEXAS 78224

Be sure to label each proposal on the face of the envelope with the appropriate RFP number.

If you elect not to respond, return the proposal marked **"NO RESPONSE"** and we will keep your company on the vendor's list for future solicitations.

For more details contact the Purchasing Department at (210) 977-7070.

Sincerely,

Patrick J. Skees
General Accountant/Interim Director of Purchasing

PJS/ev

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

SPECIFICATIONS AND CONDITIONS

The South San Antonio Independent School District seeks sealed bid proposals for Cisco Wireless Network Systems and Network Upgrades at several campuses. These items will be performed as listed in the category of Internal Connections as defined by the Schools and Libraries Division of the Universal Services Administrative Company (the E-Rate program).

1. SSAISD is requesting cost estimates to purchase, engineer, and install wireless network systems using the Cisco 1200 wireless access points. Complete wireless infrastructure will be installed at 18 schools. Network upgrades at all schools using requested parts for Cisco 6500 series and Cisco 3750 series. Pricing will include engineering and installation.
   Wireless networks systems will installed and configured by the vendor. The engineering and installation will consist of a preliminary site visit to mark AP locations and assess any installation or coverage issues on each of the campuses. The district will provide diagrams of the locations and will work with the vendor to determine location of APs. The project will include the submission of the following documents: a wireless site visit report, a system design that denotes access point placement and configuration parameters (i.e. channel number, SSID, required accessories, etc.), labels for access points, a detailed equipment list inventory, a final report including details of access point settings with a campus diagram showing access point locations, AP name, and radio coverage, and any other design documentation deemed appropriate by the vendor. Also note that each Access Point will require a new Category 5e cable (up to 300' in length) installed that will extend between the AP and the appropriate network closet based on existing wiring boundaries to connect the AP to the switch for network access and power.

   Network Upgrades will include replacing Supervisor Engines, Power Supplies, Fan Trays, and Ethernet modules for Cisco 6500 series. These upgrades will occur in existing 6500 chassis. Equipment that is replaced will be traded in. **School along with requested equipment, lists the equipment that will be traded in.** Some areas call for new Cisco 6500s which will include all parts specified. Other areas call for Cisco 3750 series, 24 and 48 port models are specified by location. The vendor will install and configure all equipment.

2. The vendor will be responsible for a "turnkey" solution to include all hardware, cabling, engineering services, installation and configuration of all equipment per SSAISD. **The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract.**

3. The selected vendor will provide pricing on Cisco hardware, Cisco maintenance, and the Wireless installation. Important Note: The network installation will be performed outside of normal school hours. If you have special pricing for after normal business hours or weekends please bid and plan accordingly.
Below is the current school start and end times:
Elementary – 8:00 a.m. – 3:00 p.m.
Middle and High School- 8:00 a.m. - 3:30 p.m.*

4. The vendor will be required to perform the "client walkabout" survey under the direction of SSAISD staff. This involves walking the campus with a laptop to verify wireless coverage.

5. The vendor will be required to make site visits in preparation for installation, and may be required to assist in adjusting rack arrangements for the placement of new equipment.

6. There is no commitment by the District to purchase any given number of the Cisco items provided by the vendor. The number purchased will be determined based on unit price bid and funds availability. Vendor should include any price breaks for quantity purchases as requested.

7. Warranty service on this equipment shall include on-site repair and/or pick-up and delivery at no additional expense to the District. (Including "Depot Repair" components which must be returned to the manufacturer for repair.)

8. Bidder must be able to provide repair service during and beyond the warranty period. The bidder must maintain a repair facility within the greater San Antonio metropolitan area. Location of the repair facility may be considered during the bid evaluation. Bidder must be able to provide continuing support at no additional cost to the District for a minimum of twelve (12) months in the form of telephone advice and assistance to the South San Antonio ISD to answer questions and to resolve any issues which may arise. If the District selects extended warranty, the above-cited services must be provided during the extended warranty period.

9. If a vendor is located outside of the local San Antonio calling area a toll free number, i.e. "1-800", must be provided as part of their support for the District for the entire term of any contract.

10. The District reserves the right to cancel this contract with written notice if the vendor fails to comply with the terms and conditions of this bid.

11. If the manufacturer discontinues a bid product, the vendor must provide evidence, and provide an acceptable product that meets or exceeds the bid specifications at no increase in cost.

SITE LOCATION for POINT OF CONTACT:

South San Antonio ISD
2515 Bobcat Lane,
San Antonio, Texas 78224

To be provided to the following schools:

1. Roy P. Benavidez Elementary School
   8340 South IH-35
   San Antonio, TX 78224

2. Kindred Elementary School
   7811 Kindred Road
   San Antonio, TX 78224

3. Palo Alto Elementary School
   1725 Palo Alto Road
   San Antonio, TX 78211

4. Price Elementary School
   245 Price Avenue
   San Antonio, TX 78211

5. Hutchins Elementary
   1919 W. Hutchins
   San Antonio, TX 78224-1699

6. Athens Elementary
   2707 W. Gerald
   San Antonio, TX 78211-2345

7. Royalgate Elementary
   6100 Royalgate
   San Antonio, TX 78242

8. Armstrong Elementary
   7111 Apple Valley
   San Antonio, TX 78242

9. Carrillo Elementary
   500 Price
   San Antonio, TX 78211

10. Five Palms Elementary
    7138 Five Palms
    San Antonio, TX 78242

11. Abraham Kazen Middle School
    1520 Gillette
    San Antonio, TX 78224

12. Alan B. Shepard Middle School
    5558 Ray Ellison Drive
    San Antonio, TX 78242

13. Dwight Middle School
    2454 West Southcross
    San Antonio, TX 78211

14. West Campus High School
    5622 Ray Ellison Drive
    San Antonio, TX 78242

15. South San Antonio High School
    2715 Navajo
    San Antonio, TX 78224

17. South San Antonio Alternative School
    1450 Gillette
    San Antonio, TX 78224

18. Robert C. Zamora Middle School
    2515 Bobcat Lane
    San Antonio, TX 78224

TERM AND PAYMENT:

A. **The Term of the contract shall be from July 1, 2005 through June 30, 2006.**
B. Unless otherwise stated, payment will be within the guidelines of the Universal Service Discount Program. The selected vendor will need to contact the South San Antonio ISD Technology Department to discuss the receipt of pre-discounted bills once the funding request has been approved.
C. **The Universal Service Discount program, commonly known as the E-Rate, administered by the Universal Service Administrative Co. for the Federal Communications Commission, will fund this Request For Proposals. This proposal will be funded only if approved by the Schools and Library Division, and if the Universal Service Administrative Company appropriates the funds. Funding, if available, will not be expected until, or after, July 1, 2005.**
D. The selected vendor agrees to abide by all applicable policies of the Universal Service Discount program. The vendor will include its Service Provider Information Number (SPIN) in its proposal. The vendor will include its State of Texas, Texas Building and Procurement Commission (TBPC) approved Catalog Information Systems Vendor (CISV) qualified and **experienced in providing wireless network systems.**

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

PRODUCT SPECIFICATIONS

The following are detailed specifications for the equipment that is part of this bid. Mark Yes in the blank if **your** product meets the requirement, or No if it does not meet the requirement. **All blanks must be marked with a "yes" or a "no" response. An unmarked blank or any other mark besides "yes" or "no" will be considered to be a "no" (not meeting requirement).**

Example: Yes Meets the requirement.
No Does not meet the requirement.

Section A: Detailed Specifications

General Requirement for Bid Items.

_____ Cisco equipment must meet FCC Class B and UL Safety Certification requirements.

_____ All hardware must be new (not previously used).

_____ All Cisco equipment must be equipped with identical components. No substitution of Cisco components among other units concerning manufacturer and/or model number is permitted.

_____ All hardware must be currently (at the time of bid) in production. If a model is discontinued, the bidder must provide an acceptable substitute at no increase in cost. The bidder must notify the South San Antonio ISD Technology Department of the substitute before making any substitutions. FAXED notification must be sent to:

South San Antonio ISD
Department of Technology
2715 Bobcat Lane #4
San Antonio Texas 78224-1298
Phone 210-977-7375
Fax: 210-977-7378

_____ Each Cisco equipment must have a unique serial number. The method used by the bidder to derive these serial numbers is immaterial to South San Antonio ISD Technology Department, a serial number must be displayed externally on the rear of the Cisco equipment. The serial number, if not provided by the original manufacturer, must be displayed on a printed label, may be of local fabrication, and must be affixed permanently to the component.

_____ A label must be affixed to the back of each Cisco Equipment that includes the following information:

1. Name of the Vendor
2. Area code and phone number of the Vendor
3. Date of warranty expiration.

_____ All Cisco Equipment must be able to accept and employ circuit boards designed to be inserted as expansion boards that meet industry standards. All expansion boards must not degrade performance of the Cisco Equipment.

_____ Testing and verification of functionality of the newly installed equipment by the vendor will be required.

_____ Vendor must notify the Technology Department in writing the serial numbers and location of installation of all Cisco Equipment. The location information must include the campus and room number. (Data on diskette is acceptable.)

Section B: DELIVERY

Delivery is included in the price of the Cisco Equipment, but the District has the option of having the vendor install and setup the Cisco Equipment. If the District purchased this option, the **vendor** must provide the following functions at the South San Antonio ISD **point of use** at a time on a date agreed upon:

1. Unbox all equipment and set it up at the location specified,
2. Connect the equipment,
3. Turn on the unit and verify that all components are functioning correctly.
4. A series of diagnostic routines must be automatically executed upon start up of all computers. The diagnostics must verify the correct operation of all key components, which must include as a minimum the following examples: the CPU, system RAM, internal disk controllers, internal drives, sound cards, keyboard and mouse.
5. If applicable the Windows XP and Office XP and or Cisco Software **MUST** be activated prior to completion of installation.
6. **ALL** software is to be delivered to the Technology Department Office.

Section C: Environmental for Bid Items

_____ Each hardware component must be underwriters Laboratory (UL) Certified. The vendor to whom this bid is awarded must be prepared to show proof of **UL** listing.

_____ Each hardware component must operate continuously in a normal office environment without degradation within an ambient temperature range of 60 degrees Fahrenheit through at least 90 degrees Fahrenheit with the relative humidity between 20 percent and 80 percent (non-condensing).

_____ Each hardware component must operate using a power source within a range of 115 volts AC nominal +1-10%, 60 Hertz frequency +/- 1 Hertz, single phase, and supplied form the normal 3-wire grounded outlet.

_____ Each electrical component must be certified to comply with the limits for Class B computing devices pursuant to Part 15 of FCC rules.

_____ Each hardware component must possess internal power-overload protection (fuses, circuit breakers, etc.) that conforms to Underwriters Laboratory (UL) requirements for that specific component.

Section E: Maintenance Specifications for Bid Items

_____ Each Cisco Equipment must be covered by a minimum three (3) year full coverage parts and labor warranty including either on-site repair or pick-up and return maintenance. (*1st year eligible for funding the others not*)

_____ If the manufacturer does not offer a full three (3) year warranty, the bidder must provide the balance of the three (3) year warranty, with identical provisions for parts and labor.

_____ Bidder must supply one copy of all warranties that apply to items bid. One copy of all such warranties should be included with each copy of the bid response.

_____ Response time for an item returned to the local service facility must normally be three (3) working days or less, i.e., the repair for an item returned for service under this bid must normally be completed within three (3) working days of receipt by the local service facility. If the vendor is unable to complete the repairs in three (3) working days, a "Loaner" of like or

greater specifications and identical in operation to the unit brought in for repair must be made available to the South San Antonio ISD.

_____ Any replacement loaner equipment hardware item delivered to South San Antonio ISD must meet the same conditions and standards stated in this bid for original equipment.

_____ The bidder must agree that the use by South San Antonio ISD of after-sale added third party components will not void any of the warranty or maintenance provisions required as part of this bid. South San Antonio ISD agrees not to improperly use and/or otherwise configure the equipment in a manner that is not in accordance with the original manufacturer's warranty guidelines.

_____ All warranty and follow-on maintenance must be performed at a location in the greater San Antonio metropolitan area. This does not preclude depot level maintenance where certain items must be shipped back to the original manufacturer (at the bidders expense); however, the majority of the maintenance performed should be within the greater San Antonio Metropolitan Area.

Worker's Compensation: The Contractor shall provide and maintain worker's compensation based on statutory limits set by the Texas Workers Compensation Law. The contractor shall also provide Employer's Liability Insurance with a limit of not less than $500,000 for property damage liability with an aggregate of $1,000,000.

General Liability: The Contractor shall provide and maintain Comprehensive General Liability Insurance protection. Policy limits must be at least $500,000 for bodily injury liability and $500,000 for property damage liability with an aggregate of $1,000,000.

Automobile Liability: The Contractor shall provide and maintain during the life of this Contract, automobile public liability insurance in the amounts of not less than $250,000 and $500,000 for bodily injury, and $250,000 for property damage. Said insurance policy must provide protection for non-owned and hired vehicles, as well as vehicles owned by the Contractor.

PROPOSALS:

1. Proposals must be made on the enclosed bid form.
2. Facsimile proposals will not be accepted.
3. Proposals received after the time and date indicated will not be accepted and will be returned to the contractor unopened.
4. Proposal prices shall be firm for a minimum period of sixty (60) days from the date of the bid opening. A thirty (30) day minimum is usually required for approval by the Board of Trustees.
5. Questions in regards to this RFP must be submitted to the Purchasing Department for clarification US Postal Mail.
6. Vendor must include with bid a **one-page** description of the vendor's format of warranty work, i.e. from first call for assistance through resolution of problem.
7. The vendor must be able to supply a four-hour response time to perform warranty work on computer systems.
8. The vendor must have two certified computer repair technician employees at their business location. Both with CISCO Certifications that are valid. The vendor must provide a project manager who will be responsible for coordination of all activities of vendor's staff.
9. The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract.

10. **It is not the policy of the South San Antonio Independent School District to make awards on the basis of the lowest proposal alone, quality and suitability to purpose being the determining factors; it being understood that the District reserves the right to arrive at such a decision by whatever means it may determine.**
11. The District reserves the right to reject any and all proposals and to make awards on individual items, as they may appear to be most advantageous to the District and to waive all formalities in bidding.
12. During the performance of this contract, the contractor agrees not to discriminate against any employee or applicant for employment because of race, color, national origin, age, religion, gender, marital or veteran status or handicapping condition.
13. References: All vendors must submit a list of at least three (3) references from which vendor has provided like products or services. Educational & governmental agencies are preferred. This list may be placed in a separate envelope and labeled "Proprietary" and is not subject to public view. Failure to provide references may be cause for the proposal to be considered non-responsive.

Company:_____ Address:_____ City/State:)_____	Contact Person: _____	Phone: _____
Company:_____ Address:_____ City/State:)_____	Contact Person: _____	Phone: _____
Company:_____ Address:_____ City/State:)_____	Contact Person: _____	Phone: _____

13. **FELONY CONVICTION NOTIFICATION:** The following Felony Conviction Notification must be completed by all vendors submitting bids and be considered in evaluation for award.

State of Texas Legislative Senate Bill No. 1, Section 44.034, Notification of Criminal History, Subsection (a), states "a person or business entity that enters into a contract with a school district must give advance notice to the district if the person or an owner or operator of the business entity has been convicted of a felony. The notice must include a general description of the conduct resulting in the conviction of a felony."

Subsection (b) states "a school district may terminate a contract with a person or business entity if the district determines that the person or business entity failed to give notice as required by Subsection (a) or misrepresented the conduct resulting in the conviction. The district must compensate the person or business entity for service performed before the termination of the contract."

THIS NOTICE IS NOT REQUIRED OF A PUBLICLY-HELD CORPORATION

I, the undersigned agent for the firm named below, certify that the information concerning felony convictions has been reviewed by me and the following information furnished is true to the best of my knowledge.

VENDORS NAME _____

AUTHORIZED COMPANY OFFICIAL'S NAME (printed):_____

A. My firm is not owned nor operated by anyone who has been convicted of a felony.

Signature of Company Official:_____

B. My firm is a publicly-held corporation; therefore, this reporting requirement is not applicable.

Signature of Company Official:_____

C. My firm is owned or operated by the following individual(s) who has/have been convicted of a felony.

Name of Felon(s):_____

Details of conviction(s):_____

_____

_____

Signature of Company Official:_____

14. **PAYMENT:** Unless otherwise stated, payment will be thirty (30) days after receipt of correct invoice. If a cash discount is allowed for prompt payment, please indicate it on the bid form.

15. Comments and/or deviations from the specifications and conditions:

_____

_____

_____

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO, TEXAS 78224

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

Armstrong Elementary School

- 2 Sup 720 (Trade in 2 Sup 1A), 1 new fan kit (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules (Trade in 4 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 1 3750 48 port switch
- 1 6506 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 12 Access points

Athens Elementary School

- 4 Sup 720 (Trade in 2 Sup 2 and 2 Sup 1A), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 2 3750 48 port switch
- 1 3750 24 port switch
- 1 6506 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 10 Access points

Benavidez Elementary School

- 4 Sup 720 (Trade in 4 Sup 1A), 2 new fan kits (Trade in existing)
- 8 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 3 3750 48 port switch
- 1 6509 with 2 Sup 720, 5 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 16 Access points

Carrillo Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 1 3750 48 port switch
- 12 Access points

Five Palms Elementary School

- 2 Sup 720 (Trade in 2 Sup 1A), 1 new fan kits (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules (Trade in 4 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 1 3750 24 port switch
- 1 6509 with 2 Sup 720, 6 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 12 Access points

Hutchins Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 14 Access points

Kindred Elementary School

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 9 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 1 3750 48 port switch
- 12 Access points

Palo Alto Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 6 10/100/1000 POE 48 port 6500 modules (Trade in 6 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 4 3750 48 port switch
- 16 Access points

Price Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 6 10/100/1000 POE 48 port 6500 modules (Trade in 6 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 4 3750 48 port switch
- 12 Access points

Royalgate Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 5 10/100/1000 POE 48 port 6500 modules (Trade in 5 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 4 3750 48 port switch
- 16 Access points

Shepard Middle School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 8 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 6509 with 2 Sup 720, 5 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 15 Access points

Kazen Middle School

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 11 10/100/1000 POE 48 port 6500 modules (Trade in 10 10/100 48 port modules)
- 6 6000 Watt power supply (Trade in 2 1000 Watt and 4 1300 Watt)
- 2 6509 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 15 Access points

Dwight Middle School

- 8 Sup 720 (Trade in 4 Sup 1A and 4 Sup 2), 4 new fan kits (Trade in existing)
- 15 10/100/1000 POE 48 port 6500 modules (Trade in 13 10/100 48 port modules)
- 8 6000 Watt power supply (Trade in 4 1000 Watt and 4 1300 Watt)
- 3 3750 48 port switch
- 20 Access points

South San High School

- 12 Sup 720 (Trade in 8 Sup 1A and 4 Sup 2), 6 new fan kits (Trade in existing)
- 24 10/100/1000 POE 48 port 6500 modules (Trade in 20 10/100 48 port modules)
- 12 6000 Watt power supply (Trade in 12 1300 Watt)
- 6 3750 24 port switch
- 18 3750 48 port switch
- 30 Access points

West Campus High School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 13 10/100/1000 POE 48 port 6500 modules (Trade in 13 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 15 Access points

Alternative School

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 9 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 4 1300 Watt)
- 12 Access points

Robert C. Zamora Middle School

- 25 Access points

NOTES:

Cisco 6500 Upgrades will use the following:

1. Cisco Catalyst 6500 Supervisor Card Upgrade (Listed as Sup 720 on school list)
   - WS-Sup720-3B (Catalyst 6500 Supervisor 720 Fabric MSFC3 PFC3B)
   - MEM-C6K-CPTFL128M (Cat6500 Sup720 Compact Flash Mem 128MB)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each Sup720
   - 8x5xNBD Smarnet Service

2. Cisco Catalyst 6500 Power Supply Upgrade (Listed as 6000 Watt power supply on school list)
   - WS-CAC-6000W
   - CAB-AC-2500W-US1 (2 for each power supply)
   - 8x5xNBD Smartnet Service

3. Cisco Catalyst 6500 Fan Tray Upgrade (Listed as new fan kit on school list)
   - WS-C6K-9SLOT-FAN2 (For 9 slot 6500 chassis)
   - WS-C6K-6SLOT-FAN2 (For 6 slot 6500 chassis)
   - 8x5xNBD Smartnet Service

4. Cisco 48 Port Card Upgrade (Listed as 10/100/1000 POE 48 port 6500 modules on school list)
   - WS-X6548-GE-45AF (Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card)
   - 8x5xNBD Smartnet Service

Notes: Vendor will remove all modules while installing upgraded modules.
Modules replaced will be returned to school district.
Modules that are being traded in will be give to the vendor once upgraded equipment is installed.
Vendor will use existing cables to connect new equipment to patch panel.
Vendor will be responsible for making sure all modules are installed and are working correctly.
Vendor will configure switch after communicating with school district.

Access points will include:

5. Cisco 1200 Series Access Point
   - AIR-AP1231G-A-K9 (802.11g IOS AP w/Avail CBus Slot, FCC Cnfg)
   - AIR-ANT2405 (2.4GHz,2.2 dBi Dipole Antenna w/ RP-TNC)

- AIR-PWR-CORD-NA (AIR Line Cord North America)
- S11W7K9-12215XR (Cisco 1100 Series IOS WIRELESS LAN)
- 8x5xNBD Smarnet Service

Each new 3750 24/48 port switches will include the following

6. Cisco Catalyst 3750 24 Port Switch (Listed as 3750 24 port switch on school list)
   - WS-C3750G-24PS-E (24 Port 10/100/1000 with Power Over Ethernet)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each switch
   - 8x5xNBD Smarnet Service

7. Cisco Catalyst 34750 48 Port Switch (Listed as 3750 48 port switch on school list)
   - WS-C3750G-48PS-E (48 Port 10/100/1000 with Power Over Ethernet)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each switch
   - 8x5xNBD Smarnet Service

Notes: Switches will be mounted and patch cables will be connected by vendor.
Vendor will remove any existing equipment and return to school district.
Vendor will use existing cables to connect new equipment to patch panel.
Vendor will be responsible for making sure all modules are installed and are working correctly.
Vendor will configure switch after communicating with school district.

New 6500s will include:

8. Cisco Catalyst 6500 Supervisor Card (2 in each new 6500)
   - WS-Sup720-3B (Catalyst 6500 Supervisor 720 Fabric MSFC3 PFC3B)
   - MEM-C6K-CPTFL128M (Cat6500 Sup720 Compact Flash Mem 128MB)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each Sup720
   - 8x5xNBD Smarnet Service

9. Cisco Catalyst 6500 Power Supply (2 in each new 6500)
   - WS-CAC-6000W
   - CAB-AC-2500W-US1 (2 for each power supply)
   - 8x5xNBD Smartnet Service

10. Cisco Catalyst 6500 Fan Tray (1 in each new 6500)
    - WS-C6K-9SLOT-FAN2 (For 9 slot 6500 chassis)
    - WS-C6K-6SLOT-FAN2 (For 6 slot 6500 chassis)
    - 8x5xNBD Smartnet Service

11. Cisco 48 Port Card (Quantity listed in school list)
    - WS-X6548-GE-45AF (Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card)
    - 8x5xNBD Smartnet Service

12. Cisco Catalyst 6500 (1 for each new 6500 listed)
    - WS-C6509-E (Enh C6509 Chassis, 9slot, No Pow Supply, No Fan Tray for 9 slot)
    - WS-C6506-E (Enh C6509 Chassis, 6slot, No Pow Supply, No Fan Tray for 6 slot)

Notes: 6500s will be mounted and patch cables will be connected by vendor.
Vendor will remove any existing equipment and return to school district.
Vendor will use existing cables to connect new equipment to patch panel.
Vendor will be responsible for making sure all modules are installed and are working correctly.
Vendor will configure switch after communicating with school district.

The following are not erate eligible and are required on a separate listing from the above. The district will seek internal funding to complete these projects below.

Special Programs Building
- 1 3750 48 port switch
- 2 Access points

Student Appraisal Center
- 1 3750 24 port switch
- 1 3750 48 port switch
- 3 Access points

Parent Development Center
- 2 3750 48 port switch
- 3 Access points

Food Services
- 1 3750 24 port switch
- 1 Access point

Warehouse
- 1 3750 24 port switch
- 1 Access points

Central Office
- 8 Sup 720 (Trade in 4 Sup 1A and 4 Sup 2), 4 new fan kits (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules
- 8 6000 Watt power supply (Trade in 8 1300 Watt)
- 8 3750 24 port switch
- 4 Access points

Anna Marie Hernandez Community Learning Center
- 6 Access points

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

School	Part Cost	Labor/Installation	Total
Athens Elementary			
Carrillo Elementary			
Armstrong Elementary			
Five Palms Elementary			
Royalgate Elementary			
Hutchins Elementary			
Benavidez Elementary			
Price Elementary			
Palo Alto Elementary			
Kindred Elementary			
Shepard Middle School			
Robert C. Zamora Middle School			
Kazen Middle School			
Dwight Middle School			
South San High School			
West Campus High School			
South San Alternative School			
South San Antonio ISD			
Grand Total			

Bidder Requirements

_____ **Vendor must be listed as a State of Texas General Service Commission Qualified Information System Vendor for 2003-2004.**

_____ **Vendor must include their current QISV number on the Bid Form page.**

_____ **Vendor must include on their company letterhead an exact list of equipment in the computer configurations that are to be delivered to the District for this RFP.**

_____ **Vendor must include on their company letterhead their hourly rate for repairs not covered under warranty. i.e. – repairs caused by misuse or abuse of equipment or software/operator problems**

_____ **Bidder must list USAC- Schools and Libraries Division Service Provider Information Number (SPIN) on Bid Form.**

_____ **Vendor must be a Cisco Gold Certified Partner.**

Name: _____

Address: _____

City/State/Zip _____

QISV Number _____

FCC SPIN Number _____

Bidder hereby affirmatively states that it has not participated in any act of collusion, favoritism, gratuity or inside dealings with any member of the staff of the South San Antonio Independent School District or its Board of Trustees.

COMPANY NAME: _____

SIGNATURE OF PERSON: _____

TITLE: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE #: _____ FAX #: _____

DATE: _____

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

HOLD HARMLESS AGREEMENT

The contractor shall defend, indemnify, and save whole and harmless, South San Antonio Independent School District and all of its officers, agents and employees from and against all suits, actions or claims of any character, name and description brought for or on account of any injuries or damages (including death) received or sustained by any person or property on account of, arising out of, or in contention with, any negligent act or omission of Contractor or any agent, employee, subcontractor or supplier of Contractor in the execution or performance of this contract.

The Contract shall also defend and indemnify the South San Antonio Independent School District against claims by any subcontractor, supplier, laborer, material-man or mechanic for payment for work or materials provided on behalf of the Contractor in the performance of the services and all such claimants shall look solely to Contractor and not South San Antonio Independent School District for satisfaction of such claims.

This hold harmless agreement shall be binding upon the undersigned and his heirs and assigns.

Dated this _____ day of _____, 2005.

_____

_____
(Printed Name)

STATE OF TEXAS

COUNTY OF BEXAR

This instrument was acknowledged before me on the _____day of _____, 2005.

(NOTARY'S SEAL)

_____
Notary Public, State of Texas

RFP #05-48

Exhibit 3A

AVNET BID

Sect 1

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224

January 24, 2005

Contractors:

The South San Antonio Independent School District is requesting sealed proposals on **CISCO Wireless Network Systems and Network Upgrades , RFP #05-48.**

Please submit **two (2) copies** of your proposal on the appropriate enclosed forms no later than **2:00 P.M., TUESDAY, FEBRUARY 8, 2005.**

Proposals received after the indicated date and time will not be accepted.

Mail or deliver your proposals to:

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
PURCHASING DEPARTMENT
2515 BOBCAT LANE
SAN ANTONIO, TEXAS 78224

Be sure to label each proposal on the face of the envelope with the appropriate RFP number.

If you elect not to respond, return the proposal marked **"NO RESPONSE"** and we will keep your company on the vendor's list for future solicitations.

For more details contact the Purchasing Department at (210) 977-7070.

Sincerely,

Patrick J. Skees
General Accountant/Interim Director of Purchasing

PJS/ev

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

SPECIFICATIONS AND CONDITIONS

The South San Antonio Independent School District seeks sealed bid proposals for Cisco Wireless Network Systems and Network Upgrades at several campuses. These items will be performed as listed in the category of Internal Connections as defined by the Schools and Libraries Division of the Universal Services Administrative Company (the E-Rate program).

1. SSAISD is requesting cost estimates to purchase, engineer, and install wireless network systems using the Cisco 1200 wireless access points. Complete wireless infrastructure will be installed at 18 schools. Network upgrades at all schools using requested parts for Cisco 6500 series and Cisco 3750 series. Pricing will include engineering and installation.
   Wireless networks systems will installed and configured by the vendor. The engineering and installation will consist of a preliminary site visit to mark AP locations and assess any installation or coverage issues on each of the campuses. The district will provide diagrams of the locations and will work with the vendor to determine location of APs. The project will include the submission of the following documents: a wireless site visit report, a system design that denotes access point placement and configuration parameters (i.e. channel number, SSID, required accessories, etc.), labels for access points, a detailed equipment list inventory, a final report including details of access point settings with a campus diagram showing access point locations, AP name, and radio coverage, and any other design documentation deemed appropriate by the vendor. Also note that each Access Point will require a new Category 5e cable (up to 300' in length) installed that will extend between the AP and the appropriate network closet based on existing wiring boundaries to connect the AP to the switch for network access and power.

   Network Upgrades will include replacing Supervisor Engines, Power Supplies, Fan Trays, and Ethernet modules for Cisco 6500 series. These upgrades will occur in existing 6500 chassis. Equipment that is replaced will be traded in. **School along with requested equipment, lists the equipment that will be traded in.** Some areas call for new Cisco 6500s which will include all parts specified. Other areas call for Cisco 3750 series, 24 and 48 port models are specified by location. The vendor will install and configure all equipment.

2. The vendor will be responsible for a "turnkey" solution to include all hardware, cabling, engineering services, installation and configuration of all equipment per SSAISD. **The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract.**

3. The selected vendor will provide pricing on Cisco hardware, Cisco maintenance, and the Wireless installation. Important Note: The network installation will be performed outside of normal school hours. If you have special pricing for after normal business hours or weekends please bid and plan accordingly.
Below is the current school start and end times:
Elementary – 8:00 a.m. – 3:00 p.m.
Middle and High School- 8:00 a.m. - 3:30 p.m.*

4. The vendor will be required to perform the "client walkabout" survey under the direction of SSAISD staff. This involves walking the campus with a laptop to verify wireless coverage.

5. The vendor will be required to make site visits in preparation for installation, and may be required to assist in adjusting rack arrangements for the placement of new equipment.

6. There is no commitment by the District to purchase any given number of the Cisco items provided by the vendor. The number purchased will be determined based on unit price bid and funds availability. Vendor should include any price breaks for quantity purchases as requested.

7. Warranty service on this equipment shall include on-site repair and/or pick-up and delivery at no additional expense to the District. (Including "Depot Repair" components which must be returned to the manufacturer for repair.)

8. Bidder must be able to provide repair service during and beyond the warranty period. The bidder must maintain a repair facility within the greater San Antonio metropolitan area. Location of the repair facility may be considered during the bid evaluation. Bidder must be able to provide continuing support at no additional cost to the District for a minimum of twelve (12) months in the form of telephone advice and assistance to the South San Antonio ISD to answer questions and to resolve any issues which may arise. If the District selects extended warranty, the above-cited services must be provided during the extended warranty period.

9. If a vendor is located outside of the local San Antonio calling area a toll free number, i.e. "1-800", must be provided as part of their support for the District for the entire term of any contract.

10. The District reserves the right to cancel this contract with written notice if the vendor fails to comply with the terms and conditions of this bid.

11. If the manufacturer discontinues a bid product, the vendor must provide evidence, and provide an acceptable product that meets or exceeds the bid specifications at no increase in cost.

SITE LOCATION for POINT OF CONTACT:

South San Antonio ISD
2515 Bobcat Lane,
San Antonio, Texas 78224

To be provided to the following schools:

1. Roy P. Benavidez Elementary School
   8340 South IH-35
   San Antonio, TX 78224

2. Kindred Elementary School
   7811 Kindred Road
   San Antonio, TX 78224

3. Palo Alto Elementary School
   1725 Palo Alto Road
   San Antonio, TX 7821 1

4. Price Elementary School
   245 Price Avenue
   San Antonio, TX 7821 1

5. Hutchins Elementary
   1919 W. Hutchins
   San Antonio, TX 78224-1699

6. Athens Elementary
   2707 W. Gerald
   San Antonio, TX 7821 1-2345

7. Royalgate Elementary
   6100 Royalgate
   San Antonio, TX 78242

8. Armstrong Elementary
   7111 Apple Valley
   San Antonio, TX 78242

9. Carrillo Elementary
   500 Price
   San Antonio, TX 7821 1

10. Five Palms Elementary
    7138 Five Palms
    San Antonio, TX 78242

11. Abraham Kazen Middle School
    1520 Gillette
    San Antonio, TX 78224

12. Alan B. Shepard Middle School
    5558 Ray Ellison Drive
    San Antonio, TX 78242

13. Dwight Middle School
    2454 West Southcross
    San Antonio, TX 78211

14. West Campus High School
    5622 Ray Ellison Drive
    San Antonio, TX 78242

15. South San Antonio High School
    2715 Navajo
    San Antonio, TX 78224

17. South San Antonio Alternative School
    1450 Gillette
    San Antonio, TX 78224

18. Robert C. Zamora Middle School
    2515 Bobcat Lane
    San Antonio, TX 78224

TERM AND PAYMENT:

A. **The Term of the contract shall be from July 1, 2005 through June 30, 2006.**
B. Unless otherwise stated, payment will be within the guidelines of the Universal Service Discount Program. The selected vendor will need to contact the South San Antonio ISD Technology Department to discuss the receipt of pre-discounted bills once the funding request has been approved.
C. **The Universal Service Discount program, commonly known as the E-Rate, administered by the Universal Service Administrative Co. for the Federal Communications Commission, will fund this Request For Proposals. This proposal will be funded only if approved by the Schools and Library Division, and if the Universal Service Administrative Company appropriates the funds. Funding, if available, will not be expected until, or after, July 1, 2005.**
D. The selected vendor agrees to abide by all applicable policies of the Universal Service Discount program. The vendor will include its Service Provider Information Number (SPIN) in its proposal. The vendor will include its State of Texas, Texas Building and Procurement Commission (TBPC) approved Catalog Information Systems Vendor (CISV) qualified and **experienced in providing wireless network systems.**

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

PRODUCT SPECIFICATIONS

The following are detailed specifications for the equipment that is part of this bid. Mark Yes in the blank if your product meets the requirement, or No if it does not meet the requirement. **All blanks must be marked with a "yes" or a "no" response. An unmarked blank or any other mark besides "yes" or "no" will be considered to be a "no" (not meeting requirement).**

Example: Yes Meets the requirement.
No Does not meet the requirement.

Section A: Detailed Specifications

General Requirement for Bid Items.

_____ Cisco equipment must meet FCC Class B and UL Safety Certification requirements.

_____ All hardware must be new (not previously used).

_____ All Cisco equipment must be equipped with identical components. No substitution of Cisco components among other units concerning manufacturer and/or model number is permitted.

_____ All hardware must be currently (at the time of bid) in production. If a model is discontinued, the bidder must provide an acceptable substitute at no increase in cost. The bidder must notify the South San Antonio ISD Technology Department of the substitute before making any substitutions. FAXED notification must be sent to:

South San Antonio ISD
Department of Technology
2715 Bobcat Lane #4
San Antonio Texas 78224-1298
Phone 210-977-7375
Fax: 210-977-7378

_____ Each Cisco equipment must have a unique serial number. The method used by the bidder to derive these serial numbers is immaterial to South San Antonio ISD Technology Department, a serial number must be displayed externally on the rear of the Cisco equipment. The serial number, if not provided by the original manufacturer, must be displayed on a printed label, may be of local fabrication, and must be affixed permanently to the component.

_____ A label must be affixed to the back of each Cisco Equipment that includes the following information:

1. Name of the Vendor
2. Area code and phone number of the Vendor
3. Date of warranty expiration.

_____ All Cisco Equipment must be able to accept and employ circuit boards designed to be inserted as expansion boards that meet industry standards. All expansion boards must not degrade performance of the Cisco Equipment.

_____ Testing and verification of functionality of the newly installed equipment by the vendor will be required.

_____ Vendor must notify the Technology Department in writing the serial numbers and location of installation of all Cisco Equipment. The location information must include the campus and room number. (Data on diskette is acceptable.)

Section B: DELIVERY

Delivery is included in the price of the Cisco Equipment, but the District has the option of having the vendor install and setup the Cisco Equipment. If the District purchased this option, the **vendor** must provide the following functions at the South San Antonio ISD **point of use** at a time on a date agreed upon:

1. Unbox all equipment and set it up at the location specified,
2. Connect the equipment,
3. Turn on the unit and verify that all components are functioning correctly.
4. A series of diagnostic routines must be automatically executed upon start up of all computers. The diagnostics must verify the correct operation of all key components, which must include as a minimum the following examples: the CPU, system RAM, internal disk controllers, internal drives, sound cards, keyboard and mouse.
5. If applicable the Windows XP and Office XP and or Cisco Software **MUST** be activated prior to completion of installation.
6. **ALL** software is to be delivered to the Technology Department Office.

Section C: Environmental for Bid Items

_____ Each hardware component must be underwriters Laboratory (UL) Certified. The vendor to whom this bid is awarded must be prepared to show proof of **UL** listing.

_____ Each hardware component must operate continuously in a normal office environment without degradation within an ambient temperature range of 60 degrees Fahrenheit through at least 90 degrees Fahrenheit with the relative humidity between 20 percent and 80 percent (non-condensing).

_____ Each hardware component must operate using a power source within a range of 115 volts AC nominal +1-10%, 60 Hertz frequency +/- 1 Hertz, single phase, and supplied form the normal 3-wire grounded outlet.

_____ Each electrical component must be certified to comply with the limits for Class B computing devices pursuant to Part 15 of FCC rules.

_____ Each hardware component must possess internal power-overload protection (fuses, circuit breakers, etc.) that conforms to Underwriters Laboratory (UL) requirements for that specific component.

Section E: Maintenance Specifications for Bid Items

_____ Each Cisco Equipment must be covered by a minimum three (3) year full coverage parts and labor warranty including either on-site repair or pick-up and return maintenance. (*1st year eligible for funding the others not*)

_____ If the manufacturer does not offer a full three (3) year warranty, the bidder must provide the balance of the three (3) year warranty, with identical provisions for parts and labor.

_____ Bidder must supply one copy of all warranties that apply to items bid. One copy of all such warranties should be included with each copy of the bid response.

_____ Response time for an item returned to the local service facility must normally be three (3) working days or less, i.e., the repair for an item returned for service under this bid must normally be completed within three (3) working days of receipt by the local service facility. If the vendor is unable to complete the repairs in three (3) working days, a "Loaner" of like or

greater specifications and identical in operation to the unit brought in for repair must be made available to the South San Antonio ISD.

_____ Any replacement loaner equipment hardware item delivered to South San Antonio ISD must meet the same conditions and standards stated in this bid for original equipment.

_____ The bidder must agree that the use by South San Antonio ISD of after-sale added third party components will not void any of the warranty or maintenance provisions required as part of this bid. South San Antonio ISD agrees not to improperly use and/or otherwise configure the equipment in a manner that is not in accordance with the original manufacturer's warranty guidelines.

_____ All warranty and follow-on maintenance must be performed at a location in the greater San Antonio metropolitan area. This does not preclude depot level maintenance where certain items must be shipped back to the original manufacturer (at the bidders expense); however, the majority of the maintenance performed should be within the greater San Antonio Metropolitan Area.

Worker's Compensation: The Contractor shall provide and maintain worker's compensation based on statutory limits set by the Texas Workers Compensation Law. The contractor shall also provide Employer's Liability Insurance with a limit of not less than $500,000 for property damage liability with an aggregate of $1,000,000.

General Liability: The Contractor shall provide and maintain Comprehensive General Liability Insurance protection. Policy limits must be at least $500,000 for bodily injury liability and $500,000 for property damage liability with an aggregate of $1,000,000.

Automobile Liability: The Contractor shall provide and maintain during the life of this Contract, automobile public liability insurance in the amounts of not less than $250,000 and $500,000 for bodily injury, and $250,000 for property damage. Said insurance policy must provide protection for non-owned and hired vehicles, as well as vehicles owned by the Contractor.

PROPOSALS:

1. Proposals must be made on the enclosed bid form.
2. Facsimile proposals will not be accepted.
3. Proposals received after the time and date indicated will not be accepted and will be returned to the contractor unopened.
4. Proposal prices shall be firm for a minimum period of sixty (60) days from the date of the bid opening. A thirty (30) day minimum is usually required for approval by the Board of Trustees.
5. Questions in regards to this RFP must be submitted to the Purchasing Department for clarification US Postal Mail.
6. Vendor must include with bid a **one-page** description of the vendor's format of warranty work, i.e. from first call for assistance through resolution of problem.
7. The vendor must be able to supply a four-hour response time to perform warranty work on computer systems.
8. The vendor must have two certified computer repair technician employees at their business location. Both with CISCO Certifications that are valid. The vendor must provide a project manager who will be responsible for coordination of all activities of vendor's staff.
9. The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract.

10. **It is not the policy of the South San Antonio Independent School District to make awards on the basis of the lowest proposal alone, quality and suitability to purpose being the determining factors; it being understood that the District reserves the right to arrive at such a decision by whatever means it may determine.**
11. The District reserves the right to reject any and all proposals and to make awards on individual items, as they may appear to be most advantageous to the District and to waive all formalities in bidding.
12. During the performance of this contract, the contractor agrees not to discriminate against any employee or applicant for employment because of race, color, national origin, age, religion, gender, marital or veteran status or handicapping condition.
13. References: All vendors must submit a list of at least three (3) references from which vendor has provided like products or services. Educational & governmental agencies are preferred. This list may be placed in a separate envelope and labeled "Proprietary" and is not subject to public view. Failure to provide references may be cause for the proposal to be considered non-responsive.

Company: Brownsville ISD Address: 2477 Price Road City/State:) Brownsville, TX 78521	Contact Person: Robert Fisher, IT Director	Phone: (956) 548-8241
Company: Eanes ISD Address: 601 Camp Craft Road City/State:) Austin, TX 78746	Contact Person: Aaron Schoenr	Phone: (512) 732-9090
Company: Edgewood ISD Address: 4127 Eldridge City/State:) San Antonio, TX 78237	Contact Person: Robin Cook	Phone: (210) 444-7970

13. **FELONY CONVICTION NOTIFICATION:** The following Felony Conviction Notification must be completed by all vendors submitting bids and be considered in evaluation for award.

State of Texas Legislative Senate Bill No. 1, Section 44.034, Notification of Criminal History, Subsection (a), states "a person or business entity that enters into a contract with a school district must give advance notice to the district if the person or an owner or operator of the business entity has been convicted of a felony. The notice must include a general description of the conduct resulting in the conviction of a felony."

Subsection (b) states "a school district may terminate a contract with a person or business entity if the district determines that the person or business entity failed to give notice as required by Subsection (a) or misrepresented the conduct resulting in the conviction. The district must compensate the person or business entity for service performed before the termination of the contract."

THIS NOTICE IS NOT REQUIRED OF A PUBLICLY-HELD CORPORATION

I, the undersigned agent for the firm named below, certify that the information concerning felony convictions has been reviewed by me and the following information furnished is true to the best of my knowledge.

VENDORS NAME: Avnet Enterprise Solutions a division of Avnet,Inc.

AUTHORIZED COMPANY OFFICIAL'S NAME (printed): Jim Teter, President

A. My firm is not owned nor operated by anyone who has been convicted of a felony.

Signature of Company Official: _____

B. My firm is a publicly-held corporation; therefore, this reporting requirement is not applicable.

Signature of Company Official: Jim Teter

C. My firm is owned or operated by the following individual(s) who has/have been convicted of a felony.

Name of Felon(s): _____

Details of conviction(s): _____

_____

_____

Signature of Company Official: _____

14. **PAYMENT:** Unless otherwise stated, payment will be thirty (30) days after receipt of correct invoice. If a cash discount is allowed for prompt payment, please indicate it on the bid form.

15. Comments and/or deviations from the specifications and conditions:

_____

_____

_____

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO, TEXAS 78224

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

Armstrong Elementary School

- 2 Sup 720 (Trade in 2 Sup 1A), 1 new fan kit (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules (Trade in 4 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 1 3750 48 port switch
- 1 6506 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 12 Access points

Athens Elementary School

- 4 Sup 720 (Trade in 2 Sup 2 and 2 Sup 1A), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 2 3750 48 port switch
- 1 3750 24 port switch
- 1 6506 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 10 Access points

Benavidez Elementary School

- 4 Sup 720 (Trade in 4 Sup 1A), 2 new fan kits (Trade in existing)
- 8 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 3 3750 48 port switch
- 1 6509 with 2 Sup 720, 5 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 16 Access points

Carrillo Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 1 3750 48 port switch
- 12 Access points

Five Palms Elementary School

- 2 Sup 720 (Trade in 2 Sup 1A), 1 new fan kits (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules (Trade in 4 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 1 3750 24 port switch
- 1 6509 with 2 Sup 720, 6 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 12 Access points

Hutchins Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 14 Access points

Kindred Elementary School

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 9 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 1 3750 48 port switch
- 12 Access points

Palo Alto Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 6 10/100/1000 POE 48 port 6500 modules (Trade in 6 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 4 3750 48 port switch
- 16 Access points

Price Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 6 10/100/1000 POE 48 port 6500 modules (Trade in 6 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 4 3750 48 port switch
- 12 Access points

Royalgate Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 5 10/100/1000 POE 48 port 6500 modules (Trade in 5 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 4 3750 48 port switch
- 16 Access points

Shepard Middle School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 8 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 6509 with 2 Sup 720, 5 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 15 Access points

Kazen Middle School

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 11 10/100/1000 POE 48 port 6500 modules (Trade in 10 10/100 48 port modules)
- 6 6000 Watt power supply (Trade in 2 1000 Watt and 4 1300 Watt)
- 2 6509 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 15 Access points

Dwight Middle School

- 8 Sup 720 (Trade in 4 Sup 1A and 4 Sup 2), 4 new fan kits (Trade in existing)
- 15 10/100/1000 POE 48 port 6500 modules (Trade in 13 10/100 48 port modules)
- 8 6000 Watt power supply (Trade in 4 1000 Watt and 4 1300 Watt)
- 3 3750 48 port switch
- 20 Access points

South San High School

- 12 Sup 720 (Trade in 8 Sup 1A and 4 Sup 2), 6 new fan kits (Trade in existing)
- 24 10/100/1000 POE 48 port 6500 modules (Trade in 20 10/100 48 port modules)
- 12 6000 Watt power supply (Trade in 12 1300 Watt)
- 6 3750 24 port switch
- 18 3750 48 port switch
- 30 Access points

West Campus High School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 13 10/100/1000 POE 48 port 6500 modules (Trade in 13 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 15 Access points

Alternative School

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 9 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 4 1300 Watt)
- 12 Access points

Robert C. Zamora Middle School

- 25 Access points

NOTES:

Cisco 6500 Upgrades will use the following:

1. Cisco Catalyst 6500 Supervisor Card Upgrade (Listed as Sup 720 on school list)
   - WS-Sup720-3B (Catalyst 6500 Supervisor 720 Fabric MSFC3 PFC3B)
   - MEM-C6K-CPTFL128M (Cat6500 Sup720 Compact Flash Mem 128MB)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each Sup720
   - 8x5xNBD Smarnet Service

2. Cisco Catalyst 6500 Power Supply Upgrade (Listed as 6000 Watt power supply on school list)
   - WS-CAC-6000W
   - CAB-AC-2500W-US1 (2 for each power supply)
   - 8x5xNBD Smartnet Service

3. Cisco Catalyst 6500 Fan Tray Upgrade (Listed as new fan kit on school list)
   - WS-C6K-9SLOT-FAN2 (For 9 slot 6500 chassis)
   - WS-C6K-6SLOT-FAN2 (For 6 slot 6500 chassis)
   - 8x5xNBD Smartnet Service

4. Cisco 48 Port Card Upgrade (Listed as 10/100/1000 POE 48 port 6500 modules on school list)
   - WS-X6548-GE-45AF (Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card)
   - 8x5xNBD Smartnet Service

Notes: Vendor will remove all modules while installing upgraded modules.
Modules replaced will be returned to school district.
Modules that are being traded in will be give to the vendor once upgraded equipment is installed.
Vendor will use existing cables to connect new equipment to patch panel.
Vendor will be responsible for making sure all modules are installed and are working correctly.
Vendor will configure switch after communicating with school district.

Access points will include:

5. Cisco 1200 Series Access Point
   - AIR-AP1231G-A-K9 (802.11g IOS AP w/Avail CBus Slot, FCC Cnfg)
   - AIR-ANT4941 (2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC)

- AIR-PWR-CORD-NA (AIR Line Cord North America)
- S11W7K9-12215XR (Cisco 1100 Series IOS WIRELESS LAN)
- 8x5xNBD Smarnet Service

Each new 3750 24/48 port switches will include the following

6. Cisco Catalyst 3750 24 Port Switch (Listed as 3750 24 port switch on school list)
   - WS-C3750G-24PS-E (24 Port 10/100/1000 with Power Over Ethernet)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each switch
   - 8x5xNBD Smarnet Service

7. Cisco Catalyst 34750 48 Port Switch (Listed as 3750 48 port switch on school list)
   - WS-C3750G-48PS-E (48 Port 10/100/1000 with Power Over Ethernet)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each switch
   - 8x5xNBD Smarnet Service

Notes: Switches will be mounted and patch cables will be connected by vendor.
Vendor will remove any existing equipment and return to school district.
Vendor will use existing cables to connect new equipment to patch panel.
Vendor will be responsible for making sure all modules are installed and are working correctly.
Vendor will configure switch after communicating with school district.

New 6500s will include:

8. Cisco Catalyst 6500 Supervisor Card (2 in each new 6500)
   - WS-Sup720-3B (Catalyst 6500 Supervisor 720 Fabric MSFC3 PFC3B)
   - MEM-C6K-CPTFL128M (Cat6500 Sup720 Compact Flash Mem 128MB)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each Sup720
   - 8x5xNBD Smarnet Service

9. Cisco Catalyst 6500 Power Supply (2 in each new 6500)
   - WS-CAC-6000W
   - CAB-AC-2500W-US1 (2 for each power supply)
   - 8x5xNBD Smartnet Service

10. Cisco Catalyst 6500 Fan Tray (1 in each new 6500)
    - WS-C6K-9SLOT-FAN2 (For 9 slot 6500 chassis)
    - WS-C6K-6SLOT-FAN2 (For 6 slot 6500 chassis)
    - 8x5xNBD Smartnet Service

11. Cisco 48 Port Card (Quantity listed in school list)
    - WS-X6548-GE-45AF (Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card)
    - 8x5xNBD Smartnet Service

12. Cisco Catalyst 6500 (1 for each new 6500 listed)
    - WS-C6509-E (Enh C6509 Chassis, 9slot, No Pow Supply, No Fan Tray for 9 slot)
    - WS-C6506-E (Enh C6509 Chassis, 6slot, No Pow Supply, No Fan Tray for 6 slot)

Notes: 6500s will be mounted and patch cables will be connected by vendor.
Vendor will remove any existing equipment and return to school district.
Vendor will use existing cables to connect new equipment to patch panel.
Vendor will be responsible for making sure all modules are installed and are working correctly.
Vendor will configure switch after communicating with school district.

The following are not erate eligible and are required on a separate listing from the above. The district will seek internal funding to complete these projects below.

Special Programs Building
- 1 3750 48 port switch
- 2 Access points

Student Appraisal Center
- 1 3750 24 port switch
- 1 3750 48 port switch
- 3 Access points

Parent Development Center
- 2 3750 48 port switch
- 3 Access points

Food Services
- 1 3750 24 port switch
- 1 Access point

Warehouse
- 1 3750 24 port switch
- 1 Access points

Central Office
- 8 Sup 720 (Trade in 4 Sup 1A and 4 Sup 2), 4 new fan kits (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules
- 8 6000 Watt power supply (Trade in 8 1300 Watt)
- 8 3750 24 port switch
- 4 Access points

Anna Marie Hernandez Community Learning Center
- 6 Access points

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

School	Part Cost	Labor/Installation	Total
Athens Elementary	623,718.76	49,686.68	673,405.44
Carrillo Elementary	460,196.86	46,567.39	506,764.25
Armstrong Elementary	476,000.66	47,472.07	523,472.23
Five Palms Elementary	487,572.96	50,008.95	537,581.91
Royalgate Elementary	618,442.56	50,295.25	668,737.81
Hutchins Elementary	502,970.66	46,061.09	549,031.75
Benavidez Elementary	603,055.40	49,686.68	652,742.08
Price Elementary	634,246.36	51,042.55	685,288.91
Palo Alto Elementary	602,638.76	49,686.68	652,325.44
Kindred Elementary	619,384.96	50,295.25	669,680.21
Shepard Middle School	632,528.96	49,717.65	682,246.61
Robert C. Zamora Middle School	502,970.66	46,061.09	549,031.75
Kazen Middle School	969,011.64	65,318.21	1,034,329.85
Dwight Middle School	810,374.10	66,847.19	877,221.29
South San High School	1,433,909.32	76,035.64	1,509,944.36
West Campus High School	545,717.62	65,412.93	611,130.55
South San Alternative (SAC) School	361,142.56	44,571.15	405,713.71
South San Antonio ISD			
Grand Total	10,883,882.89	904,765.85	11,788,648.65

Bidder Requirements

X **Vendor must be listed as a State of Texas General Service Commission Qualified Information System Vendor for 2003-2004.**

X **Vendor must include their current QISV number on the Bid Form page.**

X **Vendor must include on their company letterhead an exact list of equipment in the computer configurations that are to be delivered to the District for this RFP.**

X **Vendor must include on their company letterhead their hourly rate for repairs not covered under warranty. i.e. – repairs caused by misuse or abuse of equipment or software/operator problems**

X **Bidder must list USAC- Schools and Libraries Division Service Provider Information Number (SPIN) on Bid Form.**

X **Vendor must be a Cisco Gold Certified Partner.**

Name: Jim Teter - President, Avnet Enterprise Solutions

Address: 8700 S. Price Road

City/State/Zip Tempe, AZ 85284

QISV Number 1111890605300 / 47365

FCC SPIN Number SPIN #143007906 FCC RN #0011833993

Bidder hereby affirmatively states that it has not participated in any act of collusion, favoritism, gratuity or inside dealings with any member of the staff of the South San Antonio Independent School District or its Board of Trustees.

COMPANY NAME: Avnet Enterprise Solutions a division of Avnet, Inc.

SIGNATURE OF PERSON: Jim Teter

TITLE: President

ADDRESS: 8700 S. Price Road

CITY: Tempe STATE: Arizona ZIP: 85284

PHONE #: (480) 794-6550 FAX #: (480) 794-3533

DATE: 2/3/05

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

HOLD HARMLESS AGREEMENT

~~The contractor shall defend, indemnify, and save whole and harmless, South San Antonio Independent School District and all of its officers, agents and employees from and against all suits, actions or claims of any character, name and description brought for or on account of any injuries or damages (including death) received or sustained by any person or property on account of, arising out of, or in contention with, any negligent act or omission of Contractor or any agent, employee, subcontractor or supplier of Contractor in the execution or performance of this contract.~~

~~The Contract shall also defend and indemnify the South San Antonio Independent School District against claims by any subcontractor, supplier, laborer, material-man or mechanic for payment for work or materials provided on behalf of the Contractor in the performance of the services and all such claimants shall look solely to Contractor and not South San Antonio Independent School District for satisfaction of such claims.~~

~~This hold harmless agreement shall be binding upon the undersigned and his heirs and assigns.~~

Dated this 2nd day of February, 2005.

Jim Teter - President, Avnet Enterprise Solutions
(Printed Name)

STATE OF TEXAS

COUNTY OF BEXAR

This instrument was acknowledged before me on the 2nd day of Feb, 2005.

(NOTARY'S SEAL)

WENDE L. SCHWARTZKOPF
Notary Public - Arizona
Maricopa County
My Comm. Expires Nov 16, 2006

Notary Public, State of Texas

RFP #05-48

Exception: Avnet respectfully takes exception to both paragraphs of this Hold Harmless Agreement and replaces it with the following language: "Avnet will indemnify and hold harmless the District from any and all claims for bodily injury, death and damage to tangible property caused by Avnet's negligence in the performance of a contractual obligation issued by the District and accepted by Avnet."

1.3. Terms & Conditions

AVNET ENTERPRISE SOLUTIONS CUSTOMER AGREEMENT

This Agreement for the sale of goods and services is entered into on January 17, 2005 ("Effective Date"), between Avnet, Inc., by and through Avnet Enterprise Solutions, a division of Avnet, Inc., a New York corporation (collectively, "Avnet"), with offices at 8700 South Price Road, Tempe, Arizona 85284, and January 17, 2005, a _____ corporation ("Customer"), with offices at 5358 W. Commerce Street San Antonio Texas, 78237 ("Customer").

1. Structure

a. This Agreement sets out general terms and conditions which govern the relationship between Avnet and Customer. Some Products and Services may require additional and/or unique terms, which are set out in Attachments, Exhibits, Statements of Work, and other various documents; this Agreement and the addenda referenced in section 1.c., below, are collectively referred to as the "Agreement").

b. This Agreement will commence on the date above and continue for a one year period. This Agreement may be renewed for up to four additional one (1) year terms upon mutual, written agreement of both parties at least (30) days prior to the end of the then-current term.

b. Third party terms and conditions, such as a manufacturer's warranty or shrink-wrapped software license, or a Service Provider's Statement of Work or terms and conditions, govern the relationship between the third party and Customer for a Product or Service (collectively "Third Party Terms").

c. Following are Other Documents and Third Party Terms attached to this Agreement on its Effective Date:

Document Name	Form No.	Date
Multi-year Renewal Agreement	Addendum A	
Inventory List for Hardware Maintenance	Addendum B	
Annual Services Agreement	Addendum C	
Statement of Work	Addendum D	

2. Prices

a. Prices shall be specified by Avnet and shall be applicable for the period specified in Avnet's quote. If no period is specified, prices shall be applicable for thirty (30) days.

b. Prices are exclusive of taxes, impositions and other charges, including: sales, use, excise, value added and similar taxes or charges imposed by any government authority. If Avnet shall be liable for or shall pay any of the foregoing, same shall be paid by Customer to Avnet in addition to the price of the Products.

c. Shipping charges are not included in prices and will be invoiced, if applicable, as separate items. All shipments are F.O.B. point of origin.

3. Orders

a. Customer shall place an order by submitting it on Customer's standard purchase order form or on an alternate order form approved by Avnet, or otherwise by electronic means acceptable to Avnet. Customer's order shall be deemed to incorporate the terms and conditions of this Agreement without reference in the order to this Agreement. In no event shall preprinted terms and conditions on a Customer document (e.g., purchase orders) modify or add to the terms of an order or this Agreement. Customer's order is subject to Avnet's credit and acceptance requirements. Customer's order that has been accepted by Avnet shall be referred to as an "Order." Avnet, as applicable, may accept an order by providing Customer a written confirmation of acceptance, sent by mail, facsimile or other electronic means; by shipping the Product; or by beginning performance of the Value-Added Work or Avnet Service. No Orders for Standard Products may be cancelled or rescheduled without Avnet's written consent, which consent may be given by Avnet in its sole discretion.

b. Avnet will try to meet Customer's delivery requirements and will keep Customer informed of delivery status. Avnet will not be liable for delays in meeting delivery requirements.

c. Notwithstanding any provision of this Agreement to the contrary, orders for special, custom, value-added and other non-standard Products, including Products of manufacturers which do not appear on Avnet's line card, Products which have been tested, assembled or integrated for Customer, work-in-process and Products otherwise identified by Avnet as "NCNR" or "Non-Cancelable and Non-Returnable" ("Non-Standard Products") shall be non-cancelable and non-returnable.

4. Risk of Loss/Title. Risk of loss and title shall pass to Customer upon delivery to a common carrier. Products invoiced and held by Avnet for any reason shall be held at Customer's risk and expense.

5. Invoicing and Payment

a. Customer will be invoiced for any "product" (hardware, software, documentation, accessories, materials, supplies and parts) upon delivery to a common carrier.

b. Customer will be invoiced for services delivered on a monthly basis or upon completion of mutually agreed upon milestones defined in the project plan. Invoicing details will be provided on the Work Approval Form, which Avnet requests customer sign to acknowledge the work performed.

c. Payment of the net amount of all invoices, without offset or deduction, is due 30 days from the date of Avnet's invoice. Additional payment terms may be set forth in Other Documents.

d. Checks are accepted subject to collection and the date of collection is deemed the date of payment. On any past due invoice, Customer shall pay interest from the payment due date to the date of payment at the annual percentage rate of 18% (or such lower rate as may be the maximum allowable by law), together with Avnet's costs of collection (including reasonable attorneys' fees).

e. Customer agrees that Avnet may, in its sole discretion, at any time, change the terms of Customer's credit, require payment in cash before shipment of any or all Products or before beginning any work on any Services and/or require prepayment.

6. Avnet Services

The following terms apply to Avnet Services:

a. Avnet Services. Avnet Services are services performed by Avnet that Avnet makes available to Customer. The service description and any additional terms and conditions for an Avnet Service may be contained in a Statement of Work. Customer agrees to provide Avnet with sufficient, free and safe access to the premises where Customer requires Avnet Services to be performed.

b. Statement of Work. A separate Statement of Work may be required for each Avnet service transaction. Customer's order for Avnet Services is subject to acceptance by Avnet. The Statement of Work may include, but may not be limited to (i) the service description; (ii) any additional terms and conditions for the Avnet Service; (iii) each party's responsibilities; (iv) the conditions that Avnet must meet to complete the Avnet Service ("Completion Requirements"); and (v) the charges, exclusive of taxes. Any changes to the Statement of Work must be in writing and signed by both parties.

c. Completion Requirements. Avnet may inform Customer when any Completion Requirements included in the Statement of Work have been met. Unless a different period is provided in the Statement of Work, Customer shall have 15 days to notify Avnet if Customer believes the Completion Requirements have not been met. The Avnet Services are complete when the Completion Requirements have been met.

d. Personnel. Avnet and Customer shall each designate a project representative. All Avnet and Customer personnel assigned to participate on their behalf shall be knowledgeable in their assigned areas of responsibility. Unless otherwise provided in the Statement of Work, each party has the right to determine the assignment and re-assignment of its personnel. Avnet may subcontract Avnet Services to subcontractors selected by Avnet.

e. Insurance. Avnet and Customer, respectively, shall be responsible, at their own cost and expense, for maintaining in effect policy or policies of insurance insuring against claims, demands or actions arising out of or in relation to the Avnet Services provided pursuant to this Agreement, in an amount not less than $500,000 in respect of injuries or death of any one person, $1,000,000 in respect of any one accident or disaster, and in an amount not less than $100,000 in respect of property damaged or destroyed. Such insurance shall be underwritten by companies qualified to do business in the state in which the Services are to be performed. Each party shall, upon the reasonable request of the other party, deliver a validly executed certificate of insurance evidencing the above.

7. Avnet's Limited Warranty

a. Avnet Services. Avnet warrants Avnet Services shall conform to the Statement of Work for thirty (30) days from delivery. Avnet's liability for Avnet Services performed by it that are determined by Avnet not to satisfy this warranty shall be limited to correcting such Avnet Services at no charge to the Customer, or, at Avnet's election, refunding Customer's purchase price which is in Avnet's sole discretion, appropriately apportioned for Avnet Services.

b. Resale of Services. Avnet hereby transfers any transferable warranties from the applicable Service Providers. Avnet makes no independent warranty with respect to Services performed by a third party.

c. Products and Value Added Services. Avnet warrants to Customer that upon delivery to Customer, Products purchased hereunder will conform to the applicable manufacturer's specifications for such Products, and that any value-added work performed by Avnet on such Products at its integration facilities to assemble or integrate the Product ("Value-Added Work") will conform to applicable Customer's specifications relating to such work. Avnet makes no other warranty, express or implied, with respect to the Products. However, in addition to any warranty and indemnification provided to Customer directly by the manufacturer of the Products acquired hereunder, Avnet will transfer any transferable warranties and indemnities Avnet receives from the manufacturer of the Products, including any transferable warranty and indemnities respecting patent infringement. With respect to Products which do not meet applicable manufacturer's specifications and with respect to Value-Added Work by Avnet which does not meet applicable Customer's specifications, Avnet's liability is limited, at Avnet's election, to (1) refund of Customer's purchase price for such Products (without interest), (2) repair of such Products, or (3) replacement of such Products; provided, however, that such Products must be returned to Avnet, along with acceptable evidence of purchase, within thirty (30) days from date of delivery, transportation charges prepaid. Customer shall obtain a return material authorization number from Avnet prior to returning Product. Customer agrees that at Avnet's request it shall utilize the manufacturer's applicable warranty to correct a non-conformity in lieu of making a warranty claim under Avnet's warranty.

d. The warranties set forth in this section are the only warranties made by Avnet, and Avnet makes no other warranties, express or implied, with respect to the Products acquired and Services sold hereunder. **IN PARTICULAR, AVNET MAKES NO WARRANTY RESPECTING THE MERCHANTABILITY OF THE PRODUCTS OR SERVICES SOLD OR ACQUIRED HEREUNDER, OR THEIR SUITABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR USE OR RESPECTING PROPRIETARY RIGHT INFRINGEMENT. AVNET DOES NOT AUTHORIZE ANY PERSON TO ASSUME FOR IT THE OBLIGATIONS CONTAINED HEREIN.**

8. Limitation of Liability

a. Except for the remedies provided hereunder with respect to warranties provided by Avnet, Customer agrees that it will look solely to the manufacturers of the Products acquired pursuant hereto, or to the Service Providers, for relief with respect to any and all claims, actions, suits, proceedings, demands, liabilities, losses, damages and expenses (including attorneys' fees) resulting from any claim by Customer or any third party (including Customer's employees) arising out of or related in any way to the Products or Services or the use or operation thereof, whether such claim is brought in contract, warranty, tort or otherwise (collectively "Liabilities"). Customer will defend, indemnify and hold Avnet harmless from and against all such Liabilities.

b. CUSTOMER SHALL NOT IN ANY EVENT BE ENTITLED TO, AND AVNET SHALL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND OR NATURE, INCLUDING, WITHOUT LIMITATION, BUSINESS INTERRUPTION COSTS, REMOVAL AND/OR REINSTALLATION COSTS, REPROCUREMENT COSTS, LOSS OF PROFIT OR REVENUE, LOSS OF DATA, PROMOTIONAL OR MANUFACTURING EXPENSES, OVERHEAD, INJURY TO REPUTATION OR LOSS OF CUSTOMERS, EVEN IF AVNET HAD BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL CUSTOMER'S RECOVERY FROM AVNET FOR ANY CLAIM EXCEED THE CHARGES FOR THE SERVICES RENDERED, OR THE PURCHASE PRICE OF ANY PRODUCTS ACQUIRED, PURSUANT HERETO, THAT ARE THE SUBJECT OF THE CLAIM WHETHER SUCH CLAIM IS BROUGHT IN CONTRACT, WARRANTY, TORT OR OTHERWISE. AVNET SHALL NOT BE LIABLE FOR AND CUSTOMER SHALL INDEMNIFY, DEFEND AND HOLD AVNET HARMLESS FROM ANY CLAIMS BASED ON AVNET'S COMPLIANCE WITH CUSTOMER'S DESIGNS, SPECIFICATIONS OR INSTRUCTIONS, OR MODIFICATION OF ANY PRODUCTS BY PARTIES OTHER THAN AVNET, OR USE IN COMBINATION WITH OTHER PRODUCTS.

c. No action arising out of the performance of any Services, or the sale and acquisition of any Products, pursuant to this Agreement may be brought by either party more than two (2) years after such cause of action accrues, except that an action for nonpayment may be brought within two (2) years of the date of the last payment.

9. Termination

a. Either party may terminate this Agreement without cause at any time by giving the other party at least thirty (30) days prior written notice.

b. Avnet may terminate any Order for default for which Customer refuses or is unable to accept delivery, or fails to make payment when due and does not make such payment within ten (10) days after notice from Avnet that payment is past due.

c. Either party may terminate this Agreement and any Order without notice if the other party is unable to pay its debts when due or becomes insolvent, files for bankruptcy or is the subject of involuntary bankruptcy, or has its assets assigned or a receiver appointed.

d. Either party may terminate any Order for which the other party fails to perform any of its obligations hereunder with respect to such Order so as to be in default and fails to cure such default within thirty (30) days after written notice thereof.

e. All Orders existing at the time of termination of this Agreement shall remain in effect and shall be performed in accordance with the terms of this Agreement, except Orders terminated in accordance with this Section. Customer shall pay for all Non-Standard Products ordered by Avnet for Customer's account and work in process (including charges for labor and materials) as of the effective date of termination of this Agreement or Order, as applicable.

f. The exercise of the right to terminate this Agreement and Order shall be in addition to any other right and remedy provided in this Agreement or existing at law or equity that is not otherwise excluded or limited under this Agreement.

10. Intellectual Property. If an Order includes software or other intellectual property, such software or other intellectual property is provided by Avnet to Customer subject to the copyright and user license, the terms and conditions of which are set forth in the license agreement accompanying such softwa re or other intellectual property. Nothing herein shall be construed to grant any rights or license to use any software or other intellectual property in any manner or for any purpose not expressly permitted by such license agreement. Unless otherwise provided in this Agreement, Avnet is not the licensor and Customer acquires the license directly from the manufacturer or the manufacturer's authorized licensor.

11. Confidential Information. Customer and Avnet agree that if confidential information is to be exchanged they may require that a mutually agreeable non disclosure agreement be signed. This Section does not obligate either party to accept confidential information from the other party.

12. Non-Solicitation. Customer agrees that the personnel of Avnet as well as the personnel of any Service Provider are critical to Avnet and the Service Provider's ability to provide services. Therefore, Customer agrees not to hire or otherwise solicit the employment of any Avnet or other Service Provider personnel associated with performing the Services or supplying the Products acquired hereunder during the term of this Agreement or for two (2) years thereafter. If Customer violates this prohibition, Customer shall immediately pay to Avnet an amount equal to the annual compensation of the Avnet personnel solicited or hired or the amount Avnet would then be liable to the Service Provider pursuant to any agreement with them.

13. Independent Contractors. Avnet, and each of the Service Providers, shall act as independent contractors. Neither party hereto shall represent that it has the authority, express or implied, to assume or create any obligation on behalf of the other party as agent or employee in any capacity. The parties agree that this Agreement does not establish a joint venture or partnership.

14. Security Interest. Avnet reserves a purchase money security interest in all Products purchased under this Agreement, all additions and accessions thereto and all replacements and proceeds thereof, to secure payment of Customer's obligations. Such security interest is retained until Customer's obligations are paid in full. Avnet may file this Agreement or financing statements pursuant to the Uniform Commercial Code or other applicable law to evidence or perfect Avnet's security interest in the Products. Customer hereby irrevocably appoints Avnet as its attorney-in-fact to execute such financing statements and to do such other acts and things as may be necessary to perfect or preserve Avnet's security interest in the Products. At Avnet's request, Customer shall join with Avnet in executing such financing statements. Customer shall pay all fees, taxes, and assessments associated with the filing of this Agreement or financing statements.

15. Notices. Any notice required or permitted to be sent to either party under the terms of this Agreement or any agreement entered into pursuant hereto shall be deemed to have been given when in writing and delivered personally or mailed postage prepaid by registered or certified mail, return receipt requested, to the party to be notified at the address set forth below or such other address as the party may from time to time designate in writing:

CUSTOMER:_____

Attention:_____

AVNET:
Avnet, Inc.
8700 South Price Road
Tempe, Arizona 85284
Attention: Legal Dept, Customer Contracts Mgr.

with a copy simultaneously to:
Avnet, Inc.
2211 South 47th Street
Phoenix, AZ 85034
Attention: Senior Vice President and General Counsel

16. General

a. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof and supersedes all prior agreements, proposals and communications between the parties, written or oral, relating to the subject matter of this Agreement. This Agreement may be modified only by writings duly signed by authorized representatives of both parties.

b. Neither party shall be liable for failure to fulfill its obligations under this Agreement or any other agreement entered into pursuant hereto, or for delays in delivery due to causes beyond its reasonable control, including but not limited to, acts of God, acts or omissions of the other party, acts or omissions of civil or military authority, government priorities, changes in law, man-made or natural disasters, materials shortages, fires, strikes, floods, epidemics, quarantine restrictions, riots, war, acts of terrorism, delays in transportation or inability to obtain labor or materials through its regular sources. The time for performance of any such obligation shall be extended for the time period lost by reason of the delay.

c. This Agreement shall be governed by and construed in accordance with the laws of the state of Arizona.

d. Except as specifically provided herein, Customer may not assign this Agreement or any of its rights or obligations hereunder without the prior written consent of Avnet. Any such attempted assignment shall be null and void. This Agreement shall be binding upon and inure to the benefit of the parties' respective successors and permitted assigns.

e. The failure of either party at any time to require performance by the other party of any provision of this Agreement shall not affect the right of such party to require performance at any time thereafter, nor shall the waiver by either party of a breach of any provision of this Agreement be taken or held to be a waiver of any provision itself.

f. Any provision of this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof in such jurisdiction or affecting the validity or enforceability of such provision in any other jurisdiction.

g. The headings used in this Agreement are for convenience of reference only and shall be ignored in the construction and interpretation of this Agreement.

17. Definitions

All capitalized terms used in this Agreement have the meanings set forth below or in the Sections of this Agreement referred to below. Additional definitions may appear in Other Documents.

"Agreement" has the meaning specified in Section 1.a.
"Avnet" and "Avnet Enterprise Solutions" have the meaning specified in the first paragraph of this Agreement.
"Avnet Services" has the meaning specified in Section 7.a.
"Completion Requirements" has the meaning specified in Section 7.c.
"Customer" has the meaning specified in the first paragraph of this Agreement.
"Liabilities" has the meaning for Section 9.a. as specified in Section 9.a.
"Non-Standard Products" has the meaning specified in Section 3.c.
"Order has the meaning specified in Section 3.a.
"Other Documents" has the meaning specified in Section 1.a.
"Product(s)" are hardware, software, documentation, accessories, cabling, material, supplies and parts.
"Services" means services performed by Avnet or Service Providers.
"Service Providers" means third parties that perform Services. Service Providers include manufacturers and non-manufacturers.
"Standard Products" means all Products that are not Non-Standard Products.
"Statement of Work" has the meaning specified in Section 7.b.
"Third Party Terms" has the meaning specified in Section 1.b.
"Value-Added Work" has the meaning specified in Section 8.c.

Contract Response

Avnet Enterprise Solutions
Contract Response

South San Antonio Independent School District
Request for Proposal

Avnet Enterprise Solutions, a division of Avnet, Inc. ("Avnet") is pleased to submit to South San Antonio Independent School District ("District"), Avnet's Proposal ("Proposal") in response to the Request for Proposal. Avnet submits its Proposal subject to the terms, conditions, specifications, and bid sheets included with the RFP as responded to by Avnet in its Proposal and Avnet's Terms and Conditions included in this Proposal (collectively, "Proposal Terms") pursuant to the General Conditions and Specifications of the RFP. The Proposal Terms shall become the sole and exclusive terms and conditions of the final contract resulting from this RFP in the event the District accepts Avnet's Proposal by issuing a purchase order or other written form of acceptance without reaching any further mutual written agreement on terms and conditions. Avnet is willing to enter into good faith negotiations on terms and conditions at any time before the District may accept the Proposal Terms.

Following are Avnet's exceptions and clarifications to the RFP:

Specifications and Conditions - 2. **RFP Page 2**
Exception: Avnet respectfully takes exception to the second sentence of this section 2 and requests its deletion.

Specifications and Conditions - 10. **RFP Page 3**
Clarification: Termination of this Agreement by either party shall be preceded by 30 days prior written notice.

Specifications and Conditions – 8. **RFP Page 3**
Exception: Avnet does not hereby extend the annually renewable maintenance agreement beyond 12 months.

Proposals – 9. **RFP Page 8**
Exception: Avnet respectfully takes exception to this statement 9 and requests its deletion.

Hold Harmless Agreement **RFP Page 18**
Exception: Avnet respectfully takes exception to this Hold Harmless Agreement and replaces it with the following language: "Avnet will indemnify and hold harmless SISD from any and all claims for bodily injury, death or damage to tangible property caused by Avnet's negligence in the performance of any contractual obligations resulting from an order issued by the District and accepted by Avnet."

	1	CON-SNT-IPTV3441	SMARTNET 8X5XNBD Cisco IP/TV 3441 Bro	$ 1,520.00		$ -
						$ -
MDF	1	CISCO3845	3845 w/AC PWR,2GE,1SFP,4NME,4HWIC, IP Base, 64F/2	$13,000.00	$ 8,060.00	$ 8,060.00
	1	S384AISK9-12311T	Cisco 3845 IOS ADVANCED IP SERVICES	$ 2,500.00	$ 1,550.00	$ 1,550.00
	1	MEM3800-256U1024D	256 to 1024MB DDR DRAM factory upgrade for Cisco 3800	$ 5,000.00	$ 3,100.00	$ 3,100.00
	2	MEM3800-64U256CF	64 to 256 MB CF Factory Upgrade for Cisco 3800 Series	$ 700.00	$ 434.00	$ 434.00
	1	NM-HD-2VE	Two-slot IP Communications Enhanced Voice/Fax Network	$ 2,400.00	$ 1,488.00	$ 2,976.00
	2	NM-HDV2-2T1/E1	IP Communications High-Density Digital Voice NM with 2 T	$ 3,195.00	$ 1,980.90	$ 1,980.90
	2	VIC-4FXS/DID	4 port FXS or DID VIC	$ 800.00	$ 496.00	$ 992.00
	1	VIC2-4FXO	Four-port Voice Interface Card - FXO (Universal)	$ 800.00	$ 496.00	$ 992.00
	4	VWIC-2MFT-T1-DI	2-Port RJ-48 Multiflex Trunk - T1 With Drop and Insert	$ 2,500.00	$ 1,550.00	$ 1,550.00
	2	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$ 3,200.00	$ 1,984.00	$ 7,936.00
	1	PWR-3845-AC/2	Cisco3845 redundant AC power supply	$ 3,200.00	$ 1,984.00	$ 3,968.00
	2	CAB-AC	Power Cord,110V	$ 500.00	$ 310.00	$ 310.00
	1	FL-SRST-144	Feat Lic Survivable Remote Site Telephony up to 144 phon	$ -	$ -	$ -
	1	PWR-3845-AC	Cisco 3845 AC power supply	$ 3,300.00	$ 2,046.00	$ 2,046.00
	1	ROUTER-SDM	Device manager for routers	$ 500.00	$ 310.00	$ 310.00
	1	CON-SNT-3845	SMARTNET 8X5XNBD 3845 w/AC PWR,2GE,1S	$ -	$ -	$ -
IDF2	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tr	$ 1,775.00		$ -
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PF	$ -	$ -	$ -
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$28,000.00	$17,360.00	$ 17,360.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PF	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$28,000.00	$17,360.00	$ 17,360.00
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline p	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/DF	$14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP72	$22,500.00	$13,950.00	$ 13,950.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 7,500.00	$ 4,650.00	$ 4,650.00
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 495.00	$ 306.90	$ 306.90
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SI	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MS	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SI	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MS	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DFC3	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only)	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multimod	$ 500.00	$ 310.00	$ 2,480.00
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 995.00	$ 616.90	$ 4,935.20
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 500.00	$ 310.00	$ 1,240.00
				$ 6,500.00		$ -
IDF3	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tr	$ 9,500.00	$ 5,890.00	$ -
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ 5,890.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PF	$28,000.00	$17,360.00	$ -
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 17,360.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PF	$28,000.00	$17,360.00	$ 1,240.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 17,360.00
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline p	$14,000.00	$ 8,680.00	$ 1,240.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/DF	$22,500.00	$13,950.00	$ 26,040.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP72	$ 7,500.00	$ 4,650.00	$ 13,950.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 4,650.00
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 306.90
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SI	$ 7,200.00	$ 4,464.00	$ 6,200.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MS	$ 4,800.00	$ 2,976.00	$ 4,464.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SI	$ 7,200.00	$ 4,464.00	$ 2,976.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MS	$ 4,800.00	$ 2,976.00	$ 4,464.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DFC3	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only)	$ 500.00	$ 310.00	$ 2,976.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multimod	$ 995.00	$ 616.90	$ 2,480.00
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 4,935.20
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ 1,240.00
						$ -
DF4	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Im	$23,490.00	$14,563.80	$ -
	1	CAB-AC	Power Cord,110V	$ -	$ -	$ 14,563.80
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$ -
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ -
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4	$ 1,564.00		$ 1,240.00
	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Im	$23,490.00	$14,563.80	$ -
	1	CAB-AC	Power Cord,110V	$ -	$ -	$ 14,563.80
						$ -

1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$	-
4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$	1,240.00
1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4	$ 1,564.00		$	-
12	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	$ 899.00	$ 557.38	$	6,688.56
12	AIR-PWR-CORD-NA	AIR Line Cord North America	$ -	$ -	$	-
12	S12W7K9-12302JA	Cisco 1200 Series IOS WIRELESS LAN	$ -	$ -	$	-
12	AIR-CONCAB1200	Console Cable for 1130AG, 1200, 1230AG Platform	$ 10.00	$ 6.20	$	74.40
12	CON-SNT-AIRAP1200	8x5xNBD Svc, AP Platform, w/ Avail Cardbus, MPCI Slot	$ 68.00		$	-
				Hardware Total	$	618,442.56
1		Hardware Installation & Configuration			$	38,291.71
1		Project Management			$	12,003.54
				Royalgate Elementary Total	**$**	**668,737.81**

** No charge for first year Smartnet with form 471 on file

South San Antonio ISD - Price Elementary

AVNET Enterprise Solutions

Location	Quantity	Part Number	Description	List Price	Unit Price	Extended Price
Elementary School						
MDF	1	VG248	48 Port Voice over IP analog phone gateway	$ 8,395.00	$ 5,204.90	$ 5,204.90
	1	CAB-AC	Power Cord,110V	$ -	$ -	$ -
	1	CON-SNT-VG248	8x5xNBD Svc, VG248 Analog Phn Gtwy	$ 672.00		$ -
						$ -
MDF	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$34,995.00	$21,696.90	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 6500	$ -	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inlin	$14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/I	$22,500.00	$13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 M	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 M	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DF	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multim	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00		$ -
						$ -
IDF	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$34,995.00	$21,696.90	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 6500	$ -	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inlin	$14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/I	$22,500.00	$13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 M	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 M	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DF	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multim	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00		$ -
						$ -
IDF	1	IPTV-3441-BCAST	Cisco IP/TV 3441 Broadcast Server, (1) MPEG-1/2	$19,000.00	$11,780.00	$ 11,780.00
	1	IPTV-1HDU2HD	IPTV 344X Upgrade: 1 default drive to 2 hard drives	$ 800.00	$ 496.00	$ 496.00
	1	CAB-OEM-IBM-AC	OEM,IBM,AC Power Cord-US	$ -	$ -	$ -
	1	IPTV-DISK-80GB	80 GB SATA Disk Drive for IPTV-344X, option	$ -	$ -	$ -
	1	IPTV-MP2-FD1-OPT	Cisco IP/TV single-port MPEG-1/2 card, option	$ -	$ -	$ -
	1	SF-IPTV-5.2-SA	IP/TV Software v5.2 - SATA	$ -	$ -	$ -
	1	CON-SNT-IPTV3441	SMARTNET 8X5XNBD Cisco IP/TV 3441 Bro	$ 1,520.00		$ -
						$ -
DF	1	CISCO3845	3845 w/AC PWR,2GE,1SFP,4NME,4HWIC, IP Base, 64F	$13,000.00	$ 8,060.00	$ 8,060.00

	1	S384AISK9-12311T	Cisco 3845 IOS ADVANCED IP SERVICES	$ 2,500.00	$ 1,550.00	$ 1,550.00
	1	MEM3800-256U1024D	256 to 1024MB DDR DRAM factory upgrade for Cisco 38	$ 5,000.00	$ 3,100.00	$ 3,100.00
	1	MEM3800-64U256CF	64 to 256 MB CF Factory Upgrade for Cisco 3800 Series	$ 700.00	$ 434.00	$ 434.00
	2	NM-HD-2VE	Two-slot IP Communications Enhanced Voice/Fax Netwo	$ 2,400.00	$ 1,488.00	$ 2,976.00
	1	NM-HDV2-2T1/E1	IP Communications High-Density Digital Voice NM with 2	$ 3,195.00	$ 1,980.90	$ 1,980.90
	2	VIC-4FXS/DID	4 port FXS or DID VIC	$ 800.00	$ 496.00	$ 992.00
	2	VIC2-4FXO	Four-port Voice Interface Card - FXO (Universal)	$ 800.00	$ 496.00	$ 992.00
	1	VWIC-2MFT-T1-DI	2-Port RJ-48 Multiflex Trunk - T1 With Drop and Insert	$ 2,500.00	$ 1,550.00	$ 1,550.00
	4	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$ 3,200.00	$ 1,984.00	$ 7,936.00
	2	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$ 3,200.00	$ 1,984.00	$ 3,968.00
	1	PWR-3845-AC/2	Cisco3845 redundant AC power supply	$ 500.00	$ 310.00	$ 310.00
	2	CAB-AC	Power Cord,110V	$ -	$ -	$ -
	1	FL-SRST-144	Feat Lic Survivable Remote Site Telephony up to 144 phc	$ 3,300.00	$ 2,046.00	$ 2,046.00
	1	PWR-3845-AC	Cisco 3845 AC power supply	$ 500.00	$ 310.00	$ 310.00
	1	ROUTER-SDM	Device manager for routers	$ -	$ -	$ -
	1	CON-SNT-3845	SMARTNET 8X5XNBD 3845 w/AC PWR,2GE,1S	$ 1,775.00		$ -
IDF2	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inlin	$14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/I	$22,500.00	$13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 M	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 M	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DF	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multim	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
						$ -
	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inlin	$14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/I	$22,500.00	$13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 M	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 M	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DF	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multim	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
						$ -
DF4	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced I	$23,490.00	$14,563.80	$ 14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$ -
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$ -
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE +	$ 1,564.00		$ -
DF5	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced I	$23,490.00	$14,563.80	$ 14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$ -
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$ -
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE +	$ 1,564.00		$ -
	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced I	$23,490.00	$14,563.80	$ 14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$ -

	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$	-	$	-	$ -
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$	500.00	$	310.00	$ 1,240.00
Wireless	12	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	$	1,564.00			$ -
	12	AIR-PWR-CORD-NA	AIR Line Cord North America	$	899.00	$	557.38	$ 6,688.56
	12	S12W7K9-12302JA	Cisco 1200 Series IOS WIRELESS LAN	$	-	$	-	$ -
	12	AIR-CONCAB1200	Console Cable for 1130AG, 1200, 1230AG Platform	$	-	$	-	$ -
	12	CON-SNT-AIRAP1200	8x5xNBD Svc, AP Platform, w/ Avail Cardbus, MPCI Slot	$	10.00	$	6.20	$ 74.40
				$	68.00			$ -
							Hardware Total	$ 634,246.36
	1		Hardware Installation & Configuration					
	1		Project Management					$ 38,880.67
								$ 12,161.88
							Price Elementary Total	**$ 685,288.91**

** No charge for first year Smartnet with form 471 on file

AVNET Enterprise Solutions

Location	Quantity	Part Number	Description	List Price	Unit Price	Extended Price
Benavides Elementary School						
MDF	1	VG248	48 Port Voice over IP analog phone gateway	$ 8,395.00	$ 5,204.90	$ 5,204.90
	1	CAB-AC	Power Cord,110V	$ -	$ -	$ -
	1	CON-SNT-VG248	8x5xNBD Svc, VG248 Analog Phn Gtwy	$ 672.00	$ 416.64	$ 416.64
MDF	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tray	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$ 34,995.00	$ 21,696.90	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 6500	$ -	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	$ 14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/DFC3)	$ 22,500.00	$ 13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP720	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SUP)	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MSFC	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SUP)	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MSFC	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DFC3A)	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only)	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multimode)	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00		$ -
[illegible]	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tray	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$ 34,995.00	$ 21,696.90	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 6500	$ -	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	$ 14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/DFC3)	$ 22,500.00	$ 13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP720	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SUP)	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MSFC	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SUP)	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MSFC	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DFC3A)	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only)	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multimode)	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00		$ -
IDF	1	IPTV-3441-BCAST	Cisco IP/TV 3441 Broadcast Server, (1) MPEG-1/2	$ 19,000.00	$ 11,780.00	$ 11,780.00
	1	IPTV-1HDU2HD	IPTV 344X Upgrade: 1 default drive to 2 hard drives	$ 800.00	$ 496.00	$ 496.00
	1	CAB-OEM-IBM-AC	OEM,IBM,AC Power Cord-US	$ -	$ -	$ -
	1	IPTV-DISK-80GB	80 GB SATA Disk Drive for IPTV-344X, option	$ -	$ -	$ -
	1	IPTV-MP2-FD1-OPT	Cisco IP/TV single-port MPEG-1/2 card, option	$ -	$ -	$ -
	1	SF-IPTV-5.2-SA	IP/TV Software v5.2 - SATA	$ -	$ -	$ -
	1	CON-SNT-IPTV3441	SMARTNET 8X5XNBD Cisco IP/TV 3441 Bro	$ 1,520.00		$ -
[illegible]	1	CISCO3845	3845 w/AC PWR,2GE,1SFP,4NME,4HWIC, IP Base, 64F/256I	$ 13,000.00	$ 8,060.00	$ 8,060.00
	1	S384AISK9-12311T	Cisco 3845 IOS ADVANCED IP SERVICES	$ 2,500.00	$ 1,550.00	$ 1,550.00
	1	MEM3800-256U1024D	256 to 1024MB DDR DRAM factory upgrade for Cisco 3800	$ 5,000.00	$ 3,100.00	$ 3,100.00
	1	MEM3800-64U256CF	64 to 256 MB CF Factory Upgrade for Cisco 3800 Series	$ 700.00	$ 434.00	$ 434.00

	2	NM-HD-2VE	Two-slot IP Communications Enhanced Voice/Fax Network Mo	$	2,400.00	$	1,488.00	$ 2,976.00
	1	NM-HDV2-2T1/E1	IP Communications High-Density Digital Voice NM with 2 T1/E	$	3,195.00	$	1,980.90	$ 1,980.90
	2	VIC-4FXS/DID	4 port FXS or DID VIC	$	800.00	$	496.00	$ 992.00
	2	VIC2-4FXO	Four-port Voice Interface Card - FXO (Universal)	$	800.00	$	496.00	$ 992.00
	1	VWIC-2MFT-T1-DI	2-Port RJ-48 Multiflex Trunk - T1 With Drop and Insert	$	2,500.00	$	1,550.00	$ 1,550.00
	4	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$	3,200.00	$	1,984.00	$ 7,936.00
	2	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$	3,200.00	$	1,984.00	$ 3,968.00
	1	PWR-3845-AC/2	Cisco3845 redundant AC power supply	$	500.00	$	310.00	$ 310.00
	2	CAB-AC	Power Cord,110V	$	-	$	-	$ -
	1	FL-SRST-144	Feat Lic Survivable Remote Site Telephony up to 144 phones	$	3,300.00	$	2,046.00	$ 2,046.00
	1	PWR-3845-AC	Cisco 3845 AC power supply	$	500.00	$	310.00	$ 310.00
	1	ROUTER-SDM	Device manager for routers	$	-	$	-	$ -
	1	CON-SNT-3845	SMARTNET 8X5XNBD 3845 w/AC PWR,2GE,1S	$	1,775.00			$ -
IDF2	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tray	$	9,500.00	$	5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$	-	$	-	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3	$	28,000.00	$	17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$	2,000.00	$	1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3	$	28,000.00	$	17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$	2,000.00	$	1,240.00	$ 1,240.00
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	$	14,000.00	$	8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/DFC3	$	22,500.00	$	13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP720	$	7,500.00	$	4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$	495.00	$	306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$	5,000.00	$	3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SUP	$	7,200.00	$	4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MSFC	$	4,800.00	$	2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SUP	$	7,200.00	$	4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MSFC	$	4,800.00	$	2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DFC3A)	$	4,800.00	$	2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only)	$	500.00	$	310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multimode)	$	995.00	$	616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$	500.00	$	310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$	6,500.00			$ -
IDF3	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tray	$	9,500.00	$	5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$	-	$	-	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3	$	28,000.00	$	17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$	2,000.00	$	1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3	$	28,000.00	$	17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$	2,000.00	$	1,240.00	$ 1,240.00
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	$	14,000.00	$	8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/DFC3	$	22,500.00	$	13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP720	$	7,500.00	$	4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$	495.00	$	306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$	5,000.00	$	3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SUP	$	7,200.00	$	4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MSFC	$	4,800.00	$	2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SUP	$	7,200.00	$	4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MSFC	$	4,800.00	$	2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DFC3A)	$	4,800.00	$	2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only)	$	500.00	$	310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multimode)	$	995.00	$	616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$	500.00	$	310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$	6,500.00			$ -
DF4	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	$	23,490.00	$	14,563.80	$ 14,563.80
	1	CAB-AC	Power Cord,110V	$	-	$	-	$ -
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$	-	$	-	$ -
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$	500.00	$	310.00	$ 1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	$	1,564.00			$ -
Wireless	12	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	$	899.00	$	557.38	$ 6,688.56
	12	AIR-PWR-CORD-NA	AIR Line Cord North America	$	-	$	-	$ -
	12	S12W7K9-12302JA	Cisco 1200 Series IOS WIRELESS LAN	$	-	$	-	$ -
	12	AIR-CONCAB1200	Console Cable for 1130AG, 1200, 1230AG Platform	$	10.00	$	6.20	$ 74.40
	12	CON-SNT-AIRAP1200	8x5xNBD Svc, AP Platform, w/ Avail Cardbus, MPCI Slot	$	68.00			$ -
							Hardware Total	$ 603,055.40
	1		Hardware Installation & Configuration					$ 37,776.45
	1		Project Management					$ 11,910.23
							Benavides Elementary Total	**$ 652,742.08**

** No charge for first year Smartnet with form 471 on file

AVNET Enterprise Solutions

Location	Quantity	Part Number	Description	List Price	Unit Price	Extended Price
Palo Alto Elementary School						
MDF	1	VG248	48 Port Voice over IP analog phone gateway	$ 8,395.00	$ 5,204.90	$ 5,204.90
	1	CAB-AC	Power Cord,110V	$ -	$ -	$ -
	1	CON-SNT-VG248	8x5xNBD Svc, VG248 Analog Phn Gtwy	$ 672.00		$ -
						$ -
MDF	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tr	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PF	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PF	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$34,995.00	$21,696.90	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 6500	$ -	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline p	$14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/DF	$22,500.00	$13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP72	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SI	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MS	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SI	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MS	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DFC3	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only)	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multimod	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00		$ -
						$ -
MDF	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tr	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PF	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PF	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$34,995.00	$21,696.90	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 6500	$ -	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline p	$14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/DF	$22,500.00	$13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP72	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SI	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MS	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SI	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MS	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DFC3	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only)	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multimod	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00		$ -
						$ -
IDF	1	IPTV-3441-BCAST	Cisco IP/TV 3441 Broadcast Server, (1) MPEG-1/2	$19,000.00	$11,780.00	$ 11,780.00
	1	IPTV-1HDU2HD	IPTV 344X Upgrade: 1 default drive to 2 hard drives	$ 800.00	$ 496.00	$ 496.00
	1	CAB-OEM-IBM-AC	OEM,IBM,AC Power Cord-US	$ -	$ -	$ -
	1	IPTV-DISK-80GB	80 GB SATA Disk Drive for IPTV-344X, option	$ -	$ -	$ -
	1	IPTV-MP2-FD1-OPT	Cisco IP/TV single-port MPEG-1/2 card, option	$ -	$ -	$ -
	1	SF-IPTV-5.2-SA	IP/TV Software v5.2 - SATA	$ -	$ -	$ -
	1	CON-SNT-IPTV3441	SMARTNET 8X5XNBD Cisco IP/TV 3441 Bro	$ 1,520.00		$ -
						$ -
DF	1	CISCO3845	3845 w/AC PWR,2GE,1SFP,4NME,4HWIC, IP Base, 64F/2	$13,000.00	$ 8,060.00	$ 8,060.00
	1	S384AISK9-12311T	Cisco 3845 IOS ADVANCED IP SERVICES	$ 2,500.00	$ 1,550.00	$ 1,550.00
	1	MEM3800-256U1024D	256 to 1024MB DDR DRAM factory upgrade for Cisco 3800	$ 5,000.00	$ 3,100.00	$ 3,100.00

	1	MEM3800-64U256CF	64 to 256 MB CF Factory Upgrade for Cisco 3800 Series	$ 700.00	$ 434.00	$ 434.00
	2	NM-HD-2VE	Two-slot IP Communications Enhanced Voice/Fax Network	$ 2,400.00	$ 1,488.00	$ 2,976.00
	1	NM-HDV2-2T1/E1	IP Communications High-Density Digital Voice NM with 2 T	$ 3,195.00	$ 1,980.90	$ 1,980.90
	2	VIC-4FXS/DID	4 port FXS or DID VIC	$ 800.00	$ 496.00	$ 992.00
	2	VIC2-4FXO	Four-port Voice Interface Card - FXO (Universal)	$ 800.00	$ 496.00	$ 992.00
	1	VWIC-2MFT-T1-DI	2-Port RJ-48 Multiflex Trunk - T1 With Drop and Insert	$ 2,500.00	$ 1,550.00	$ 1,550.00
	4	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$ 3,200.00	$ 1,984.00	$ 7,936.00
	2	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$ 3,200.00	$ 1,984.00	$ 3,968.00
	1	PWR-3845-AC/2	Cisco3845 redundant AC power supply	$ 500.00	$ 310.00	$ 310.00
	2	CAB-AC	Power Cord,110V	$ -	$ -	$ -
	1	FL-SRST-144	Feat Lic Survivable Remote Site Telephony up to 144 phon	$ 3,300.00	$ 2,046.00	$ 2,046.00
	1	PWR-3845-AC	Cisco 3845 AC power supply	$ 500.00	$ 310.00	$ 310.00
	1	ROUTER-SDM	Device manager for routers	$ -	$ -	$ -
	1	CON-SNT-3845	SMARTNET 8X5XNBD 3845 w/AC PWR,2GE,1S	$ 1,775.00		$ -
IDF2	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tr	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PF	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PF	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline p	$14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/DF	$22,500.00	$13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP72	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SI	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MS	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SI	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MS	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DFC3	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only)	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multimod	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
IDF3	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tr	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PF	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PF	$28,000.00	$17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline p	$14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC/DF	$22,500.00	$13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SUP72	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SI	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MS	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2 or SI	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP720 MS	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, DFC3	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode only)	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multimod	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
IDF4	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Im	$23,490.00	$14,563.80	$ 14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$ -
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$ -
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4	$ 1,564.00		$ -
Wireless	12	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	$ 899.00	$ 557.38	$ 6,688.56
	12	AIR-PWR-CORD-NA	AIR Line Cord North America	$ -	$ -	$ -
	12	S12W7K9-12302JA	Cisco 1200 Series IOS WIRELESS LAN	$ -	$ -	$ -
	12	AIR-CONCAB1200	Console Cable for 1130AG, 1200, 1230AG Platform	$ 10.00	$ 6.20	$ 74.40
	12	CON-SNT-AIRAP1200	8x5xNBD Svc, AP Platform, w/ Avail Cardbus, MPCI Slot	$ 68.00		$ -
					Hardware Total	$ 602,638.76
	1		Hardware Installation & Configuration			$ 37,776.45
	1		Project Management			$ 11,910.23
					Palo Alto Total	**$ 652,325.44**

** No charge for first year Smartnet with form 471 on file

South San Antonio ISD - Kindred Elementary

Location	Quantity	Part Number	Description	List Price	Unit Price	Extended Price
Kindred Elementary School						
MDF	1	VG248	48 Port Voice over IP analog phone gateway	$ 8,395.00	$ 5,204.90	$ 5,204.90
	1	CAB-AC	Power Cord,110V	$ -	$ -	$ -
	1	CON-SNT-VG248	8x5xNBD Svc, VG248 Analog Phn Gtwy	$ 672.00		$ -
						$ -
MDF	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No F	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSI	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSI	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$ 34,995.00	$ 21,696.90	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 650(	$ -	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af	$ 14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DI	$ 22,500.00	$ 13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with S	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or mu	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00		$ -
						$ -
MDF	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No F	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSI	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSI	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$ 34,995.00	$ 21,696.90	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 650(	$ -	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af	$ 14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DI	$ 22,500.00	$ 13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with S	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or mu	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00		$ -
						$ -
	1	IPTV-3441-BCAST	Cisco IP/TV 3441 Broadcast Server, (1) MPEG-1/2	$ 19,000.00	$ 11,780.00	$ 11,780.00
	1	IPTV-1HDU2HD	IPTV 344X Upgrade: 1 default drive to 2 hard drives	$ 800.00	$ 496.00	$ 496.00
	1	CAB-OEM-IBM-AC	OEM,IBM,AC Power Cord-US	$ -	$ -	$ -
	1	IPTV-DISK-80GB	80 GB SATA Disk Drive for IPTV-344X, option	$ -	$ -	$ -
	1	IPTV-MP2-FD1-OPT	Cisco IP/TV single-port MPEG-1/2 card, option	$ -	$ -	$ -
	1	SF-IPTV-5.2-SA	IP/TV Software v5.2 - SATA	$ -	$ -	$ -

	1	CON-SNT-IPTV3441	SMARTNET 8X5XNBD Cisco IP/TV 3441 Bro	$ 1,520.00	$ 942.40	$	942.40
MDF	1	CISCO3845	3845 w/AC PWR,2GE,1SFP,4NME,4HWIC, IP Base,	$ 13,000.00	$ 8,060.00	$	8,060.00
	1	S384AISK9-12311T	Cisco 3845 IOS ADVANCED IP SERVICES	$ 2,500.00	$ 1,550.00	$	1,550.00
	1	MEM3800-256U1024D	256 to 1024MB DDR DRAM factory upgrade for Cisc	$ 5,000.00	$ 3,100.00	$	3,100.00
	1	MEM3800-64U256CF	64 to 256 MB CF Factory Upgrade for Cisco 3800 Se	$ 700.00	$ 434.00	$	434.00
	2	NM-HD-2VE	Two-slot IP Communications Enhanced Voice/Fax Ne	$ 2,400.00	$ 1,488.00	$	2,976.00
	1	NM-HDV2-2T1/E1	IP Communications High-Density Digital Voice NM wi	$ 3,195.00	$ 1,980.90	$	1,980.90
	2	VIC-4FXS/DID	4 port FXS or DID VIC	$ 800.00	$ 496.00	$	992.00
	2	VIC2-4FXO	Four-port Voice Interface Card - FXO (Universal)	$ 800.00	$ 496.00	$	992.00
	1	VWIC-2MFT-T1-DI	2-Port RJ-48 Multiflex Trunk - T1 With Drop and Inse	$ 2,500.00	$ 1,550.00	$	1,550.00
	4	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$ 3,200.00	$ 1,984.00	$	7,936.00
	2	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$ 3,200.00	$ 1,984.00	$	3,968.00
	1	PWR-3845-AC/2	Cisco3845 redundant AC power supply	$ 500.00	$ 310.00	$	310.00
	2	CAB-AC	Power Cord,110V	$ -	$ -	$	-
	1	FL-SRST-144	Feat Lic Survivable Remote Site Telephony up to 144	$ 3,300.00	$ 2,046.00	$	2,046.00
	1	PWR-3845-AC	Cisco 3845 AC power supply	$ 500.00	$ 310.00	$	310.00
	1	ROUTER-SDM	Device manager for routers	$ -	$ -	$	-
	1	CON-SNT-3845	SMARTNET 8X5XNBD 3845 w/AC PWR,2GE,1S	$ 1,775.00		$	-
IDF2	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No F	$ 9,500.00	$ 5,890.00	$	5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$	-
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSF	$ 28,000.00	$ 17,360.00	$	17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$	1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSF	$ 28,000.00	$ 17,360.00	$	17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$	1,240.00
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af	$ 14,000.00	$ 8,680.00	$	26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DI	$ 22,500.00	$ 13,950.00	$	13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with S	$ 7,500.00	$ 4,650.00	$	4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$	306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$	6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP	$ 7,200.00	$ 4,464.00	$	4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00	$	2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP	$ 7,200.00	$ 4,464.00	$	4,464.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface	$ 4,800.00	$ 2,976.00	$	2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode	$ 500.00	$ 310.00	$	2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or mu	$ 995.00	$ 616.90	$	4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$	1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$	-
IDF3	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No F	$ 9,500.00	$ 5,890.00	$	5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$	-
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSF	$ 28,000.00	$ 17,360.00	$	17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$	1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSF	$ 28,000.00	$ 17,360.00	$	17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$	1,240.00
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af	$ 14,000.00	$ 8,680.00	$	26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DI	$ 22,500.00	$ 13,950.00	$	13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with S	$ 7,500.00	$ 4,650.00	$	4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$	306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$	6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP	$ 7,200.00	$ 4,464.00	$	4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00	$	2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP	$ 7,200.00	$ 4,464.00	$	4,464.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface	$ 4,800.00	$ 2,976.00	$	2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode	$ 500.00	$ 310.00	$	2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or mu	$ 995.00	$ 616.90	$	4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$	1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$	-
IDF4	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanc	$ 23,490.00	$ 14,563.80	$	14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$	-
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$	-
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$	1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T P	$ 1,564.00		$	-
IDF5	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanc	$ 23,490.00	$ 14,563.80	$	14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$	-
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$	-

	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$	500.00	$	310.00	$ 1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T P	$	1,564.00			$ -
Wireless	12	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	$	899.00	$	557.38	$ 6,688.56
	12	AIR-PWR-CORD-NA	AIR Line Cord North America	$	-	$	-	$ -
	12	S12W7K9-12302JA	Cisco 1200 Series IOS WIRELESS LAN	$	-	$	-	$ -
	12	AIR-CONCAB1200	Console Cable for 1130AG, 1200, 1230AG Platform	$	10.00	$	6.20	$ 74.40
	12	CON-SNT-AIRAP1200	8x5xNBD Svc, AP Platform, w/ Avail Cardbus, MPCI	$	68.00			$ -
							Hardware Total	$ 619,384.96
	1		Hardware Installation & Configuration					
	1		Project Management					$ 38,291.71
								$ 12,003.54
							Kindred Elementary Total	**$ 669,680.21**

** No charge for first year Smartnet with form 471 on file

South San Antonio ISD - Hutchins Elementary

Location	Quantity	Part Number	Description	List Price	Unit Price
Hutchins Elementary School					
MDF	1	VG248	48 Port Voice over IP analog phone gateway	$ 8,395.00	$ 5,204.90
	1	CAB-AC	Power Cord,110V	$ -	$ -
	1	CON-SNT-VG248	8x5xNBD Svc, VG248 Analog Phn Gtwy	$ 672.00	
MDF	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No	$ 9,500.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MS	$ 28,000.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MS	$ 28,000.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$ 34,995.00	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 650	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af	$ 14,000.00	$ 8,680.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, D	$ 22,500.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with	$ 7,500.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUF	$ 7,200.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUF	$ 7,200.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface	$ 4,800.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode	$ 500.00	$ 310.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or mu	$ 995.00	$ 616.90
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00	
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00	
MDF	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No	$ 9,500.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MS	$ 28,000.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MS	$ 28,000.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$ 34,995.00	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 650	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af	$ 14,000.00	$ 8,680.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, D	$ 22,500.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with	$ 7,500.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUF	$ 7,200.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUF	$ 7,200.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface	$ 4,800.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode	$ 500.00	$ 310.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or mu	$ 995.00	$ 616.90
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00	
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00	
	1	IPTV-3441-BCAST	Cisco IP/TV 3441 Broadcast Server, (1) MPEG-1/2	$ 19,000.00	$ 11,780.00
	1	IPTV-1HDU2HD	IPTV 344X Upgrade: 1 default drive to 2 hard drives	$ 800.00	$ 496.00
	1	CAB-OEM-IBM-AC	OEM,IBM,AC Power Cord-US	$ -	$ -
	1	IPTV-DISK-80GB	80 GB SATA Disk Drive for IPTV-344X, option	$ -	$ -
	1	IPTV-MP2-FD1-OPT	Cisco IP/TV single-port MPEG-1/2 card, option	$ -	$ -
	1	SF-IPTV-5.2-SA	IP/TV Software v5.2 - SATA	$ -	$ -

	1	CON-SNT-IPTV3441	SMARTNET 8X5XNBD Cisco IP/TV 3441 Bro	$ 1,520.00	
MDF	1	**CISCO3845**	3845 w/AC PWR,2GE,1SFP,4NME,4HWIC, IP Base	$ 13,000.00	$ 8,060.00
	1	S384AISK9-12311T	Cisco 3845 IOS ADVANCED IP SERVICES	$ 2,500.00	$ 1,550.00
	1	MEM3800-256U1024D	256 to 1024MB DDR DRAM factory upgrade for Cisc	$ 5,000.00	$ 3,100.00
	1	MEM3800-64U256CF	64 to 256 MB CF Factory Upgrade for Cisco 3800 Se	$ 700.00	$ 434.00
	2	NM-HD-2VE	Two-slot IP Communications Enhanced Voice/Fax N	$ 2,400.00	$ 1,488.00
	1	NM-HDV2-2T1/E1	IP Communications High-Density Digital Voice NM w	$ 3,195.00	$ 1,980.90
	2	VIC-4FXS/DID	4 port FXS or DID VIC	$ 800.00	$ 496.00
	2	VIC2-4FXO	Four-port Voice Interface Card - FXO (Universal)	$ 800.00	$ 496.00
	1	VWIC-2MFT-T1-DI	2-Port RJ-48 Multiflex Trunk - T1 With Drop and Inse	$ 2,500.00	$ 1,550.00
	4	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$ 3,200.00	$ 1,984.00
	2	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$ 3,200.00	$ 1,984.00
	1	PWR-3845-AC/2	Cisco3845 redundant AC power supply	$ 500.00	$ 310.00
	2	CAB-AC	Power Cord,110V	$ -	$ -
	1	FL-SRST-144	Feat Lic Survivable Remote Site Telephony up to 14	$ 3,300.00	$ 2,046.00
	1	PWR-3845-AC	Cisco 3845 AC power supply	$ 500.00	$ 310.00
	1	ROUTER-SDM	Device manager for routers	$ -	
	1	CON-SNT-3845	SMARTNET 8X5XNBD 3845 w/AC PWR,2GE,1S	$ 1,775.00	
IDF2	1	**WS-C6513**	Cat 6513 Chassis, 13slot, 19RU, No Pow Supply, No	$ 15,250.00	$ 9,455.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MS	$ 28,000.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MS	$ 28,000.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00
	5	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af	$ 14,000.00	$ 8,680.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, D	$ 22,500.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with	$ 7,500.00	$ 4,650.00
	1	WS-C6K-13SLT-FAN2	High Speed Fan Tray for Catalyst 6513 / Cisco 7613	$ 745.00	$ 461.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUF	$ 7,200.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUF	$ 7,200.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface	$ 4,800.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode	$ 500.00	$ 310.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or mu	$ 995.00	$ 616.90
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00
	1	CON-SNT-WS-C6513	8x5xNBD Svc, Catalyst 6513 Chassis	$ 11,000.00	
IDF3	1	**WS-C3750G-48PS-E**	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhan	$ 23,490.00	$ 14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T P	$ 1,564.00	
Wireless	12	**AIR-AP1231G-A-K9**	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	$ 899.00	$ 557.38
	12	AIR-PWR-CORD-NA	AIR Line Cord North America	$ -	$ -
	12	S12W7K9-12302JA	Cisco 1200 Series IOS WIRELESS LAN	$ -	$ -
	12	AIR-CONCAB1200	Console Cable for 1130AG, 1200, 1230AG Platform	$ 10.00	$ 6.20
	12	CON-SNT-AIRAP1200	8x5xNBD Svc, AP Platform, w/ Avail Cardbus, MPCI	$ 68.00	
					Hardware Total
	1		Hardware Installation & Configuration		
	1		Project Management		
					Hutchins Elementary Total

** No charge for first year Smartnet with form 471 on file

Extended Price
$ 5,204.90
$ -
$ -
$ -
$ 5,890.00
$ -
$ 17,360.00
$ 1,240.00
$ 17,360.00
$ 1,240.00
$ 21,696.90
$ -
$ -
$ 26,040.00
$ 13,950.00
$ 4,650.00
$ 306.90
$ 6,200.00
$ 4,464.00
$ 2,976.00
$ 4,464.00
$ 2,976.00
$ 2,976.00
$ 2,480.00
$ 4,935.20
$ 1,240.00
$ -
$ -
$ -
$ 5,890.00
$ -
$ 17,360.00
$ 1,240.00
$ 17,360.00
$ 1,240.00
$ 21,696.90
$ -
$ -
$ 26,040.00
$ 13,950.00
$ 4,650.00
$ 306.90
$ 6,200.00
$ 4,464.00
$ 2,976.00
$ 4,464.00
$ 2,976.00
$ 2,976.00
$ 2,480.00
$ 4,935.20
$ 1,240.00
$ -
$ -
$ -
$ 11,780.00
$ 496.00
$ -
$ -
$ -
$ -

$	-
$	-
$	8,060.00
$	1,550.00
	3,100.00
	434.00
$	2,976.00
$	1,980.90
$	992.00
$	992.00
$	1,550.00
$	7,936.00
$	3,968.00
$	310.00
$	-
$	2,046.00
$	310.00
$	-
$	-
$	9,455.00
$	-
$	17,360.00
$	1,240.00
$	17,360.00
$	1,240.00
$	43,400.00
$	13,950.00
$	4,650.00
$	461.90
$	6,200.00
$	4,464.00
$	2,976.00
$	4,464.00
	2,976.00
	2,976.00
$	2,480.00
$	4,935.20
$	1,240.00
$	-
$	-
$	14,563.80
$	-
$	-
$	1,240.00
$	-
$	6,688.56
$	-
$	-
$	74.40
$	-
$	502,970.66
$	35,566.48
$	10,494.61
$	**549,031.75**

South San Antonio ISD - Hutchins Elementary

Location	Quantity	Part Number	Description	List Price	Unit Price	Extended Price
Hutchins Elementary School						
MDF	1	VG248	48 Port Voice over IP analog phone gateway	$ 8,395.00	$ 5,204.90	$ 5,204.90
	1	CAB-AC	Power Cord,110V	$ -	$ -	$ -
	1	CON-SNT-VG248	8x5xNBD Svc, VG248 Analog Phn Gtwy	$ 672.00		$ -
						$ -
MDF	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MS	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MS	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$ 34,995.00	$ 21,696.90	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 650	$ -	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af	$ 14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, D	$ 22,500.00	$ 13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUF	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUF	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or mu	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00		$ -
						$ -
MDF	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MS	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MS	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$ 34,995.00	$ 21,696.90	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 650	$ -	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af	$ 14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, D	$ 22,500.00	$ 13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUF	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUF	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or mu	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00		$ -
						$ -
MDF	1	IPTV-3441-BCAST	Cisco IP/TV 3441 Broadcast Server, (1) MPEG-1/2	$ 19,000.00	$ 11,780.00	$ 11,780.00
	1	IPTV-1HDU2HD	IPTV 344X Upgrade: 1 default drive to 2 hard drives	$ 800.00	$ 496.00	$ 496.00
	1	CAB-OEM-IBM-AC	OEM,IBM,AC Power Cord-US	$ -	$ -	$ -
	1	IPTV-DISK-80GB	80 GB SATA Disk Drive for IPTV-344X, option	$ -	$ -	$ -
	1	IPTV-MP2-FD1-OPT	Cisco IP/TV single-port MPEG-1/2 card, option	$ -	$ -	$ -
	1	SF-IPTV-5.2-SA	IP/TV Software v5.2 - SATA	$ -	$ -	$ -
	1	CON-SNT-IPTV3441	SMARTNET 8X5XNBD Cisco IP/TV 3441 Bro	$ 1,520.00		$ -

MDF	1	CISCO3845	3845 w/AC PWR,2GE,1SFP,4NME,4HWIC, IP Base	$ 13,000.00	$	8,060.00	$	8,060.00
	1	S384AISK9-12311T	Cisco 3845 IOS ADVANCED IP SERVICES	$ 2,500.00	$	1,550.00	$	1,550.00
	1	MEM3800-256U1024D	256 to 1024MB DDR DRAM factory upgrade for Cisc	$ 5,000.00	$	3,100.00	$	3,100.00
	1	MEM3800-64U256CF	64 to 256 MB CF Factory Upgrade for Cisco 3800 Se	$ 700.00	$	434.00	$	434.00
	2	NM-HD-2VE	Two-slot IP Communications Enhanced Voice/Fax N	$ 2,400.00	$	1,488.00	$	2,976.00
	1	NM-HDV2-2T1/E1	IP Communications High-Density Digital Voice NM w	$ 3,195.00	$	1,980.90	$	1,980.90
	2	VIC-4FXS/DID	4 port FXS or DID VIC	$ 800.00	$	496.00	$	992.00
	2	VIC2-4FXO	Four-port Voice Interface Card - FXO (Universal)	$ 800.00	$	496.00	$	992.00
	1	VWIC-2MFT-T1-DI	2-Port RJ-48 Multiflex Trunk - T1 With Drop and Inse	$ 2,500.00	$	1,550.00	$	1,550.00
	4	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$ 3,200.00	$	1,984.00	$	7,936.00
	2	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$ 3,200.00	$	1,984.00	$	3,968.00
	1	PWR-3845-AC/2	Cisco3845 redundant AC power supply	$ 500.00	$	310.00	$	310.00
	2	CAB-AC	Power Cord,110V	$ -	$	-	$	-
	1	FL-SRST-144	Feat Lic Survivable Remote Site Telephony up to 14	$ 3,300.00	$	2,046.00	$	2,046.00
	1	PWR-3845-AC	Cisco 3845 AC power supply	$ 500.00	$	310.00	$	310.00
	1	ROUTER-SDM	Device manager for routers	$ -			$	-
	1	CON-SNT-3845	SMARTNET 8X5XNBD 3845 w/AC PWR,2GE,1S	$ 1,775.00			$	-
IDF2	1	WS-C6513	Cat 6513 Chassis, 13slot, 19RU, No Pow Supply, No	$ 15,250.00	$	9,455.00	$	9,455.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$	-	$	-
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MS	$ 28,000.00	$	17,360.00	$	17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$	1,240.00	$	1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MS	$ 28,000.00	$	17,360.00	$	17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$	1,240.00	$	1,240.00
	5	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af	$ 14,000.00	$	8,680.00	$	43,400.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, D	$ 22,500.00	$	13,950.00	$	13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with	$ 7,500.00	$	4,650.00	$	4,650.00
	1	WS-C6K-13SLT-FAN2	High Speed Fan Tray for Catalyst 6513 / Cisco 7613	$ 745.00	$	461.90	$	461.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$	3,100.00	$	6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUF	$ 7,200.00	$	4,464.00	$	4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$	2,976.00	$	2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUF	$ 7,200.00	$	4,464.00	$	4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP7	$ 4,800.00	$	2,976.00	$	2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface	$ 4,800.00	$	2,976.00	$	2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode	$ 500.00	$	310.00	$	2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or mı	$ 995.00	$	616.90	$	4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$	310.00	$	1,240.00
	1	CON-SNT-WS-C6513	8x5xNBD Svc, Catalyst 6513 Chassis	$ 11,000.00			$	-
IDF3	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhan	$ 23,490.00	$	14,563.80	$	14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$	-	$	-
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$	-	$	-
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$	310.00	$	1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T F	$ 1,564.00			$	-
Wireless	12	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	$ 899.00	$	557.38	$	6,688.56
	12	AIR-PWR-CORD-NA	AIR Line Cord North America	$ -	$	-	$	-
	12	S12W7K9-12302JA	Cisco 1200 Series IOS WIRELESS LAN	$ -	$	-	$	-
	12	AIR-CONCAB1200	Console Cable for 1130AG, 1200, 1230AG Platform	$ 10.00	$	6.20	$	74.40
	12	CON-SNT-AIRAP1200	8x5xNBD Svc, AP Platform, w/ Avail Cardbus, MPCI	$ 68.00			$	-
						Hardware Total	$	502,970.66
	1		Hardware Installation & Configuration				$	35,566.48
	1		Project Management				$	10,494.61
						Hutchins Elementary Total	**$**	**549,031.75**

** No charge for first year Smartnet with form 471 on file

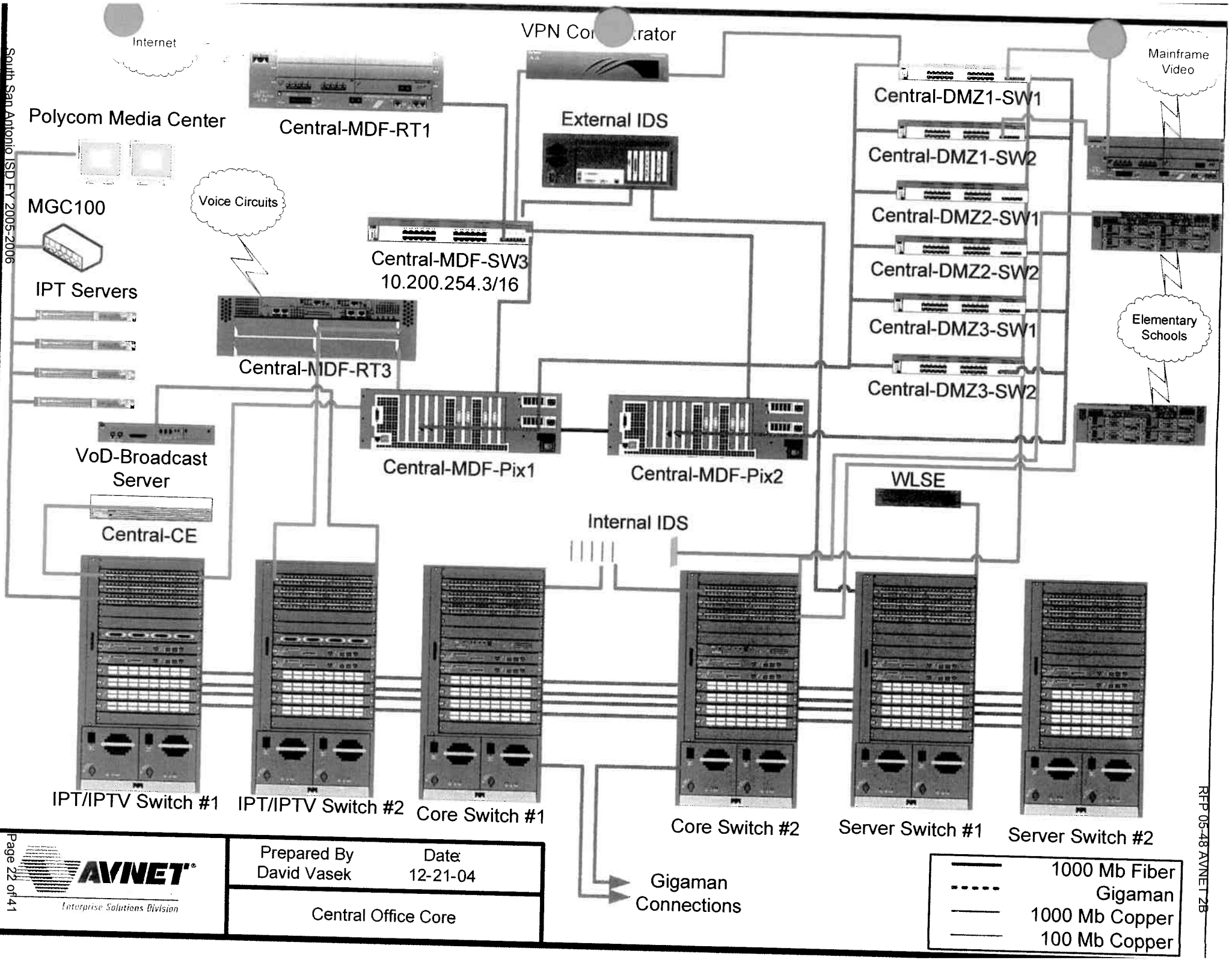
South San Antonio ISD - Five Palms

Location	Quantity	Part Number	Description	List Price	Unit Price	Extended Price
Five Palms Elementary School						
MDF	1	VG248	48 Port Voice over IP analog phone gateway	$ 8,395.00	$ 5,204.90	$ 5,204.90
	1	CAB-AC	Power Cord,110V	$ -	$ -	$ -
	1	CON-SNT-VG248	8x5xNBD Svc, VG248 Analog Phn Gtwy	$ 672.00		$ -
						$ -
MDF	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fa	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$ 34,995.00	$ 21,696.90	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 6500	$ -	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inl	$ 14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC	$ 22,500.00	$ 13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SL	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP72C	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP72C	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, D	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode or	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multi	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00		$ -
						$ -
MDF	1	WS-C6509	Cat 6509 Chassis, 9slot, 15RU, No Pow Supply, No Fa	$ 9,500.00	$ 5,890.00	$ 5,890.00
	1	S733ZK9-12217SXB	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	$ -	$ -	$ -
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SUP720	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC	$ 28,000.00	$ 17,360.00	$ 17,360.00
	1	MEM-C6K-CPTFL256M	Cat6500 Sup720 Compact Flash Mem 256MB	$ 2,000.00	$ 1,240.00	$ 1,240.00
	1	WS-SVC-FWM-1-K9	Firewall blade for Catalyst 6500	$ 34,995.00	$ 21,696.90	$ 21,696.90
	1	SC-SVC-FWM-1.4-K9	Firewall Module Software 1.1(4) for Catalyst 6500	$ -	$ -	$ -
	1	SF-PIX-PDM-2.1	PIX Device Manager for FW Module for Catalyst 6500	$ -	$ -	$ -
	3	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inl	$ 14,000.00	$ 8,680.00	$ 26,040.00
	1	WS-X6816-GBIC	Cat6500 16-port GigE mod, 2 fab I/F, (Req GBICs, DFC	$ 22,500.00	$ 13,950.00	$ 13,950.00
	1	WS-F6K-DFC3A	Dist Fwd Card-3A for 65xx, 6816 Modules used with SL	$ 7,500.00	$ 4,650.00	$ 4,650.00
	1	WS-C6K-9SLOT-FAN2	Catalyst 6509 High Speed Fan Tray	$ 495.00	$ 306.90	$ 306.90
	2	WS-CAC-4000W-US	4000Watt AC Power Supply for US (cable attached)	$ 5,000.00	$ 3,100.00	$ 6,200.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP72C	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-S2-512MB	Catalyst 6500 512MB DRAM on the Supervisor (SUP2	$ 7,200.00	$ 4,464.00	$ 4,464.00
	1	MEM-MSFC2-512MB	Catalyst 6500 512MB DRAM on the MSFC2 or SUP72C	$ 4,800.00	$ 2,976.00	$ 2,976.00
	1	MEM-XCEF720-512M	Catalyst 6500 512MB DDR, xCEF720 (67xx interface, D	$ 4,800.00	$ 2,976.00	$ 2,976.00
	8	WS-G5484	1000BASE-SX Short Wavelength GBIC (Multimode or	$ 500.00	$ 310.00	$ 2,480.00
	8	WS-G5486	1000BASE-LX/LH long haul GBIC (singlemode or multi	$ 995.00	$ 616.90	$ 4,935.20
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$ 1,240.00
	1	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	$ 6,500.00		$ -
	1	CON-SNT-WS-FWM1	8x5xNBD Svc, Firewall blade for Catalyst 6500	$ 4,000.00		$ -
						$ -
	1	IPTV-3441-BCAST	Cisco IP/TV 3441 Broadcast Server, (1) MPEG-1/2	$ 19,000.00	$ 11,780.00	$ 11,780.00
	1	IPTV-1HDU2HD	IPTV 344X Upgrade: 1 default drive to 2 hard drives	$ 800.00	$ 496.00	$ 496.00
	1	CAB-OEM-IBM-AC	OEM,IBM,AC Power Cord-US	$ -	$ -	$ -
	1	IPTV-DISK-80GB	80 GB SATA Disk Drive for IPTV-344X, option	$ -	$ -	$ -
	1	IPTV-MP2-FD1-OPT	Cisco IP/TV single-port MPEG-1/2 card, option	$ -	$ -	$ -

	1	SF-IPTV-5.2-SA	IP/TV Software v5.2 - SATA	$ -	$ -	$	-
	1	CON-SNT-IPTV3441	SMARTNET 8X5XNBD Cisco IP/TV 3441 Bro	$ 1,520.00		$	-
						$	-
MDF	1	CISCO3845	3845 w/AC PWR,2GE,1SFP,4NME,4HWIC, IP Base, 6	$ 13,000.00	$ 8,060.00	$	8,060.00
	1	S384AISK9-12311T	Cisco 3845 IOS ADVANCED IP SERVICES	$ 2,500.00	$ 1,550.00	$	1,550.00
	1	MEM3800-256U1024D	256 to 1024MB DDR DRAM factory upgrade for Cisco 3	$ 5,000.00	$ 3,100.00	$	3,100.00
	2	MEM3800-64U256CF	64 to 256 MB CF Factory Upgrade for Cisco 3800 Serie	$ 700.00	$ 434.00	$	434.00
	1	NM-HD-2VE	Two-slot IP Communications Enhanced Voice/Fax Netv	$ 2,400.00	$ 1,488.00	$	2,976.00
	2	NM-HDV2-2T1/E1	IP Communications High-Density Digital Voice NM with	$ 3,195.00	$ 1,980.90	$	1,980.90
	2	VIC-4FXS/DID	4 port FXS or DID VIC	$ 800.00	$ 496.00	$	992.00
	1	VIC2-4FXO	Four-port Voice Interface Card - FXO (Universal)	$ 800.00	$ 496.00	$	992.00
	4	VWIC-2MFT-T1-DI	2-Port RJ-48 Multiflex Trunk - T1 With Drop and Insert	$ 2,500.00	$ 1,550.00	$	1,550.00
	2	PVDM2-64	64-Channel Packet Voice/Fax DSP Module	$ 3,200.00	$ 1,984.00	$	7,936.00
	1	PWR-3845-AC/2	Cisco3845 redundant AC power supply	$ 500.00	$ 310.00	$	310.00
	2	CAB-AC	Power Cord,110V	$ -	$ -	$	-
	1	FL-SRST-144	Feat Lic Survivable Remote Site Telephony up to 144 p	$ 3,300.00	$ 2,046.00	$	2,046.00
	1	PWR-3845-AC	Cisco 3845 AC power supply	$ 500.00	$ 310.00	$	310.00
	1	ROUTER-SDM	Device manager for routers	$ -	$ -	$	-
	1	CON-SNT-3845	SMARTNET 8X5XNBD 3845 w/AC PWR,2GE,1S	$ 1,775.00		$	-
IDF2	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhance	$ 23,490.00	$ 14,563.80	$	14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$	-
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$	-
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$	1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE	$ 1,564.00		$	-
IDF3	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhance	$ 23,490.00	$ 14,563.80	$	14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$	-
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$	-
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$	1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE	$ 1,564.00		$	-
IDF4	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhance	$ 23,490.00	$ 14,563.80	$	14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$	-
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$	-
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$	1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE	$ 1,564.00		$	-
IDF5	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhance	$ 23,490.00	$ 14,563.80	$	14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$	-
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$	-
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$	1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE	$ 1,564.00		$	-
IDF6	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhance	$ 23,490.00	$ 14,563.80	$	14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$	-
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$	-
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$	1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE	$ 1,564.00		$	-
IDF7	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhance	$ 23,490.00	$ 14,563.80	$	14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$	-
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$	-
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$	1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE	$ 1,564.00		$	-
IDF8	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhance	$ 23,490.00	$ 14,563.80	$	14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$	-
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$	-
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$	1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE	$ 1,564.00		$	-
DF9	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhance	$ 23,490.00	$ 14,563.80	$	14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$	-
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$	-
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$	1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE	$ 1,564.00		$	-
DF10	1	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhance	$ 23,490.00	$ 14,563.80	$	14,563.80
	1	CAB-AC	Power Cord,110V	$ -	$ -	$	-
	1	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	$ -	$ -	$	-
	4	GLC-SX-MM	GE SFP, LC connector SX transceiver	$ 500.00	$ 310.00	$	1,240.00
	1	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE	$ 1,564.00		$	-
/ireless	12	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	$ 899.00	$ 557.38	$	6,688.56
	12	AIR-PWR-CORD-NA	AIR Line Cord North America	$ -	$ -	$	-
	12	S12W7K9-12302JA	Cisco 1200 Series IOS WIRELESS LAN	$ -	$ -	$	-

12	AIR-CONCAB1200	Console Cable for 1130AG, 1200, 1230AG Platform	$	10.00	$ 6.20	$	74.40
12	CON-SNT-AIRAP1200	8x5xNBD Svc, AP Platform, w/ Avail Cardbus, MPCI Sl	$	68.00		$	-
					Hardware Total	$	487,572.96
1		Hardware Installation & Configuration					
1		Project Management				$	37,847.07
						$	12,161.88
					Five Palms Elementary Total	**$**	**537,581.91**

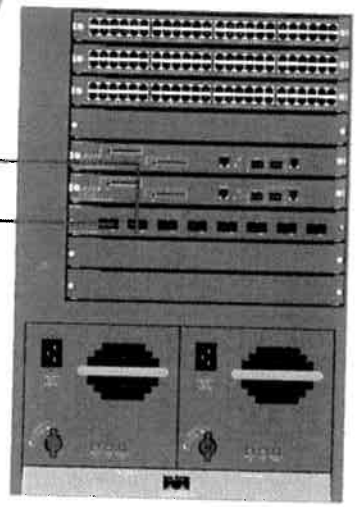
** No charge for first year Smartnet with form 471 on file



AVNET Enterprise Solutions Division

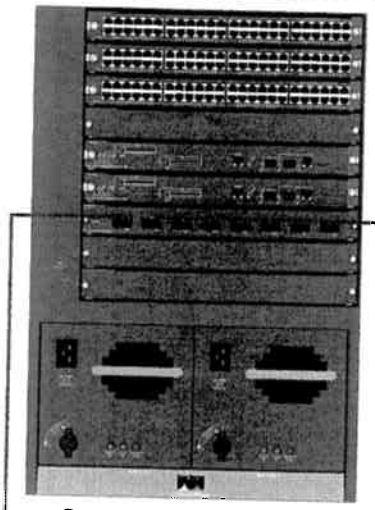
Prepared By	Date
David Vasek	12-21-04

Central Office Core



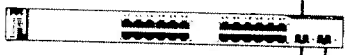
Central-IDF2-SW1
10.200.254.3/16

To MDF-SW1



Central-IDF11-SW1
10.200.254.12/16

To MDF-SW2



Central-IDF3-SW1
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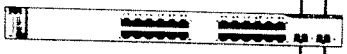

Central-IDF4-SW1
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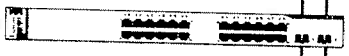
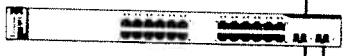


Central-IDF5-SW1
10.200.254.6/16

Central-IDF6-SW1
10.200.254.7/16



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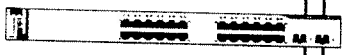

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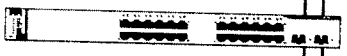

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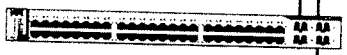
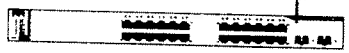


Central-IDF10-SW
10.200.254.11/16

Central-MDF-BR1
10.200.254.150/16

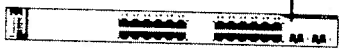
Central-IDF12-BR1
10.200.254.151/16



Central-IDF12-SW1
10.200.254.13/16

Central-MDF-BR2
10.200.254.153/16

Central-IDF13-BR1
10.200.254.153/16



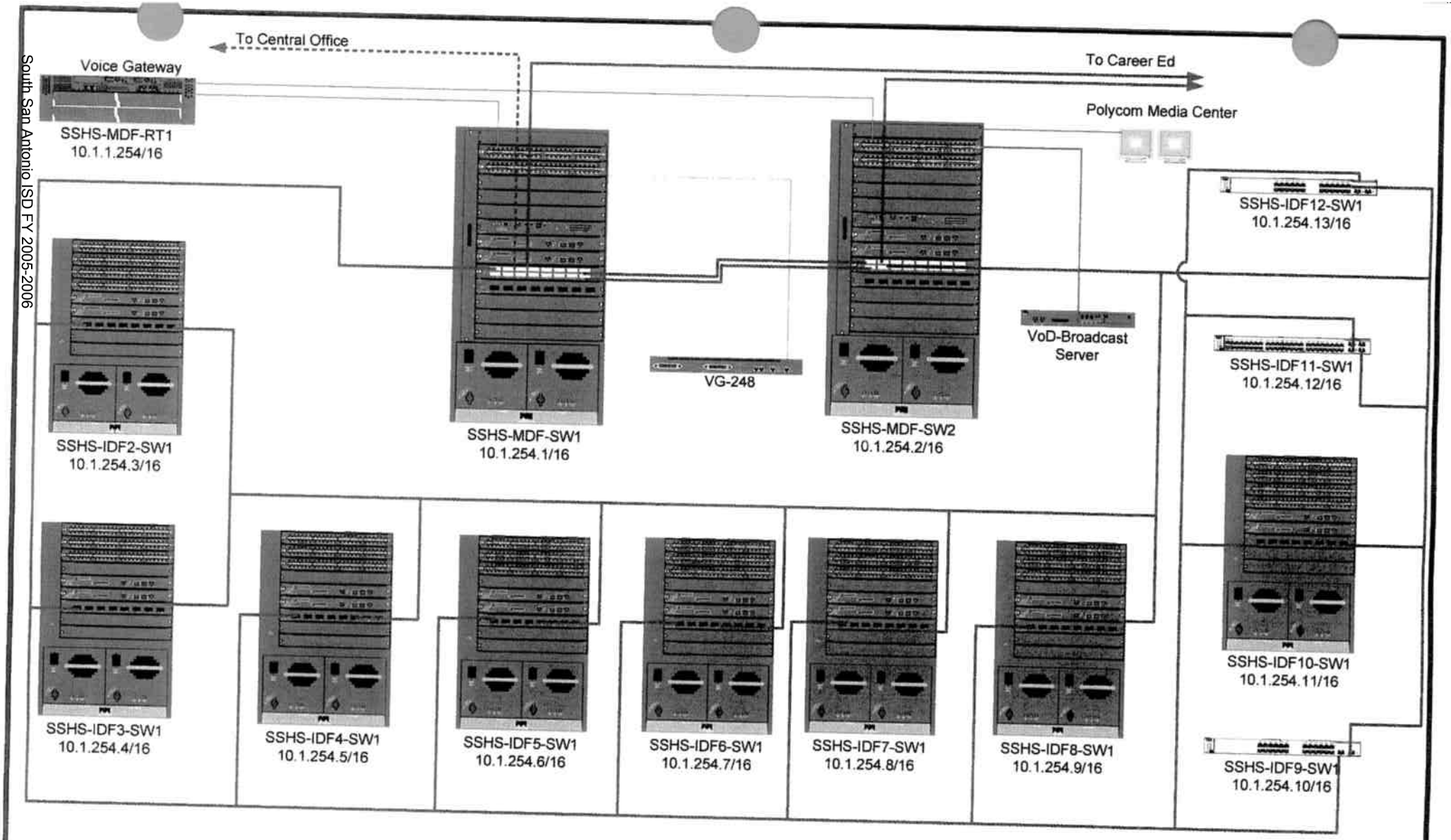
Central-IDF13-SW1
10.200.254.14/16

AVNET
Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04

Central Office Campus

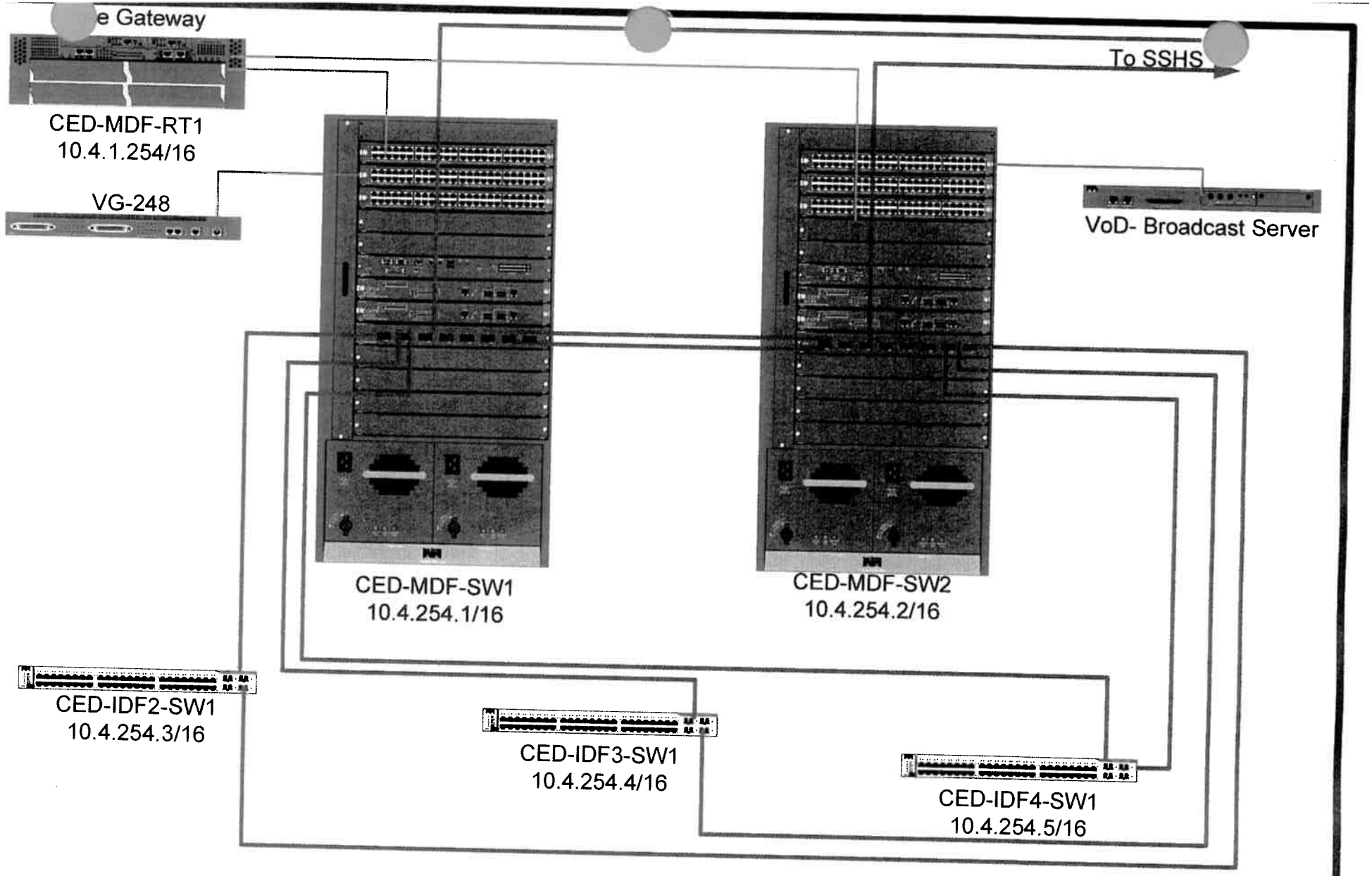
1000 Mb Fiber
Gigaman
1000 Mb Copper
100 Mb Copper



AVNET Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04
SSAN High School	

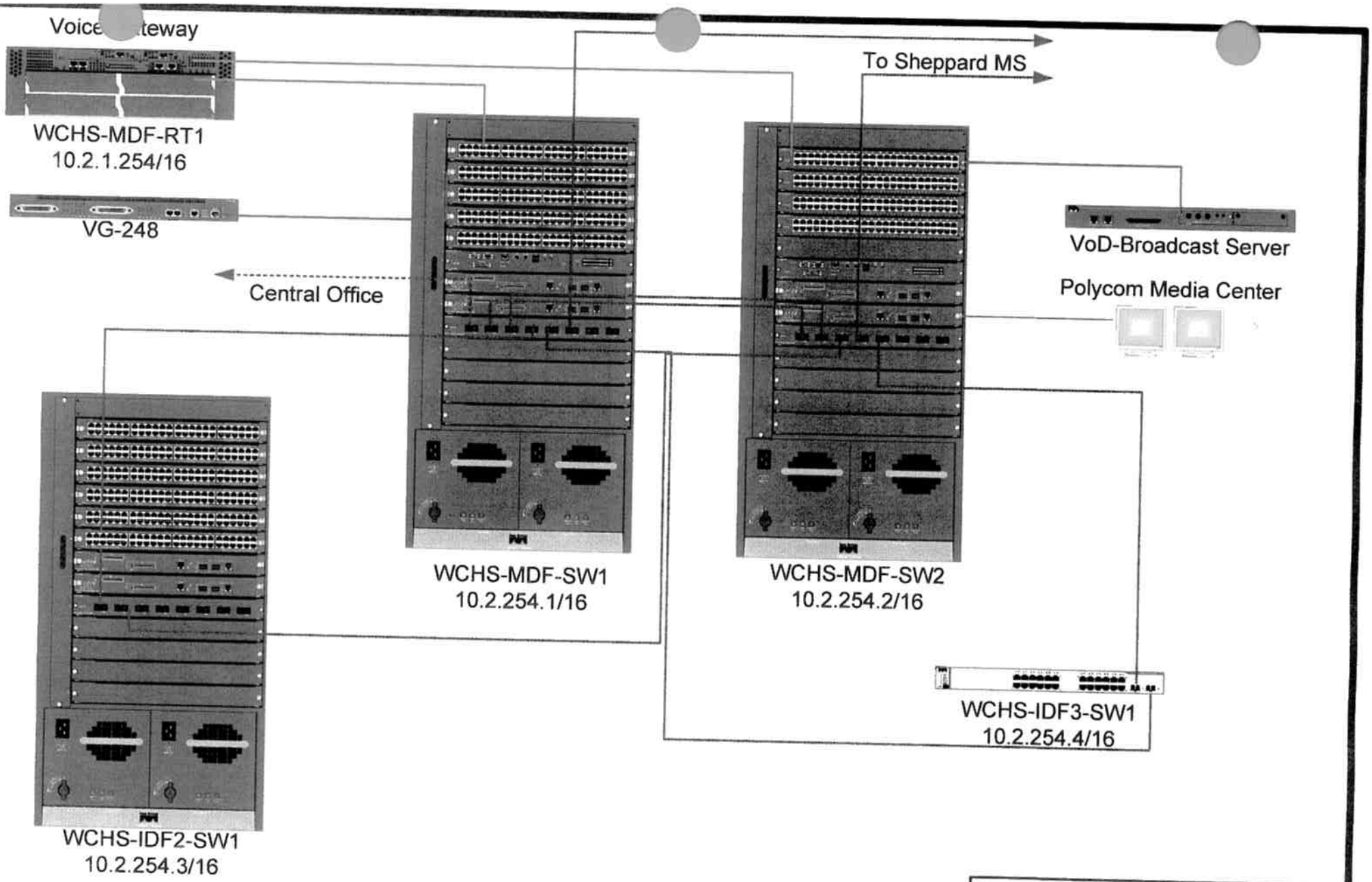
1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper



AVNET
Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04
Career Education Center	

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper



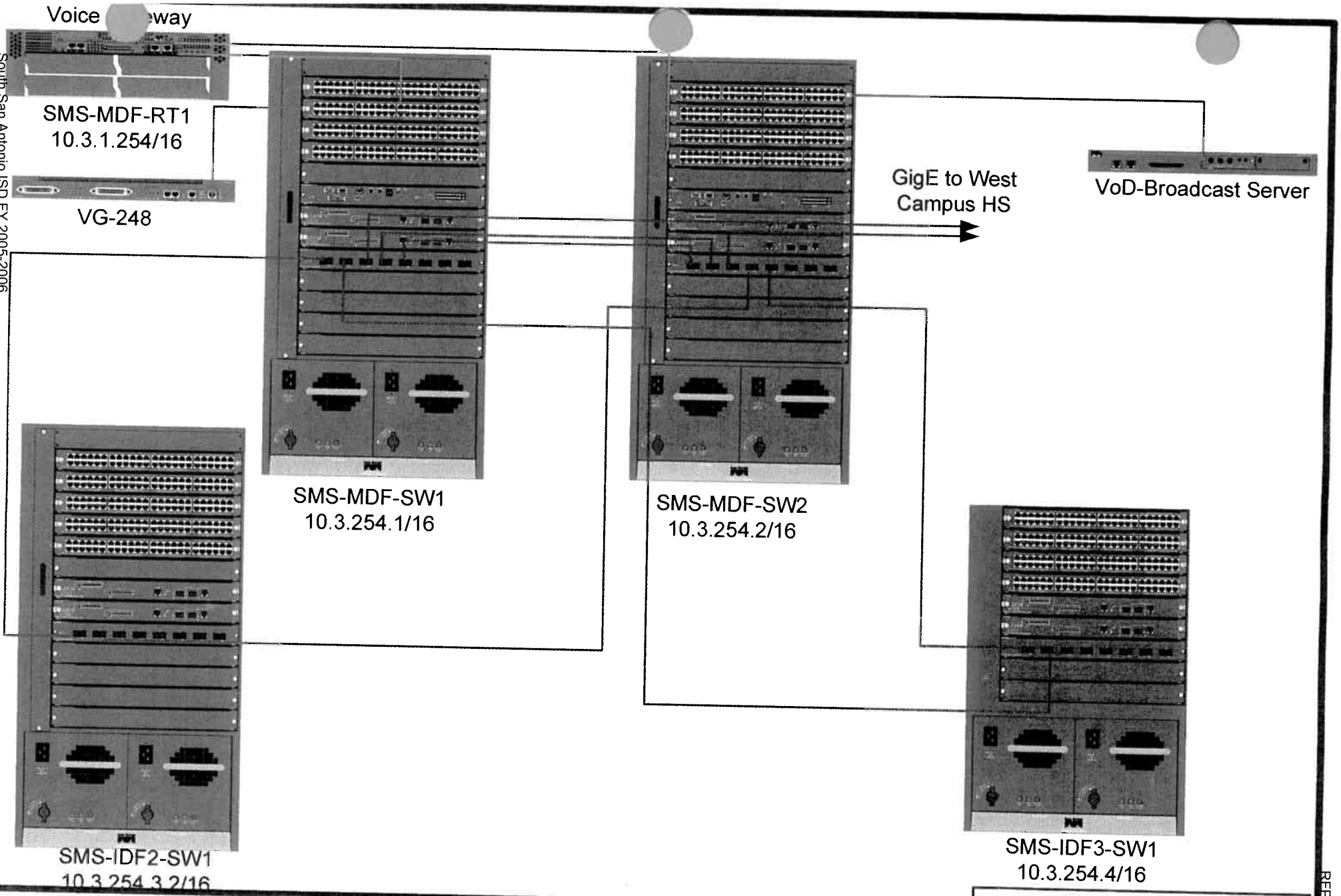
AVNET Enterprise Solutions Division

Prepared By: David Vasek

Date: 12-21-04

West Campus High School

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper



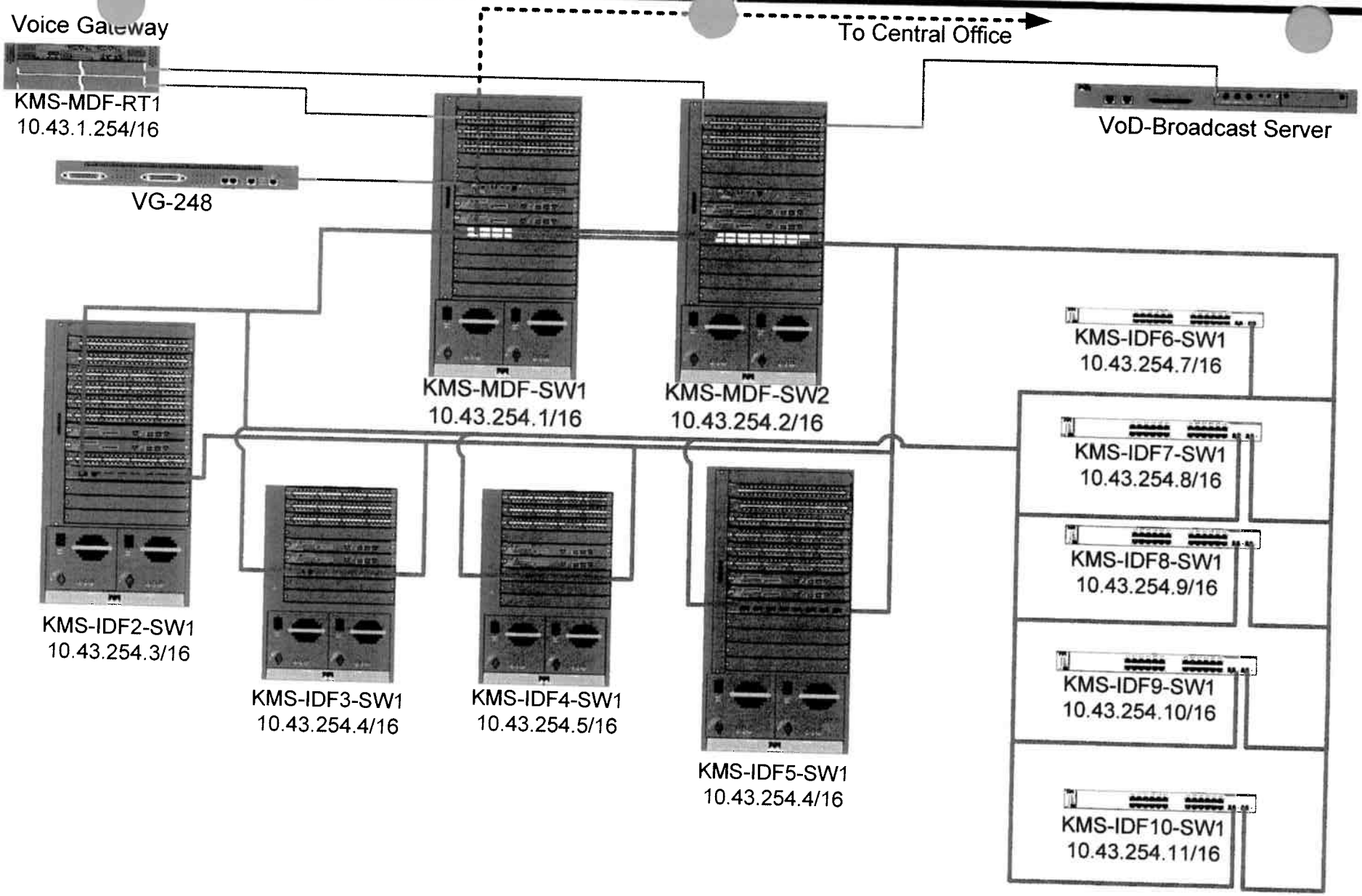
AVNET Enterprise Solutions Division

Prepared By David Vasek

Date: 12-21-04

Sheppard Middle School

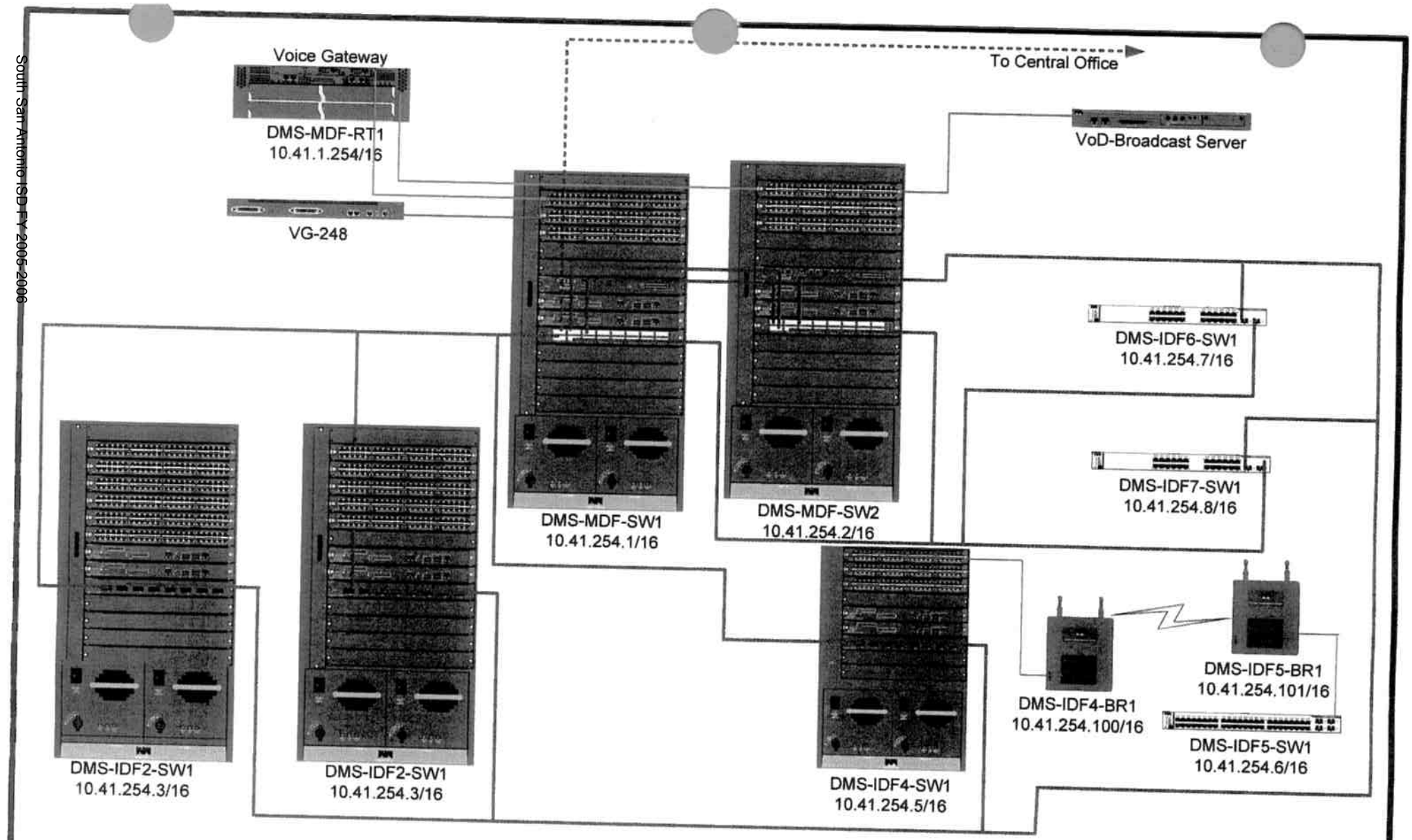
1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper



AVNET Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04
Kazen Middle School	

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper

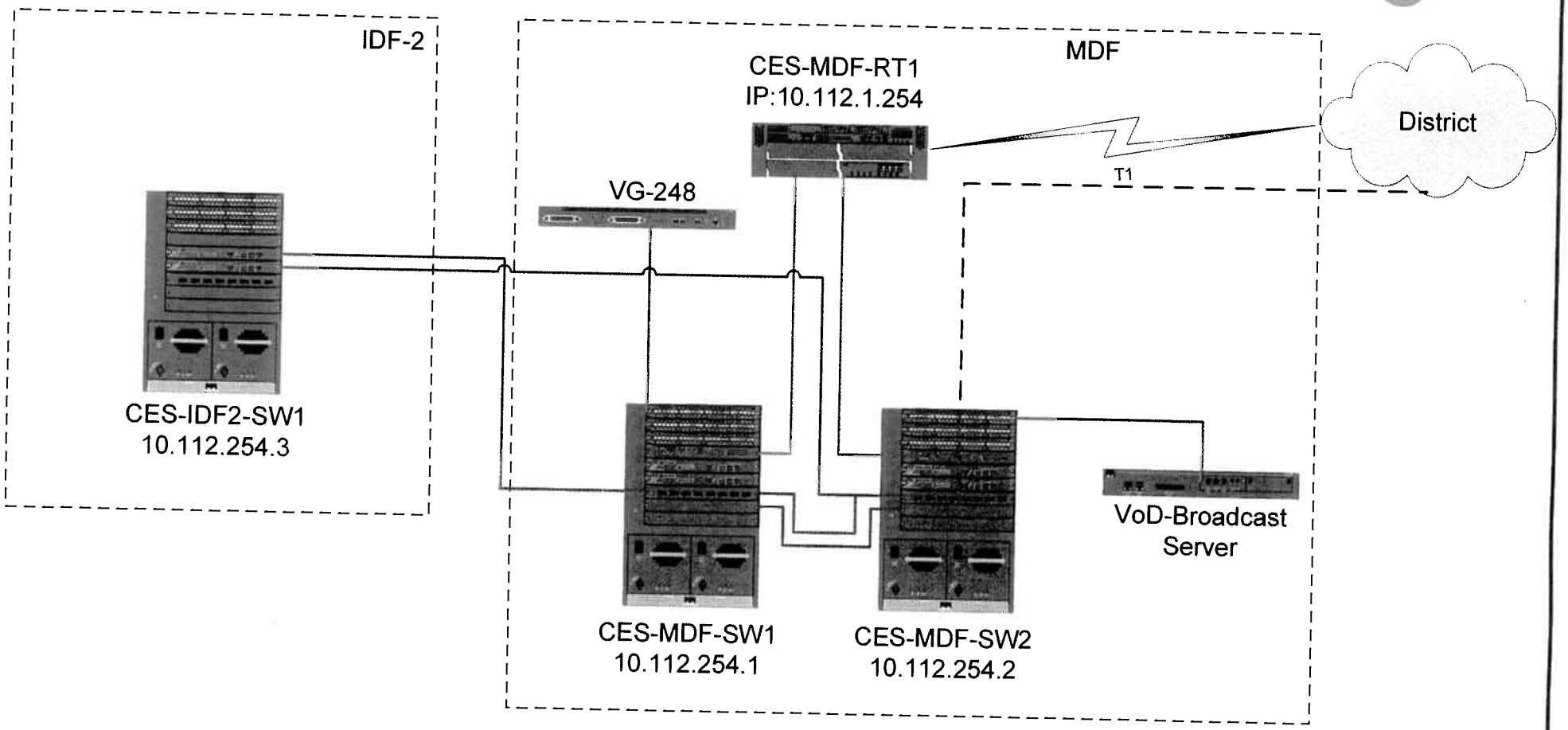


AVNET computer integration
Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04

Dwight Middle School

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper

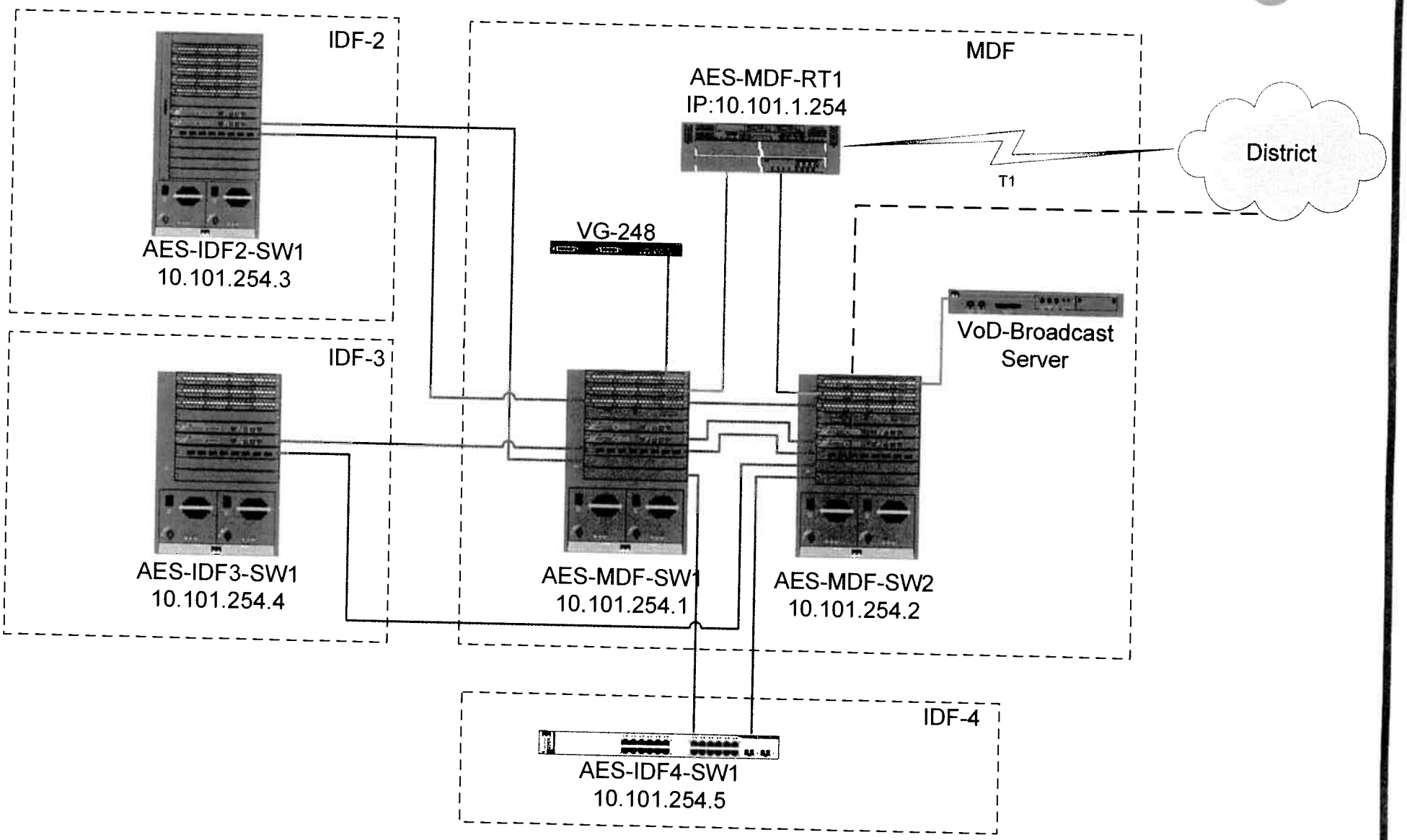


AVNET Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04

Carrillo Elementary School

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper

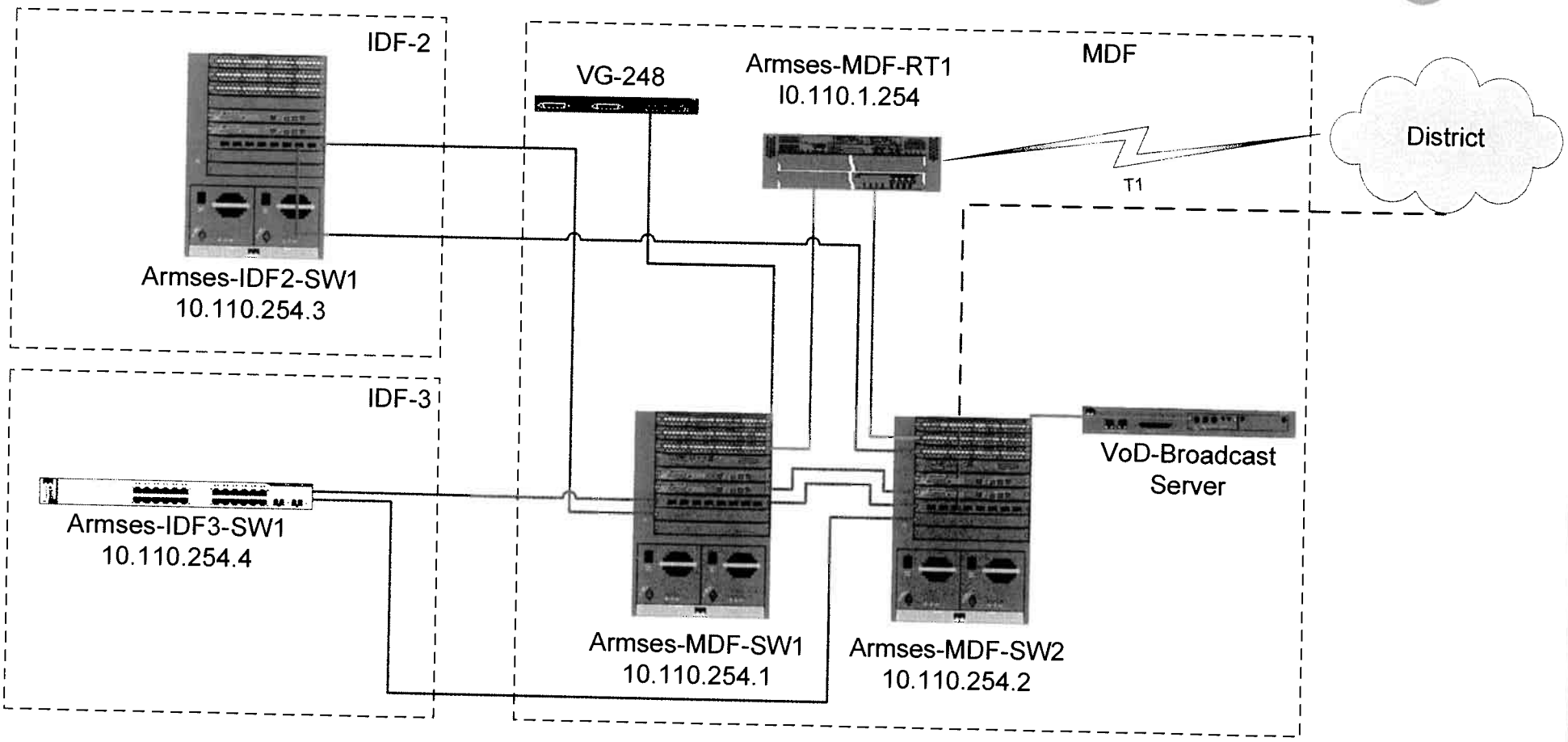


AVNET Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04

Athens Elementary School

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper



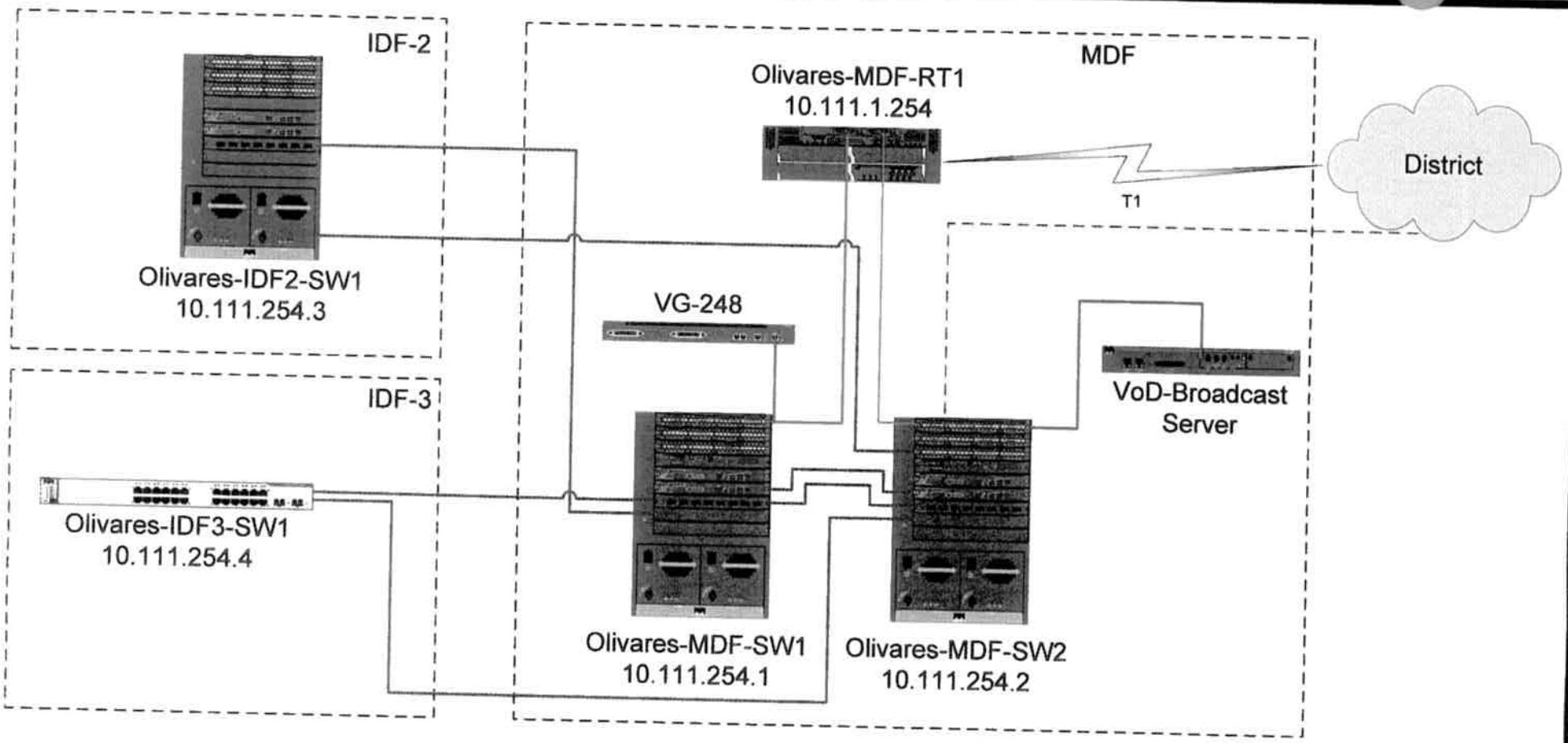
AVNET Enterprise Solutions Division

Prepared By David Vasek

Date: 12-21-04

Armstrong Elementary School

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper

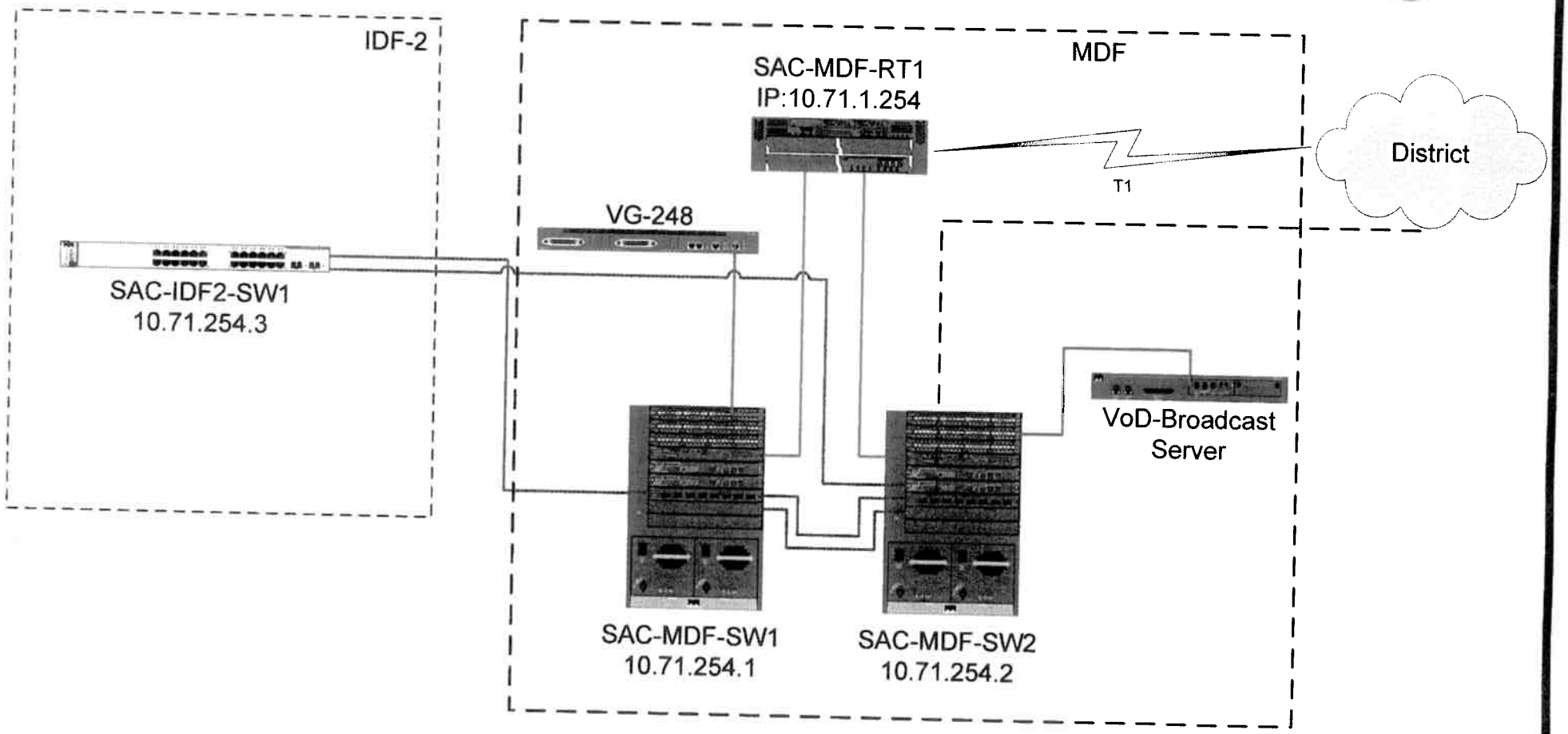


AVNET computer marketing
Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04

Olivares Elementary School

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper

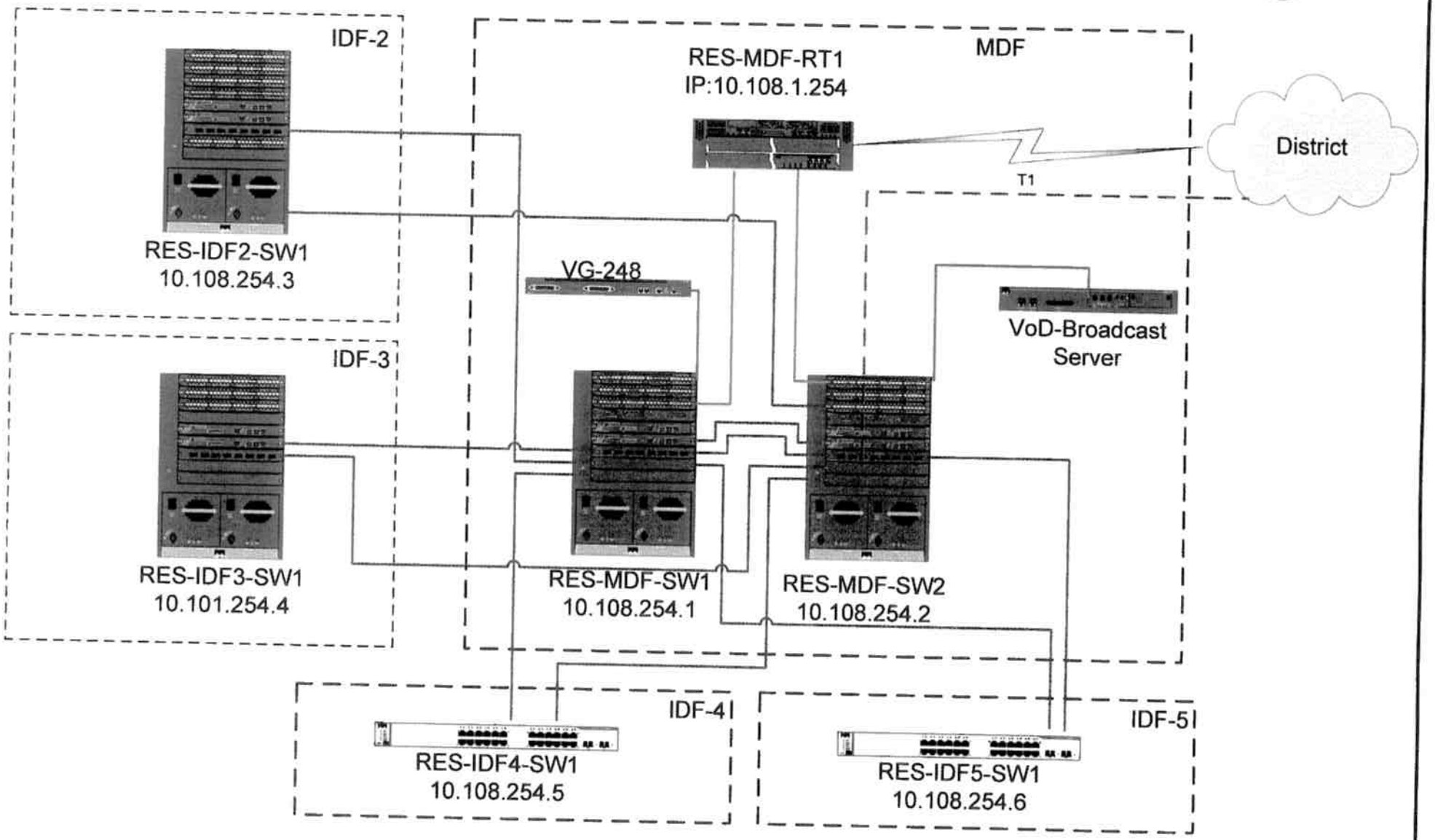


AVNET Computer Marketing
Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04

South San Antonio ISD SAC

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper

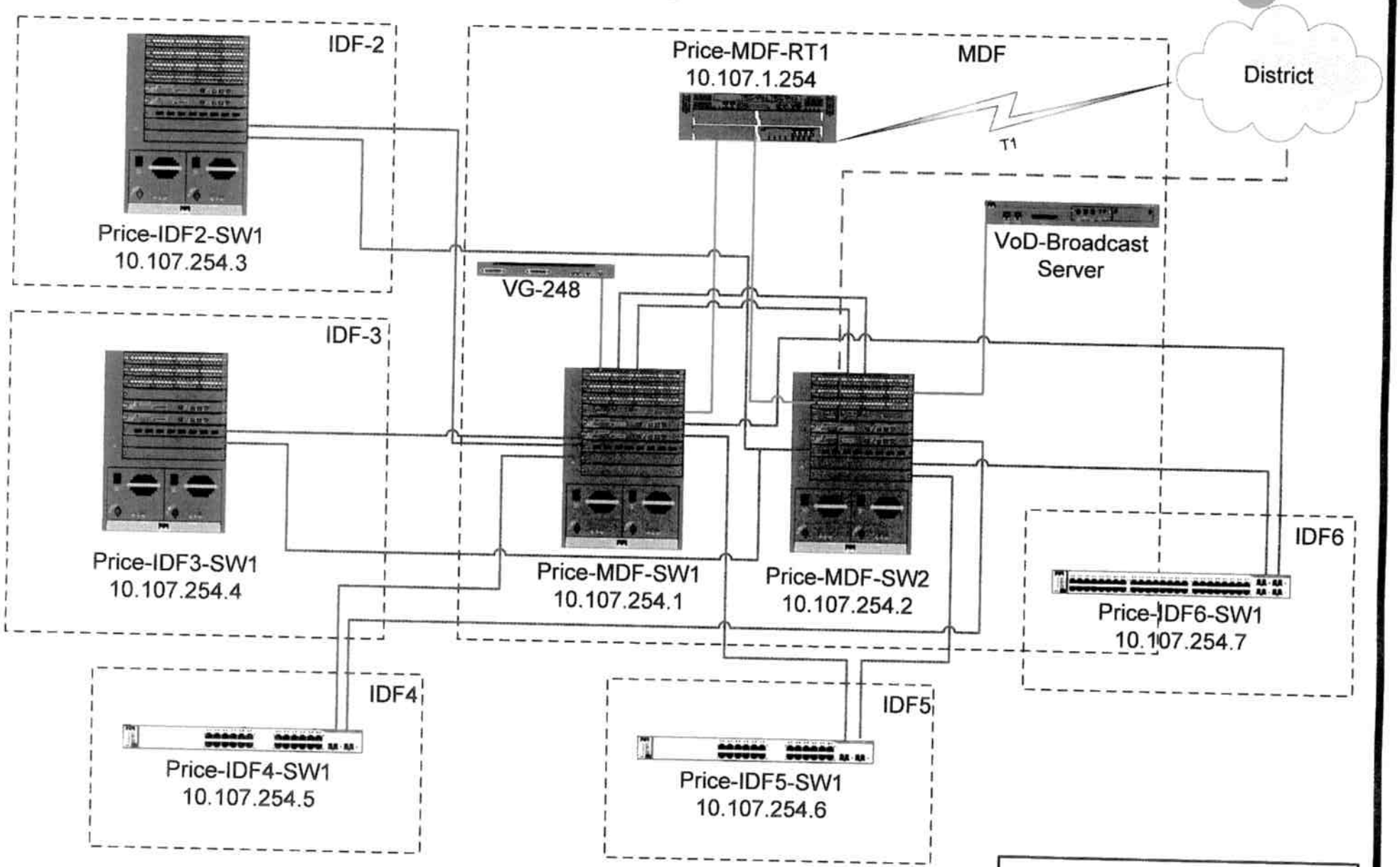


AVNET® Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04

Royalgate Elementary School

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper

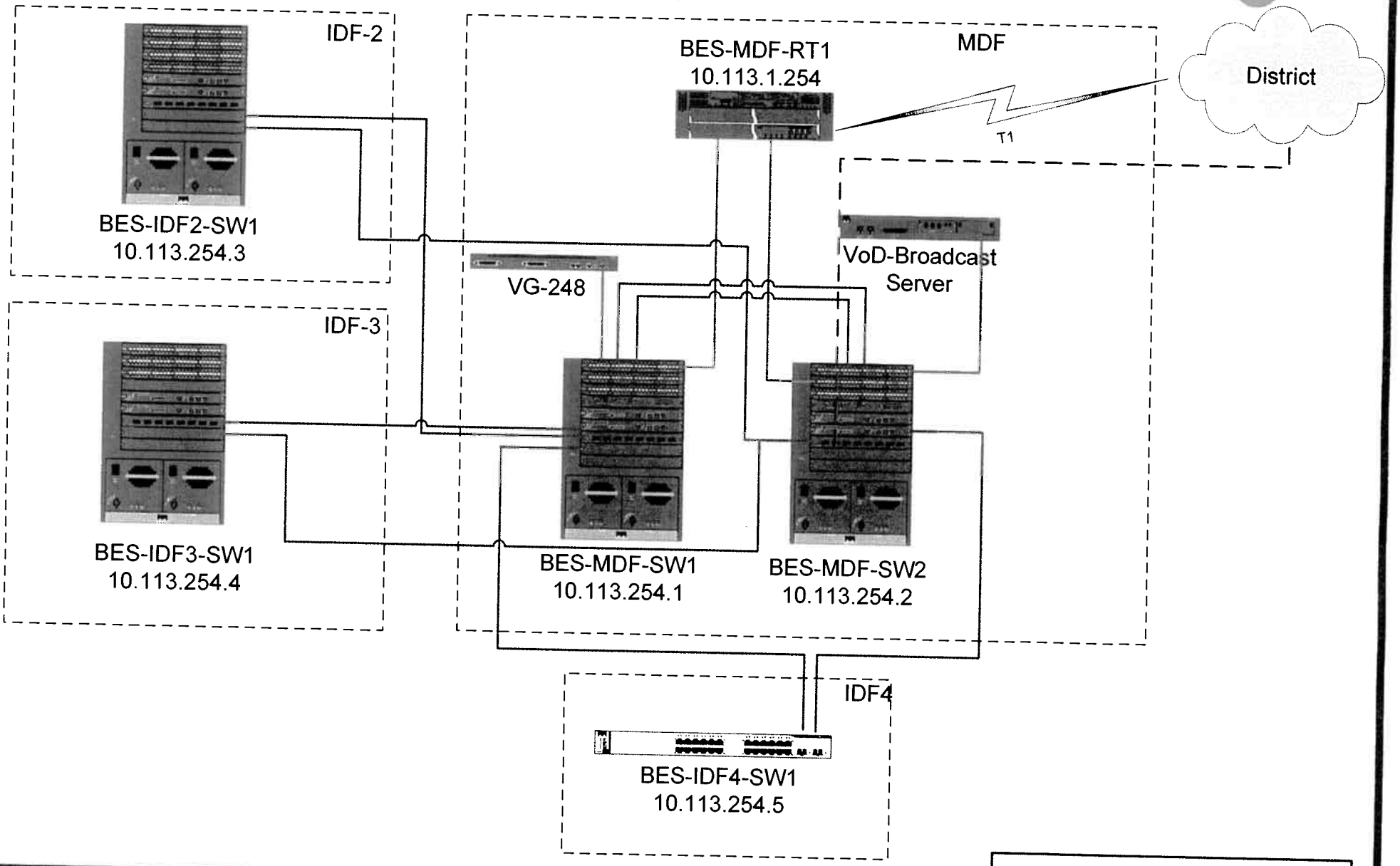


AVNET Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04

Price Elementary School

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper

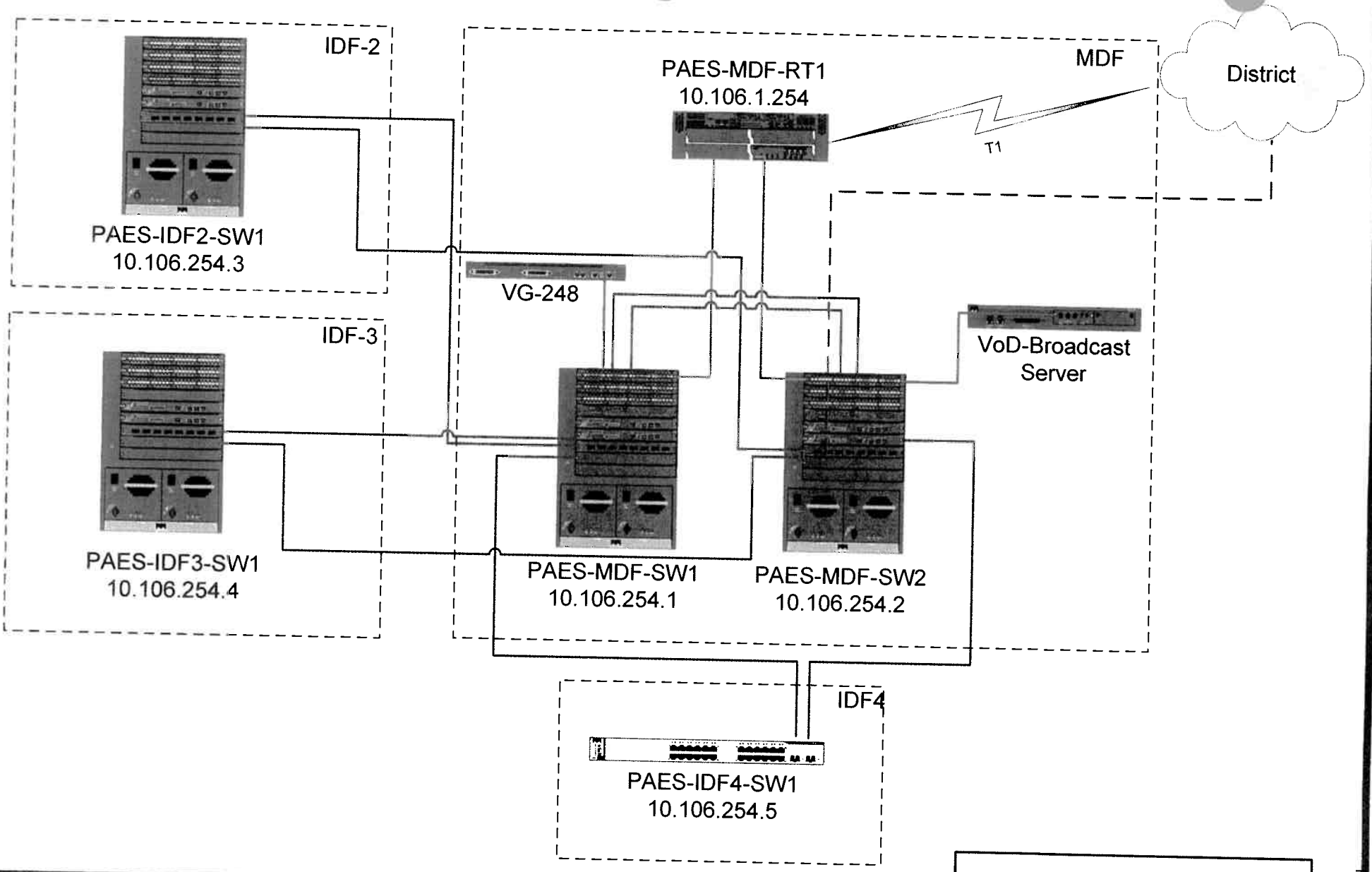


AVNET Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04

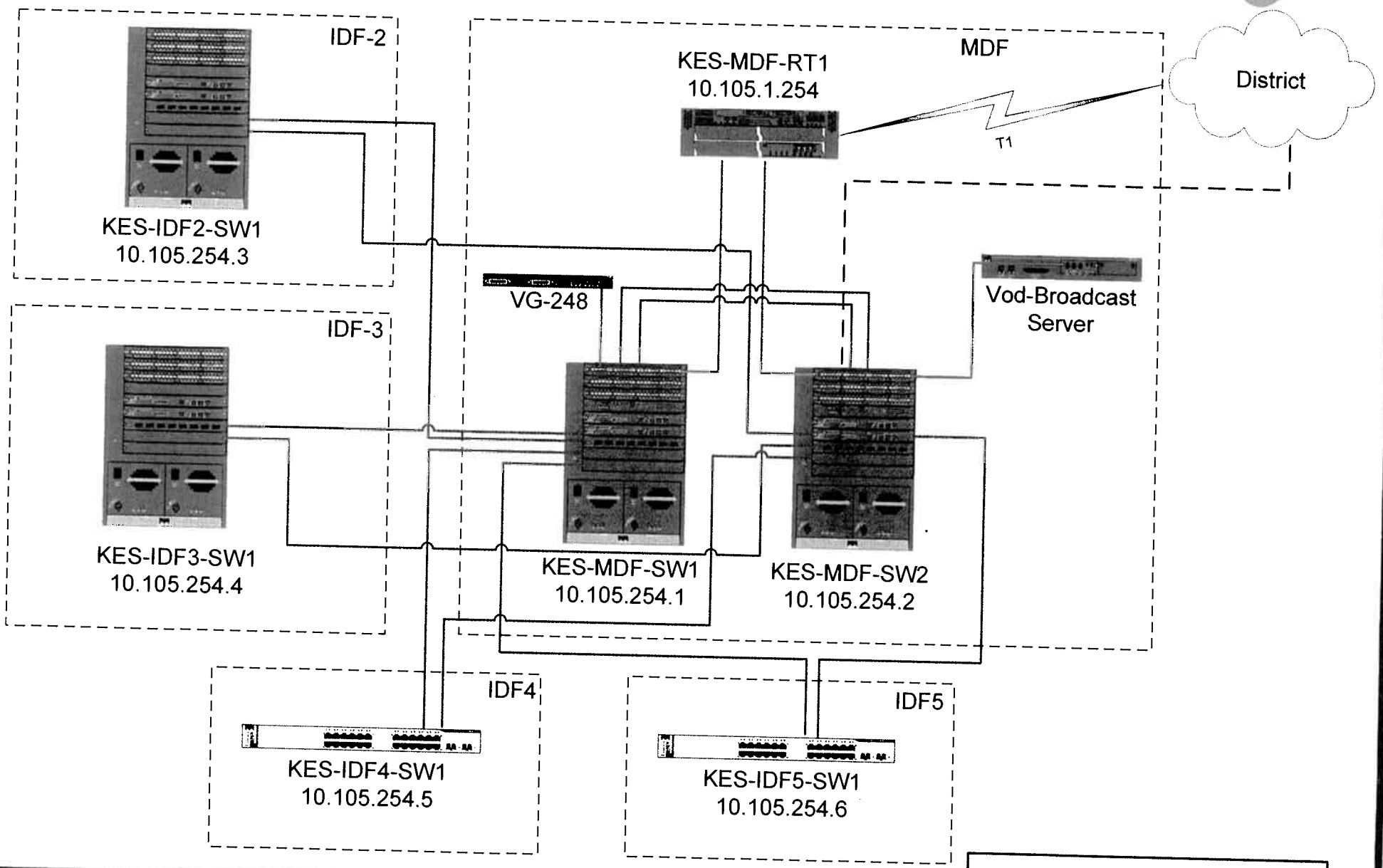
Benavides Elementary School

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper



AVNET Computer Marketing, Enterprise Solutions Division	Prepared By: David Vasek Date: 12-21-04
	Palo Alto Elementary School

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper

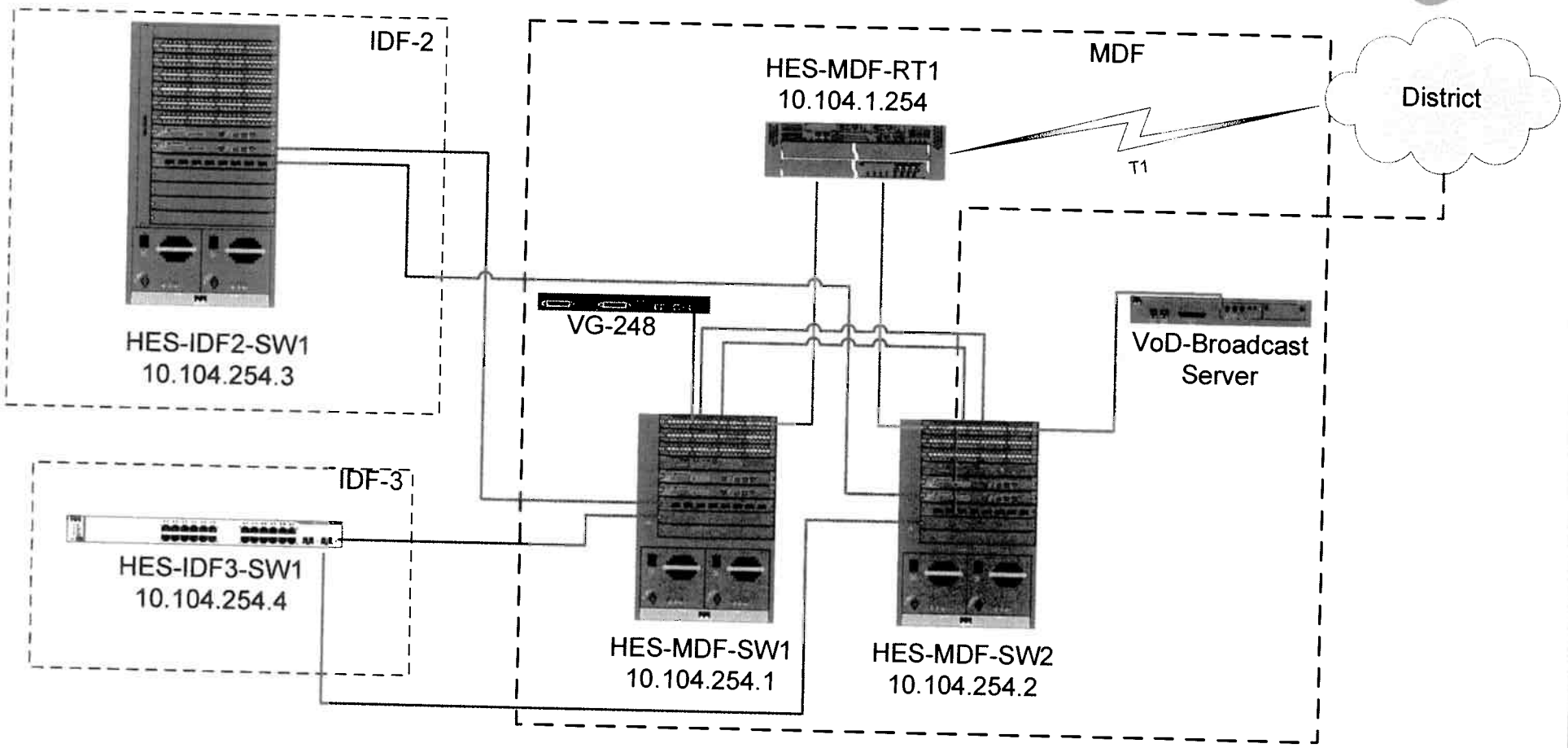


AVNET
Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04

Kindred Elementary School

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper

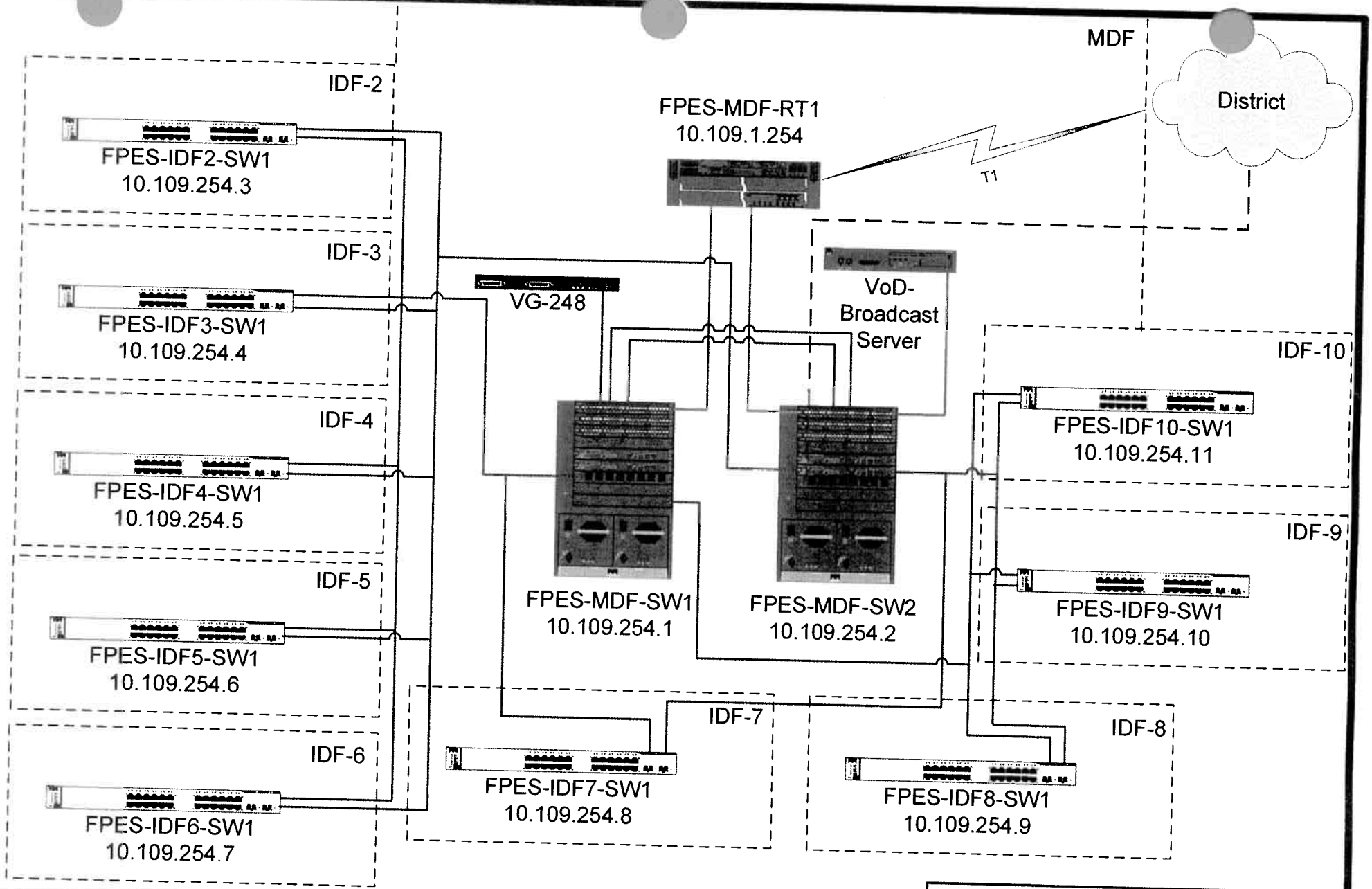


AVNET Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04

Hutchins Elementary School

1000 Mb Fiber
1000 Mb Gigaman
1000 Mb Copper
100 Mb Copper



AVNET Enterprise Solutions Division

Prepared By	Date:
David Vasek	12-21-04

Five Palms Elementary School

- 1000 Mb Fiber
- 1000 Mb Gigaman
- 1000 Mb Copper
- 100 Mb Copper

3.1. References

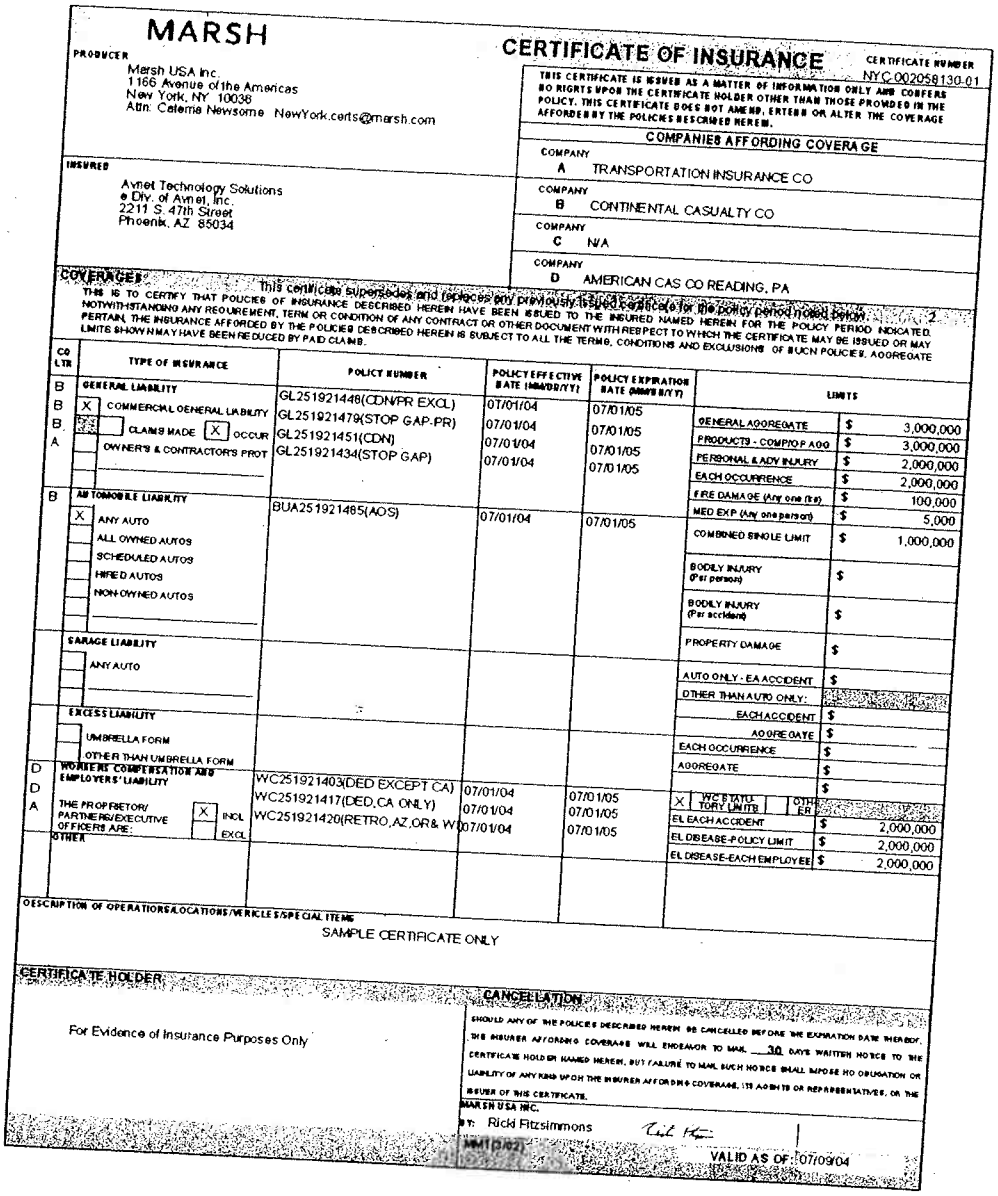
Customer	Brownsville ISD
Line of Business	IP Telephony
Contact	Robert Fisher, IT Director
Address	2477 Price Rd
City	Brownsville
State	TX
Zip	78521
Phone	956-548-8241
E-mail Address	bass@ies.net
Description	Avnet Enterprise Solutions is implementing a Cisco AVVID pilot for the 2002-2003 school year. This installation will include the deployment of approximately 50 Cisco IP phones.
Revenue	$2,000,000.00

Customer	Eanes ISD
Line of Business	Network Infrastructure
Contact	Aaron Schoenr
Address	601 Camp Craft Road
City	Austin
State	TX
Zip	78746
Phone	512-732-9090
E-mail Address	aschoenr@eanes.k12.tx.us
Description	Networked the entire district with Project Management, Avaya cabling indoor-out, Cisco IP Telephony, Cisco IDS, Cisco Pix, Cisco Routers, Cisco Switches, Cabling, Racks, American Backup Units, and training.
Revenue	$1,600,000.00

Customer	La Grange ISD
Line of Business	Network Infrastructure
Contact	Scott Toensing
Address	PO Box 100
City	LaGrange
State	TX
Zip	78945
Phone	979-968-4800
E-mail Address	toensings@la-grange.k12.tx.us

Description	Community Network: Connected LaGrange ISD, Library, The City of LaGrange and other unties with: Project Management, Cisco Wireless, Cisco Switches, Cisco Routers, Cisco Pix, American Power Backup Units, Cabling indoor-out and training.
Revenue	$800,000.00

3.2. Certificate of Insurance



MARSH

CERTIFICATE OF INSURANCE

CERTIFICATE NUMBER: NYC 002058130-01

PRODUCER
Marsh USA Inc.
1166 Avenue of the Americas
New York, NY 10036
Attn: Caleria Newsome NewYork.certs@marsh.com

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER OTHER THAN THOSE PROVIDED IN THE POLICY. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES DESCRIBED HEREIN.

INSURED
Avnet Technology Solutions
a Div. of Avnet, Inc.
2211 S. 47th Street
Phoenix, AZ 85034

COMPANIES AFFORDING COVERAGE

COMPANY A: TRANSPORTATION INSURANCE CO
COMPANY B: CONTINENTAL CASUALTY CO
COMPANY C: N/A
COMPANY D: AMERICAN CAS CO READING, PA

COVERAGES: This certificate supersedes and replaces any previously issued certificate for the policy period noted below. 2

THIS IS TO CERTIFY THAT POLICIES OF INSURANCE DESCRIBED HEREIN HAVE BEEN ISSUED TO THE INSURED NAMED HEREIN FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THE CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, CONDITIONS AND EXCLUSIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
B	GENERAL LIABILITY					
B	X COMMERCIAL GENERAL LIABILITY	GL251921446(CDN/PR EXCL)	07/01/04	07/01/05	GENERAL AGGREGATE	$ 3,000,000
B	CLAIMS MADE [X] OCCUR	GL251921479(STOP GAP-PR)	07/01/04	07/01/05	PRODUCTS - COMP/OP AGG	$ 3,000,000
A	OWNER'S & CONTRACTOR'S PROT	GL251921451(CDN)	07/01/04	07/01/05	PERSONAL & ADV INJURY	$ 2,000,000
		GL251921434(STOP GAP)	07/01/04	07/01/05	EACH OCCURRENCE	$ 2,000,000
					FIRE DAMAGE (Any one fire)	$ 100,000
B	AUTOMOBILE LIABILITY	BUA251921485(AOS)	07/01/04	07/01/05	MED EXP (Any one person)	$ 5,000
	X ANY AUTO				COMBINED SINGLE LIMIT	$ 1,000,000
	ALL OWNED AUTOS				BODILY INJURY (Per person)	$
	SCHEDULED AUTOS				BODILY INJURY (Per accident)	$
	HIRED AUTOS				PROPERTY DAMAGE	$
	NON-OWNED AUTOS					
	GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	$
	ANY AUTO				OTHER THAN AUTO ONLY:	
	EXCESS LIABILITY				EACH ACCIDENT	$
	UMBRELLA FORM				AGGREGATE	$
	OTHER THAN UMBRELLA FORM				EACH OCCURRENCE	$
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	WC251921403(DED EXCEPT CA)	07/01/04	07/01/05	AGGREGATE	$
D		WC251921417(DED,CA ONLY)	07/01/04	07/01/05	X WC STATU-TORY LIMITS OTHER	
A	THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: X INCL EXCL	WC251921420(RETRO,AZ,OR& WI	07/01/04	07/01/05	EL EACH ACCIDENT	$ 2,000,000
					EL DISEASE-POLICY LIMIT	$ 2,000,000
	OTHER				EL DISEASE-EACH EMPLOYEE	$ 2,000,000

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

SAMPLE CERTIFICATE ONLY

CERTIFICATE HOLDER

For Evidence of Insurance Purposes Only

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SHOULD ANY OF THE POLICIES DESCRIBED HEREIN BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE INSURER AFFORDING COVERAGE WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED HEREIN, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER AFFORDING COVERAGE, ITS AGENTS OR REPRESENTATIVES, OR THE ISSUER OF THIS CERTIFICATE.

MARSH USA INC.
By: Ricki Fitzsimmons

VALID AS OF 07/09/04

3.3. Product Data Sheets

DATA SHEET

CISCO CATALYST 6500 AND 6500-E SERIES SWITCH

PRODUCT OVERVIEW

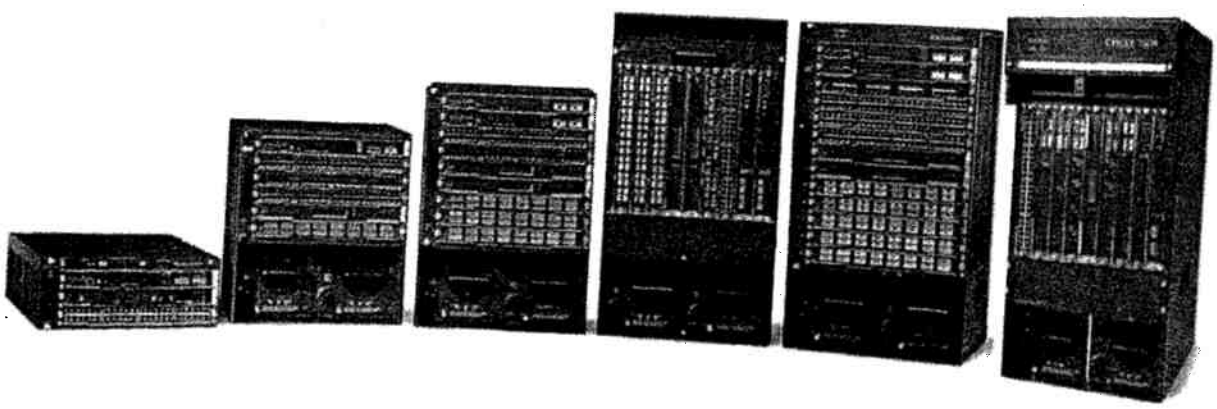
The Cisco® Catalyst® 6500 and 6500-E Series sets the new standard for IP Communications and application delivery in enterprise campus and service provider networks by maximizing user productivity and enhancing operational control while providing unprecedented investment protection. As Cisco's premier intelligent multilayer modular switch, the Cisco Catalyst 6500 Series delivers secure, converged, end-to-end services, from the wiring closet to the core, the data center, and the WAN edge.

Ideal for enterprises and service providers seeking to reduce total cost of ownership, the Cisco Catalyst 6500 Series delivers scalable performance and port density across several chassis configurations and LAN/WAN/MAN interfaces. Available in 3-, 6-, 9-, and 13-slot chassis, Cisco Catalyst 6500 Series switches feature an unparalleled range of integrated services modules, including multigigabit network security, content switching, telephony, and network analysis modules.

Through a forward-thinking architecture that uses a common set of modules and operating system software across all Cisco Catalyst 6500 Series chassis, the Cisco Catalyst 6500 Series delivers a high level of operational consistency that optimizes IT infrastructure usage and enhances return on investment. From 48-port to 576-port 10/100/1000 or 1152-port 10/100 Ethernet wiring closets to hundreds-of-Mpps network cores supporting up to 192 1-Gbps or 32 10-Gbps trunks, the Cisco Catalyst 6500 Series provides an optimal platform that maximizes network uptime with stateful failover ›ility between redundant routing and forwarding engines.

With numerous industry-leading features, the Cisco Catalyst 6500 Series supports three generations of modules that continue to demonstrate the Cisco Catalyst 6500 Series value, and Cisco Systems' commitment to innovation. Cisco's new generation of Cisco Catalyst 6500 Series modules and Supervisor Engine 720 devices incorporate 11 new Cisco-developed application-specific integrated circuits (ASICs)—extending Cisco's leadership in networking while providing unparalleled investment protection.

Figure 1. Cisco Catalyst 6500 Series Chassis



FEATURES AND BENEFITS

The Cisco Catalyst 6500 Series provides market-leading services, performance, port densities, and availability with investment protection for ent›rise and service provider markets, including:

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- *Maximum network uptime*—With platform, power supply, supervisor engine, switch fabric, and integrated network services, redundancy provides one- to three-second stateful failover and delivers application and services continuity in a converged network environment, minimizing disruption of mission-critical data and services
- *Comprehensive network security*—Integrates proven, multigigabit Cisco security solutions, including intrusion detection, firewall, VPN, and Secure Sockets Layer (SSL) into existing networks
- *Scalable performance*—Provides up to 400 Mpps performance with distributed forwarding architecture
- *Forward-thinking architecture with investment protection*—Supports three generations of interchangeable, hot-swappable modules in the same chassis, optimizing IT infrastructure usage, maximizing return on investment, and reducing total cost of ownership
- *Operational consistency*—Features 3-, 6-, 9-, and 13-slot chassis configurations sharing a common set of modules, Cisco IOS® Software, Cisco Catalyst Operating System Software, and network management tools that can be deployed anywhere in the network
- *Unparalleled services integration and flexibility*—Integrates advanced services such as security, wireless LAN services, and content with converged networks; provides the widest range of interfaces and densities, from 10/100 and 10/100/1000 Ethernet to 10 Gigabit, and from DS-0 to OC-48; and performs in any deployment from end to end

Operational Consistency in End-to-End Cisco Catalyst 6500 Series Deployments

- Features 3-, 6-, 9-, and 13-slot chassis configurations that share a common set of modules, software, and network management tools
- Deploys anywhere in the network—from the wiring closet to the core, to the data center, to the WAN edge
- Shares WAN port adapters with Cisco 7xxx Series routers for reduced sparing and training costs
- Offers choice of Cisco IOS Software and Cisco Catalyst Operating System Software supported on all supervisor engines, providing smooth migration from Cisco Catalyst 5000 Series and Cisco 7500 Series deployments

imum Network Uptime and Netwcrk Resiliency

rovides packet-loss protection and the fastest recovery from network disruption

- Features fast, one- to three-second stateful failover between redundant supervisor engines
- Offers optional, redundant, high-performance Cisco Catalyst 6500 Series Supervisor Engine 720, passive backplane, multimodule Cisco EtherChannel® technology, IEEE 802.3ad link aggregation, IEEE 802.1s only and Hot Standby Router Protocol/Virtual Router Redundancy Protocol (HSRP/VRRP) high-availability features

Integrated High-Performance Security and Network Management

Integrated gigabit-per-second services modules, deployed where external devices would not be feasible, simplify network management and reduce total cost of ownership. These include:

- Gigabit firewall—Provides access protection
- High-performance intrusion detection system (IDS)—Provides intrusion detection protection
- Gigabit network analysis module—Provides a more manageable infrastructure and full Remote Monitoring (RMON) support
- High-performance SSL—Provides high-performance, secure e-commerce traffic termination
- Gigabit VPN and standards-based IP Security (IPSec)—Supports lower-cost Internet and intracampus connections

Content- and Application-Aware Layers 2 Through 7 Switching Services

- An integrated content switching module (CSM) brings high-performance, feature-rich server and firewall load balancing to the Cisco Catalyst 6500 Series, helping to ensure a safer and more manageable infrastructure with unprecedented control
- Integrated multigigabit SSL acceleration, combined with a CSM, provides a high-performance e-commerce solution
- Integrated multigigabit firewall and CSMs provide a secure, high-performance, data center solution
- Software features such as Network-Based Application Recognition (NBAR) enhance network management and control of bandwidth utilization

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Scalable Performance

- Delivers the industry's highest LAN switch performance, 400 Mpps, using the distributed Cisco Express Forwarding dCEF720 platform
- Supports a mix of Cisco Express Forwarding implementations and switch fabric speeds for optimal wiring closet, core, data center, and WAN edge deployments, as well as service provider networks

Rich Layer 3 Services

- Multiprotocol Layer 3 routing supports traditional network requirements and provides a smooth transition mechanism in the enterprise
- Provides hardware support for enterprise-class and service-provider-scale routing tables
- Provides IPv6 support in hardware (using the Supervisor Engine 720) with an unparalleled high-performance suite of services
- Provides hardware support for large enterprise-class and service-provider-scale routing tables
- Provides Multiprotocol Label Switching (MPLS) support in hardware to enable VPN services within the enterprise and facilitate smooth integration with new high-speed service provider core infrastructures and Metro Ethernet deployments

Enhanced Data, Voice, and Video Services

- Provides integrated IP Communications throughout all Cisco Catalyst 6500 Series platforms
- Provides 10/100 and 10/100/1000 line cards, which are field-upgradable with inline power using a daughter card
- Supports prestandard Cisco Inline Power as well as standards-based IEEE 802.3af Power over Ethernet (PoE)
- Provides dense T1/E1 and foreign exchange station (FXS) voice over IP (VoIP) gateway interfaces for public switched telephone network (PSTN) access and traditional phone, fax, and private branch exchange (PBX) connections
- Supports high-performance IP Multicast video and audio applications
- Provides the integrated management necessary to effectively deploy a scalable, enterprise-converged network

hest Level of Interface Flexibility, Scalability, and Density

- Provides the port densities and interface choices that large mission-critical wiring closets, enterprise cores, and distribution networks require
- Supports up to 576 10/100/1000 Gigabit-over-copper ports or 1152 10/100 Ethernet ports
- Features the industry's first 96-port 10/100 RJ-45 module, with optional, field-upgradable support for 802.3af PoE
- Provides up to 192 Gigabit Ethernet ports
- Features the industry's first 10 Gigabit Ethernet, Channelized OC-48 dense OC-3 Packet over SONET (POS)
- Provides investment protection by using Cisco 7xxx Series port adapters on the Cisco Catalyst 6500 Series FlexWAN Line Card, supporting T1/E1 through OC-48 WAN interfaces
- Chassis sizes range from 3-slot (Cisco Catalyst 6503 Switch) to 13-slot (Cisco Catalyst 6513 Switch)

High-Speed WAN Interfaces

- Provides high-speed WAN, ATM, and SONET interfaces that are compatible with other core routers
- Provides single-device management for WAN aggregation and for campus and metro connectivity
- Maximum Investment Protection
- Highly flexible modular architecture supports multiple generations of modules that are fully interoperable with each other in the same chassis
- Upgradable supervisor engines can add Layer 3 routing or forwarding capabilities over time
- Cisco IOS Software and Cisco Catalyst Operating System Software are supported across all supervisor engines
- Field-upgradable inline power for 10/100 Mbps and 10/100/1000 Mbps Ethernet modules offers "pay as you go" IP telephony and wireless computing
- A steady stream of new services modules adds to the deployment options
- Includes Cisco Catalyst 6500 Series network security, content switching, and voice capabilities
- Future modules will increase performance, increase port density, and include additional services

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Ideal for Metro Ethernet WAN Services

- 802.1Q and 802.1Q tunneling (QinQ), providing point-to-point and multipoint Ethernet services
- Ethernet over MPLS (EoMPLS) in MPLS backbones for superior network scaling, providing VLAN translation capability
- Layer 2 and Layer 3 quality of service (QoS), enabling tiered Ethernet service offerings through rate limiting and traffic shaping
- Superior high-availability features, including enhanced Spanning Tree Protocol, IEEE 802.1s, IEEE 802.1w, and Cisco EtherChannel IEEE 802.3ad link aggregation

Table 1. Cisco Catalyst 6500 Series at a Glance

Feature	Cisco Catalyst 6500 Series
Chassis configurations	3-slot
	6-slot
	9-slot
	9 vertical slots
	13-slot
Backplane bandwidth	32-Gbps shared bus
	256-Gbps switch fabric
	720-Gbps switch fabric
Layer 3 forwarding performance	Supervisor Engine 1 Multilayer Switch Feature Card (MSFC): 15 Mpps
	Supervisor Engine 2 MSFC: up to 210 Mpps
	Supervisor Engine 720: up to 400 Mpps
Operating system	Cisco Catalyst OS
	Cisco IOS Software
	Hybrid configuration
Redundant supervisors	Yes, with stateful failover
Redundant components	Power supplies (1+1)
	Switch fabric (1+1)
	Replaceable clock
	Replaceable fan tray
High availability features	Gateway Load Balancing Protocol
	HSRP
	Multimodule EtherChannel
	Rapid Spanning Tree Protocol (RSTP)
	Multiple Spanning Tree Protocol (MSTP)
	Per-VLAN Rapid Spanning Tree
	Rapid convergence Layer 3 protocols

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Feature	Cisco Catalyst 6500 Series
Advanced services modules	Content services gateway
	CSM
	Firewall module
	IDS module
	IP Security (IPSec) VPN module
	Network analysis module
	Persistent storage device
	SSL module
	Wireless LAN services module

Maximum System Port Densities (Including Supervisor Ports)	6503	6503-E	6506 6506-E	6509 6509-E	6509-NEB 6509-NEB-A	6513
10 Gigabit Ethernet (XENPAK)	2 (OIM)	8	20	32	32	20
Gigabit Ethernet (small form-factor pluggable [SFP])	16(Nov 04)	98	242	386	386	410
Gigabit Ethernet (gigabit interface converter [GBIC])	34	34	82	130	130	194
10/100/1000 Ethernet	97	97	241	385	385	577
10/100 Fast Ethernet	192	192	480	768	768	1152
100BASE-FX	96 (Nov04)	96 (Nov04)	240 (Nov04)	384 (Nov04)	384 (Nov04)	576 (Nov04)
ATM LAN Emulation (LANE)	2	2	5	8	8	12
FlexWAN (DS-0 to OC-3)	2 modules with 4 port adapters	2 modules with 4 port adapters	5 modules with 10 port adapters	8 modules with 16 port adapters	8 modules with 16 port adapters	12 modules with 24 port adapters
Integrated WAN modules						
OC-3 POS ports	16	16	40	64	64	96
OC-12 POS ports	8	8	20	32	32	48
OC-12 ATM ports	4	4	10	16	16	24
OC-48 POS/Dynamic Packet Transport (DPT) ports	4 POS 2 DPT	4 POS 2 DPT	10 POS 5 DPT	16 POS 8 DPT	16 POS 8 DPT	24 POS 12 DPT
PSTN interfaces						
Digital T1/E1 trunk ports	36	36	90	144	144	216
FXS interfaces	144	144	360	576	576	864

DEPLOYMENT SCENARIOS

The Cisco Catalyst 6500 and 6500-E Series can be deployed for converged services for campus, Internet service provider (ISP) metro edge, high-density IEEE Class 3 devices aggregation, research and grid computing networks.

- *Campus networks*—Features 10/100 and 10/100/1000 autosensing modules that provide inline power for the wiring closet, along with robust high-availability, security, and manageability features; world-class networking software; high-performance Gigabit and 10 Gigabit interface modules; network management for the distribution and core (Figure 2)

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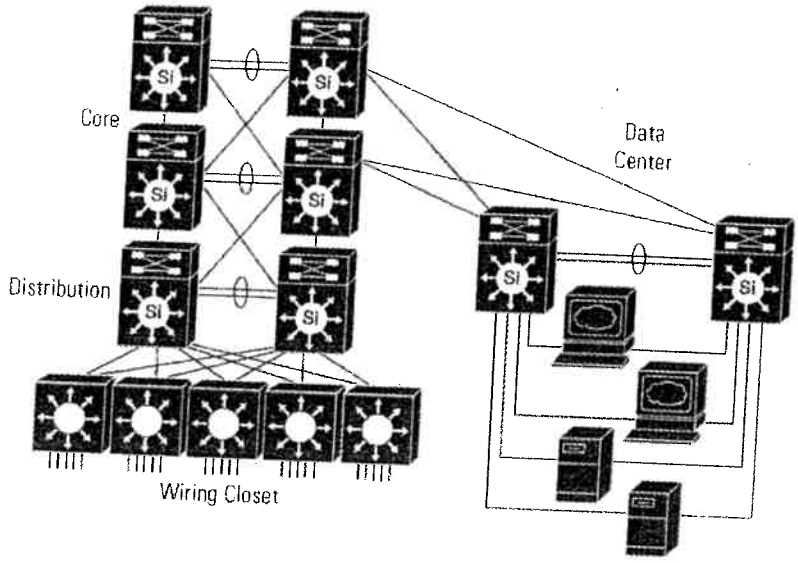
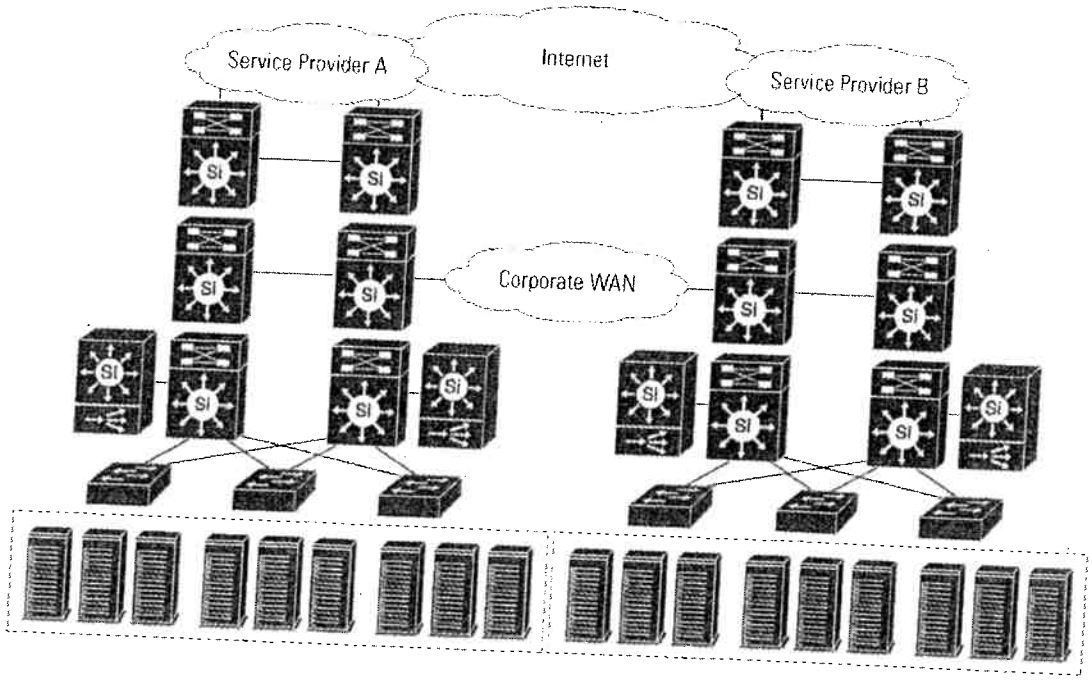
Figure 2. Deployment Scenarios for Cisco Catalyst 6500 Series Switches in Campus Networks



- *ISP network*—Provides robust high-availability, security, and manageability features; world-class networking software; high-performance Gigabit and 10 Gigabit interface modules; and network management for the most demanding service provider networking environments requiring MPLS, Multicast, IPv6, an extensive set of WAN interfaces, and hierarchical traffic shaping (Figure 3)

Figure 3. Deployment Scenarios for Cisco Catalyst 6500 Series Switches in ISP Networks



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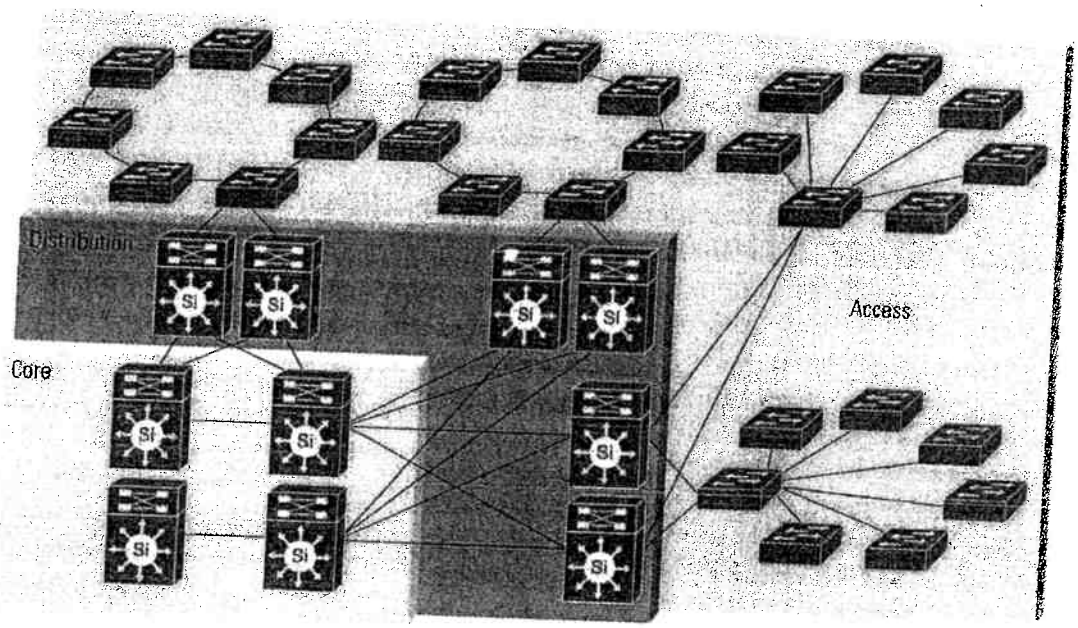
- *Metro edge*—Features edge, distribution, and core layer interfaces for point-to-point and multipoint Ethernet services for metro and intermetro network deployments with the following features (Figure 4):
  - High-performance 10 Gigabit Ethernet uplinks
  - 802.1Q tunneling
  - EoMPLS
  - Layer 2 and Layer 3 QoS
  - Network Equipment Building Standards (NEBS) compliance
  - Security, high availability, and manageability

Figure 4. Deployment Scenarios for Cisco Catalyst 6500 and 6500-E Series Switches in Metro Edge



- *Grid computing network*—Provides high-speed optical interface modules and world-class software required to handle high-volume traffic and to build and manage large-scale networks (Figure 5)

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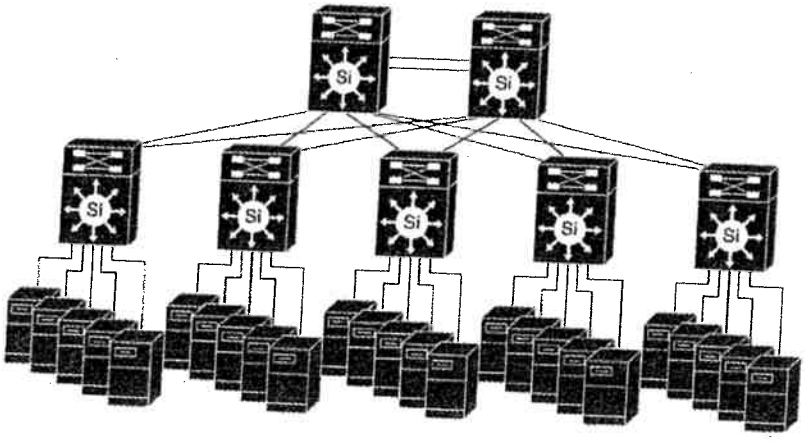
Figure 5. Deployment Scenarios for Cisco Catalyst 6500 Series Switches in Grid Computing Network



SYSTEM OVERVIEW

Modular Architecture

The Cisco Catalyst 6500 Series is a modular system that can grow as customer requirements expand and technology evolves, allowing customers to upgrade and reconfigure systems by adding new modules, replacing existing modules, and adding and redeploying systems. Throughout the Cisco ...yst 6500 Series, modules are:

- *Configurable*—Separately, simplifying the addition of new services
- *Interoperable*—In the same chassis, providing flexible design options
- *Interchangeable*—Among Cisco Catalyst 6500 Series systems, simplifying sparing and network expansion
- *Hot-swappable*—Without requiring a chassis to be powered off, providing fast upgrade and repair
- *Upgradable*—As newer modules come along, providing investment protection

Cisco Catalyst 6500 Series Hardware-Forwarding Architectures

Cisco Catalyst 6500 Series modules use one of three forwarding technologies, each having a different architecture with different characteristics and capabilities:

- *Cisco Express Forwarding*—Scaling to 30 Mpps, this technology uses a central Cisco Express Forwarding engine located on the supervisor engine's policy feature card (PFC) daughter card and Cisco Express Forwarding tables located on the supervisor engine. The supervisor engine makes all forwarding decisions for all interface modules centrally. For more information, see *How Cisco Express Forwarding Works*.
- *Distributed Cisco Express Forwarding*—Suited for the most demanding environments, this technology uses the distributed Cisco Express Forwarding engine located on the interface module's distributed forwarding card (DFC) daughter card and the distributed Cisco Express Forwarding table, a local copy of the supervisor engine's central Cisco Express Forwarding table located on the interface module's DFC. The interface module makes all forwarding decisions locally, and provides maximum performance and scalability. For more information, see *How Distributed Cisco Express Forwarding Works*.

Cisco Catalyst 6500 Series Switching Architectures

Cisco developed the following switching architectures for Cisco Catalyst 6500 Series modules to allow platforms to scale in any deployment:

- ...2 Gbps bus—Allowing access to a central shared bus

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- 256-Gbps switch fabric—Located on the switch fabric module (SFM)
- 720-Gbps switch fabric—Located on the Cisco Catalyst 6500 Series Supervisor Engine 720

Cisco Catalyst 6500 Series Modules

Cisco Catalyst 6500 Series interface modules support the following forwarding technology and switch fabric combinations:

- *Classic interface modules*—Use the centralized Cisco Express Forwarding engine located on the supervisor engine's PFC, connect to the 32-Gbps switching bus only, and forward packets at up to 15 Mpps
- *CEF256 interface modules*—Use the centralized Cisco Express Forwarding engine located on the supervisor engine's PFC, connect to both the 256-Gbps fabric located on the supervisor engine with a single 8-Gbps full-duplex fabric connection and the 32-Gbps switching bus, and forward packets at up to 30 Mpps
- *dCEF256 interface modules*—Use the distributed Cisco Express Forwarding engine on the DFC (located on the interface module), connect to a 256-Gbps fabric located on the supervisor engine or a switch fabric module with 16-Gbps full-duplex fabric connections, and forward packets at up to 210 Mpps
- *dCEF720 interface modules*—Use the distributed Cisco Express Forwarding engine on the DFC3 (located on the interface module), connect to the 720-Gbps fabric located on the supervisor engine with dual 20-Gbps full-duplex fabric connections, and forward packets at up to 400 Mpps of sustained performance

Note: Note: All performance numbers refer to IPv4 forwarding.

Cisco Catalyst 6500 Series Module Types

In the Cisco Catalyst 6500 Series architecture, special-purpose modules perform separate tasks—allowing the feature set to evolve quickly, and ing customers to add features and enhance performance by adding new modules. The Cisco Catalyst 6500 Series features the following types of pecial-purpose modules:

- *Supervisor engines*—Perform the control functions and make the forwarding decisions for packets routed to other networks
- *Ethernet interface modules*—Provide IEEE-standard receive and forwarding interfaces; forward packets within the defined network
- *WAN interface modules*—Provide the receive and forwarding interface at the WAN edge
- *Services modules*—Support multigigabit security, application-aware Layer 4 through 7 content switching, wireless LAN services, network management, and voice gateway services to traditional phones, fax machines, PBXs, and the PSTN
- *Switch fabric modules*—Pass network traffic from the interface module to the supervisor engine or to another interface

Cisco Catalyst 6500 Series Supervisor Engines

The supervisor engines for the Cisco Catalyst 6500 Series support different forwarding technologies and achieve different forwarding rates, depending on the configuration of the supervisor engine and the capability of a particular interface module (Table 2).

Supervisor engines can be configured with optional factory-installed daughter cards—a PFC providing hardware-based Layer 2 forwarding, and a Multilayer Switch Feature Card (MSFC) providing Layer 3 capabilities.

A supervisor engine performs control operations centrally on processors that run either Cisco IOS Software or Cisco Catalyst Operating System Software while special-purpose application-specific integrated circuits (ASICs) perform bridging and routing (based on Cisco Express Forwarding), QoS marking and policing, and access control. The same ASICs are used on the DFCs, daughter cards that can be installed on certain interface modules to distribute forwarding in a decentralized fashion to achieve system forwarding rates of up to 400 Mpps (Table 2).

For more information about the following Cisco Catalyst 6500 Series supervisor engines, visit:

http://www.cisco.com/en/US/products/hw/switches/ps708/products_data_sheets_list.html

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- Cisco Catalyst 6500 Series Supervisor Engine 720 Data Sheet
- Cisco Catalyst 6500 Series Supervisor Engine 1A and Supervisor Engine 2 Data Sheet

Table 2. Cisco Catalyst 6500 Series Supervisor Engines

Feature	Supervisor Engine 1A	Supervisor Engine 2	Supervisor Engine 720
Solution and market	Wiring closet	Enterprise distribution, core, and WAN edge; service provider WAN and Internet edge	Enterprise core and data center; service provider metro; wireless; national research networks; grid computing
Forwarding architectures supported	Centralized forwarding only—engine located on supervisor engine's PFCx daughter card	Centralized Cisco Express Forwarding—engine located on Supervisor Engine 2's PFCx daughter card; Distributed Cisco Express Forwarding—engine located on interface module's DFC daughter card	Centralized Cisco Express Forwarding—engine located on Supervisor Engine 720's PFC3 daughter card; Distributed Cisco Express Forwarding—engine located on interface module's DFC3 daughter card
Fabric connections	32-Gbps shared bus connection to modules	16 Gbps per slot; dual-fabric connection to modules at 8 Gbps full duplex per channel	40 Gbps per slot; dual-fabric connection to modules at 20 Gbps full duplex per channel
Performance maximum (Mpps)	15 Mpps	210 Mpps	Sustained 400 mpps—dCEF720
DFC modules	Not supported	DFC	DFC3
Route processor	On MSFC2 daughter card (optional)	On MSFC2 daughter card (optional)	MSFC3 integrated
PFC modules	PFC daughter card (optional)	PFC2 integrated	PFC3 integrated

Ethernet Interface Modules

Cisco Catalyst 6500 Series Ethernet interface modules, designed for wiring closet, distribution and core, and data center applications, as well as service provider and Metro Ethernet environments, use one of the following types of Ethernet interfaces:

- *10/100 Mbps over copper*—For wiring closets providing 10/100-Mbps performance with autonegotiation and support for IEEE 802.3af PoE (inline power); up to 96 ports per module; includes Classic and CEF256 interface modules.
- *10/100/1000 Mbps Gigabit over copper*—For wiring closets and data centers providing 10/100/1000-Mbps performance with autonegotiation and support for IEEE 802.3af PoE (inline power); up to 48 ports/module; includes Classic, CEF256, and CEF720 interface modules.
- *100 Mbps over fiber*—For secure wiring closets and long-haul router and switch interconnects; up to 24 ports per module; includes Classic and CEF256 interface modules.
- *1 Gbps*—For distribution and core layers and for data centers providing 1-Gbps performance; up to 48 ports per module; includes Classic, CEF256, dCEF256, and CEF720 interface modules.
- *10 Gbps*—For distribution and core layers providing 10-Gbps performance in 2-port or 4-port modules; includes CEF256 and dCEF720 interface modules.

For more information, visit:

http://www.cisco.com/en/US/products/hw/switches/ps708/products_data_sheets_list.html

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WAN Interface Modules

The Cisco Catalyst 6500 Series and Cisco 7600 Series support several WAN interfaces using two technologies:

- *FlexWAN module*—Accepts up to two plug-in port adapters that provide numerous WAN/MAN protocols and features
- *Optical services module (OSM)*—A dedicated line card that provides several interfaces, including OC-3/STM-1, OC-12/STM-4, OC-48/STM-16, Channelized T3, Channelized OC-12/STM-4 PoS, Gigabit Ethernet, OC-12/STM-4 ATM, and OC-48/STM-16 DPT

FlexWAN Module

The FlexWAN module fits inside Cisco Catalyst 6500 Series and Cisco 7600 Series systems and uses Cisco 7200 Series and 7500 Series port adapters for several WAN/MAN protocols, including Frame Relay, ATM, PoS, Point-to-Point Protocol (PPP), and High-Level Data Link Control (HDLC). Additionally, the FlexWAN module provides media options such as clear channel and Channelized T1/E1, T3/E3, High-Speed Serial Interface (HSSI), OC-3 PoS, and ATM.

- For more information about the Cisco Catalyst 6500 Series and Cisco 7600 Series FlexWAN Module, visit: http://www.cisco.com/en/US/products/hw/switches/ps708/products_data_sheet09186a00801df1d9.html

Optical Services Modules

Optical services modules (OSMs) are line cards that provide high-speed WAN connectivity with onboard network processors for distributed-line-rate IP services applications. For more information about OSMs, see the following data sheets:

- Cisco 7600 Series 4-, 8-, and 16-Port OC-3c/STM-1 PoS/SDH OSM: http://www.cisco.com/en/US/products/hw/routers/ps368/products_data_sheet09186a0080092249.html
- Cisco 7600 Series 4-Port Gigabit Ethernet OSM: tp://www.cisco.com/en/US/products/hw/modules/ps2831/products_data_sheet09186a008014c5e5.html
- Cisco 7600 Series 1-Port Channelized OC-12/STM-4 to DS-3/E3 OSM: http://www.cisco.com/en/US/products/hw/routers/ps368/products_data_sheet09186a0080092250.html
- Cisco 7600 Series 1-Port OC-48c/STM-16 PoS/SDH OSM: http://www.cisco.com/en/US/products/hw/routers/ps368/products_data_sheet09186a0080092241.html
- Cisco 7600 Series 2- and 4-Port OC-12c/STM-4 PoS/SDH OSM: http://www.cisco.com/en/US/products/hw/routers/ps368/products_data_sheet09186a008009223e.html
- Cisco 7600 Series 2-Port ATM OSM: http://www.cisco.com/en/US/products/hw/routers/ps368/products_data_sheet09186a008008876f.html
- Cisco 7600 Series 2-Port OC-48c/1-Port OC-48c DPT OSM: http://www.cisco.com/en/US/products/hw/routers/ps368/products_data_sheet09186a0080088774.html

Layer 4 Through 7 Services Modules

The Cisco Catalyst 6500 Series offers an extensive set of services modules for Layer 4 through 7 applications, including content services, network monitoring, security, and telephony.

Content Services Modules

- *Content services gateway (CSG)*—Enables differentiated billing, user balance enforcement, and activity tracking for customer billing systems. For more information, visit: http://www.cisco.com/en/US/partner/products/sw/wirelssw/ps779/products_data_sheet09186a00801abf75.html
- *Content switching module (CSM)*—Integrates advanced content switching into the Cisco Catalyst 6500 Series to provide high-performance, high-availability load balancing of caches, firewalls, Web servers, and other network devices. For more information, visit: http://www.cisco.com/en/US/products/hw/modules/ps2706/products_data_sheet09186a00800887f3.html

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Network Monitoring

- *Network analysis module (NAM 1 and 2)*—Provides application-level visibility into the network infrastructure for real-time traffic analysis, performance monitoring, and troubleshooting; performs traffic monitoring with embedded Web-based traffic analyzer. For more information, visit: http://www.cisco.com/en/US/products/hw/modules/ps2706/products_data_sheet09186a00800a2c89.html

Security Services Modules

- *Firewall services module (FWSM)*—The FWSM allows any port in the chassis to operate as a firewall port and integrates stateful firewall security inside the network infrastructure. For more information, visit: http://www.cisco.com/en/US/products/hw/modules/ps2706/products_data_sheet0900aecd800fa576.html
- *Intrusion detection system module (IDSM and IDSM-2)*—Takes traffic from the switch backplane at wire speed, integrating IDS functions directly into the switch. For more information, visit: http://www.cisco.com/en/US/products/hw/switches/ps708/products_data_sheet09186a00801e55dd.html
- *IPSec VPN module (IVSM)*—Provides infrastructure-integrated IPSec VPN services capable of 1.9-Gbps Triple Data Encryption Standard (3DES) performance, 8000 active tunnels, and up to 60 tunnels per second. For more information, visit: http://www.cisco.com/en/US/products/hw/modules/ps2706/ps4221/index.html
- *SSL services module (SSM)*—Offloads processor-intensive tasks related to securing traffic, with SSL accelerating the performance and increasing the security of Web-enabled applications. For more information, visit: http://www.cisco.com/en/US/products/hw/modules/ps2706/products_data_sheet09186a00800c4fe9.html

Telephony Services Modules

- *Communications media module (CMM)*—Provides flexible, high-density T1 and E1 gateways, allowing organizations to connect their existing time-division multiplexing (TDM) networks to their IP Communications networks, and providing connectivity to the PSTN. For more information, visit: http://www.cisco.com/en/US/products/hw/modules/ps3115/ps4633/index.html

Wireless Services Modules

- *Wireless LAN services module (WLSM)*—Enables campuswide fast secure WLAN roaming within and across IP subnets, enhances WLAN security (user group segmentation and Cisco Catalyst integrated security services, for example), and simplifies WLAN deployment and management. For more information, visit: http://www.cisco.com/en/US/products/hw/switches/ps708/products_data_sheet09186a00802252b7.html

Switch Fabric Modules

Designed to support distributed forwarding for interface modules that have distributed forwarding capability, the Cisco Catalyst 6500 Series SFM or SFM2, in combination with the Cisco Catalyst 6500 Series Supervisor Engine 2-MSFC2 and DFCs on interface modules, increases available system bandwidth from 32 to 256 Gbps. The SFM/SFM2 supports the Cisco Catalyst 6500 CEF256 and dCEF256 interface modules.

Designed to support new interface modules with 720-Gbps forwarding capabilities, the Supervisor Engine 720's onboard switch fabric increases available bandwidth to 720 Gbps and enables packet forwarding rates up to 400 Mpps. By using autosensing and autonegotiation, the Supervisor Engine 720 switch fabric is fully interoperable with the 8- and 16-Gbps switch fabric interconnections used by the CEF256 and dCEF256 interface modules. When a CEF256 or dCEF256 interface module is detected, the switch fabric will automatically connect those modules by offering 8 to 16 Gbps of bandwidth to each module, as applicable.

How Cisco Express Forwarding Works

Cisco Express Forwarding is a Layer 3 technology that provides increased forwarding scalability and performance to handle the many short-duration traffic flows common in today's enterprise and service provider networks. To meet the needs of environments handling large amounts of short-flow, Web-based, or highly interactive types of traffic, Cisco Express Forwarding forwards all packets in hardware, and maintains its forwarding rate independent of the number of flows going though the switch.

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On the Cisco Catalyst 6500 Series, the Cisco Express Forwarding Layer 3 forwarding engine is located centrally on the supervisor engine's PFC2 or PFC3—the same device that performs hardware-based Layer 2 and Layer 3 forwarding, access control list (ACL) checking, QoS policing and marking, and NetFlow statistics gathering.

Using the routing table that Cisco IOS Software builds to define configured interfaces and routing protocols, the Cisco Express Forwarding architecture creates Cisco Express Forwarding tables and downloads them into the hardware forwarding engine before any user traffic is sent through the switch. The Cisco Express Forwarding architecture places only the routing prefixes in its Cisco Express Forwarding tables—the only information it requires to make the Layer 3 forwarding decisions—relying on the routing protocols to do route selection. By performing a simple Cisco Express Forwarding table lookup, the switch forwards packets at wire rate, independent of the number of flows transiting the switch.

Cisco Express Forwarding-based forwarding requirements: Requires a Cisco Catalyst Supervisor Engine 2 or Cisco Catalyst Supervisor Engine 720.

How Distributed Cisco Express Forwarding Works

With Distributed Cisco Express Forwarding, forwarding engines located on the interface modules make forwarding decisions locally and in parallel, allowing the Cisco Catalyst 6500 Series to achieve the highest forwarding rates in the industry. With Distributed Cisco Express Forwarding, forwarding occurs on the interface modules in parallel and system performance scales over 400 Mpps—the aggregate of all forwarding engines working together.

Using the same ASIC engine design as the central PFCx, DFCs located on the interface modules forward packets between two ports, directly or across the switch fabric, without involving the supervisor engine. With the DFC, each interface module has a dedicated forwarding engine complete with the full forwarding tables. Distributed Cisco Express Forwarding works like this:

- In standard Cisco Express Forwarding, the central PFCx located on the supervisor engine and the DFC engines located on the interface modules are loaded with the same Cisco Express Forwarding information derived from the forwarding table before any user traffic arrives at the switch.
- As a packet arrives at an interface module, its DFC engine inspects the packet and uses the information in the Cisco Express Forwarding table (including Layer 2, Layer 3, ACLs, and QoS) to make a completely hardware-based forwarding decision for that packet.
- The Distributed Cisco Express Forwarding engine handles all hardware-based forwarding for traffic on that module, including Layer 2 and Layer 3 forwarding, ACLs, QoS policing and marking, and NetFlow.
- Because the DFCs make all the switching decisions locally, the central PFCx can dedicate more hardware forwarding resources to any modules not equipped with a DFC.

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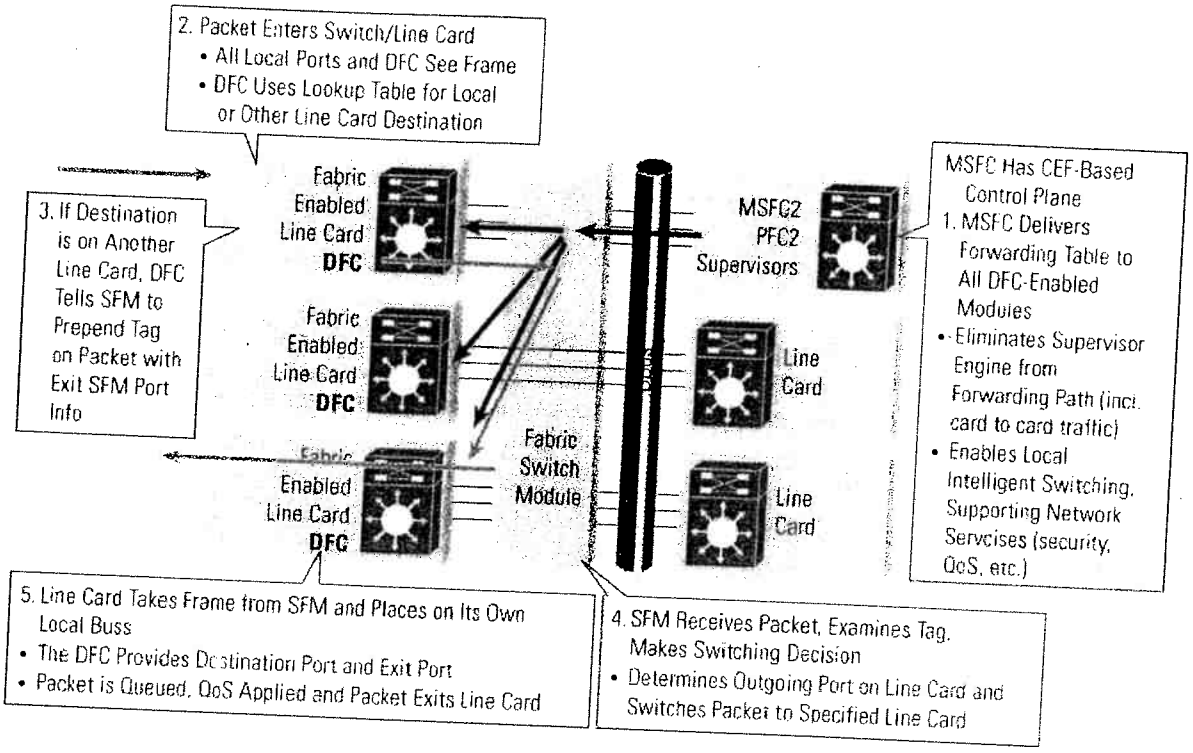
Figure 6. Distributed Cisco Express Forwarding Packet Flow



Distributed Cisco Express Forwarding-based forwarding requirements: Requires a Cisco Catalyst Supervisor Engine 720 for the dCEF720 interface module; requires either a Cisco Catalyst Supervisor Engine 720 or a Catalyst Supervisor Engine 2-MSFC2 and a SFM for the dCEF256 interface module.

Cisco IOS Software and Cisco Catalyst Operating System Software

Cisco Catalyst 6500 Series switches offer two software operating modes—the Cisco Catalyst Operating System Software with optional Cisco IOS Software on the MSFC, and Cisco IOS Software for the supervisor engines. Each operating mode can be deployed at different hierarchies of the network, depending on the network's requirements. These software solutions for Cisco Catalyst 6500 Series switches provide full, high-performance Layer 2 through 4 switching and routing functions.

Today, either of these operating modes can be deployed in an entire network environment, or the operating modes can vary within an environment to meet different requirements. One operating mode is not a replacement for another, but is recommended for varying feature requirements.

- Cisco IOS Software for the Cisco Catalyst 6500 Series
- Cisco Catalyst Operating System Software with optional Cisco IOS Software on the MSFC

Cisco IOS Software for the Cisco Catalyst 6500 and 6500-E Series

Cisco IOS Software for the Cisco Catalyst 6500 Series requires the MSFC on the supervisor engine. It provides integrated multilayer functions in a single image and is optimized for core, distribution, Internet access, and data center deployments. Combined with the performance of the Cisco Catalyst 6500 Series, Cisco IOS Software offers the necessary features for a high-performance Layer 3-enabled deployment, including support

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for a distributed architecture with the ability to scale the switch to 400 Mpps throughput. Additionally, Cisco IOS Software provides operational ease of use by offering a single image and configuration file to be deployed across Cisco Catalyst 6500 Series switches.

Cisco Catalyst Operating System Software with Optional Cisco IOS Software on the MSFC

Cisco Catalyst Operating System Software is the premier software for the wiring closet on Cisco Catalyst 6500 Series switches offering high-performance Layer 2 forwarding. It is optimized to deliver the high availability, enhanced security, and integrated inline power support necessary for mission-critical wiring closet deployments. Cisco Catalyst Operating System Software can also be extended to the distribution and core layers of the network when coupled with Cisco IOS Software on the MSFC, providing robust, advanced Layer 3 and Layer 4 functions. This operating mode is often referred to as "hybrid mode." Table 3 lists software and hardware deployment options.

Table 3. Software and Hardware Deployment Options

Network Performance	Wiring Closet	Distribution/Data Center	Core	WAN Edge
Highest-performance; Cisco IOS Software from end to end	Cisco IOS Software; Supervisor Engine 2-MSFC2; CEF256 interface modules	Cisco IOS Software; Supervisor Engine 720; dCEF720 interface modules	Cisco IOS Software; Supervisor Engine 720; dCEF720 interface modules	Cisco IOS Software; Supervisor Engine 2-MSFC2; dCEF720 interface modules
Higher-performance; mixed operating system	Cisco Catalyst Operating System Software; Supervisor Engine 2-PFC2; CEF256 and Classic interface modules	Cisco IOS Software; Supervisor Engine 2-MSFC2; dCEF256 and CEF256 interface modules	Cisco IOS Software; Supervisor Engine 720; dCEF720 interface modules	Cisco IOS Software; Supervisor Engine 2-MSFC2; dCEF256 and CEF256 interface modules
ı-performance; isco Catalyst Operating System Software from end to end	Cisco Catalyst Operating System Software; Supervisor Engine 1-2GE; CEF256 and Classic interface modules	Hybrid mode; Supervisor Engine 2-MSFC2; CEF256 and Classic interface modules	Hybrid mode; Supervisor Engine 2-MSFC2; dCEF720 Series interface modules	Hybrid mode; Supervisor Engine 2-MSFC2; CEF256 and Classic interface modules

PRODUCT SPECIFICATIONS

Cisco IOS Software and Cisco Catalyst Operating System Software Shared Features

All Cisco Catalyst 6500 Series supervisor engines, including the new Supervisor Engine 720, take advantage of the industry-leading software and management capabilities of the Cisco Catalyst 6500 Series. Customers can apply their knowledge of Cisco Catalyst Operating System Software, Cisco IOS Software, CiscoWorks, and other graphical and Web-based network management tools without the need to learn a new command-line interface (CLI) or management system.

Cisco Catalyst 6500 and 6500-E Series Chassis

Cisco Catalyst 6500 Series chassis can be deployed in the wiring closet, the distribution and core layers, the data center, and the WAN edge, providing the power and features required for end-to-end deployment for the enterprise campus, the ISP network, and metro and research computing networks.

Chassis Applications

The Cisco Catalyst 6500 Series provides 3-, 6-, 9-, and 13-slot chassis models with slots arranged horizontally, and a 9-slot model with slots arranged vertically, with front-to-back airflow. Typical applications for Cisco Catalyst 6500 Series chassis include:

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- *3-slot chassis*—Low-density, wiring-closet chassis sharing interface modules and supervisor engines with larger chassis for common sparing; low-density, high-performance specialized services module chassis for network security and management; and low-density, high-end chassis providing connectivity to the WAN edge
- *6- and 9-slot chassis*—Traditional chassis for the wiring closet, distribution and core, data center, and WAN edge. The Cisco Catalyst 6506-E and 6509-E support more than 4000W power and higher power per slot.
- *13-slot chassis*—Highest-capacity chassis for Ethernet connectivity, with slots to spare for services modules, providing network security and management.

Chassis Configuration

All Cisco Catalyst 6500 Series chassis are NEBS Level-3 compliant and use common power supplies. The 6- and 9-slot chassis require a 1000W or 1300W power supply and the 13-slot chassis requires a 2500W or 4000W power supply. The 3-slot chassis requires a 950W power supply. When ordering a Cisco Catalyst 6500 Series switch, use the online Cisco Dynamic Configuration Tool to assist you in selecting the chassis, power supplies, power cables, and fan trays that will meet your requirements. The tool is available at:

http://www.cisco.com/appcontent/apollo/configureHomeGuest.html

Power

All Cisco Catalyst 6500 chassis hold up to two load-sharing, fault-tolerant, hot-swappable AC or DC power supplies. Only one supply is required to operate a fully loaded chassis. If a second supply is installed, it operates in a load-sharing capacity. The power supplies are hot-swappable—a failed power supply can be removed without powering off the system.

Cisco Catalyst 6500 Series switch power supplies are available in the following power ratings (Table 4):

- 950W AC input (Cisco Catalyst 6503 and 6503-E chassis)
- 1400W AC input (Cisco Catalyst 6503 and 6503-E chassis)
- 1000W AC input
- 1300W AC and DC input
- 2500W AC and DC input
- 3000W AC input
- 4000W AC input

Tables 4 through 7 provide information about power supplies, fan trays, and chassis dimensions and weights for the Cisco Catalyst 6500 Series.

Table 4. Power Supplies Available for Cisco Catalyst 6500 Series Switches

Power Supply	AC Input Voltage/Current	DC Input Voltage/Current
950W	100 to 240 VAC (±10% for full range) 15A Cisco Catalyst 6503 and 6503-E ONLY	-48 to –60 VDC continuous 38A @ -48 VDC 30A @ -60 VDC
1400W	100 to 240 VAC (±10% for full range) 20A Cisco Catalyst 6503 and 6503-E ONLY	Not supported
1000W	100 to 240 VAC (±10% for full range) 12A @ 100 VAC 6A @ 240 VAC Not supported with Supervisor Engine 720 or Cisco Catalyst 6513	Not supported

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Power Supply	AC Input Voltage/Current	DC Input Voltage/Current
	100 to 240 VAC (±10% for full range)	
1300W (EOS 07/31/05)	17.25A @ 100 VAC 8A @ 200 VAC Not supported with Supervisor Engine 720 or Cisco Catalyst 6513	-48 to -60 VDC continuous 38 A @ -48 VDC 30 A @ -60 VDC
2500W	100 to 120 VAC, 200 to 240 VAC (±10 percent for full range) 16A maximum at 200 VAC at 2500W output 16A maximum at 100 VAC at 1300W output	-48 to -60 VDC continuous 80A @ -40.5 VDC 70A @ -48 VDC 55A @ -60 VDC
3000W	100 to 120 VAC, 200 to 240 VAC (±10% for full range) 16A maximum at 200 VAC at 3000W output 16A maximum at 100 VAC at 1450W output	Not supported
4000W	100 to 240 VAC (±10% for full range) 23A	-48 to -60 VDC continuous 80A @ -40.5 VDC 70A @ -48 VDC 55A @ -60 VDC

Table 5. Cisco Catalyst 6500 Chassis Fan Tray Part Numbers

Cisco Catalyst 6500 Chassis	Fan Tray Part Number	High-Speed Fan—Fan Tray Part Number
6503	FAN-MOD-3	FAN-MOD-3-HS
6503-E	N/A	WS-C6503-E-FAN
6506	WS-C6K-6SLOT-FAN	WS-C6K-6SLOT-FAN2
6506-E	N/A	WS-C6506-E-FAN
6509	WS-C6K-6SLOT-FAN	WS-C6K-9SLOT-FAN2
6509-E	N/A	WS-C6509-E-FAN
6509-NEB	WS-C6509-NEB-FAN	For existing 6509-NEB chassis: • For DC: WS-6509-NEB-UPGRD= • For AC: WS-6509-NEB-UPGRD= plus WS-CAC-3000W=
6509-NEB-A	N/A	FAN-MOD-09
6513	WS-C6K-13SLOT-FAN	WS-C6K-13SLOT-FAN2

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Table 6. Cisco Catalyst 6500 Series Chassis Dimensions

Dimension	6503	6503-E	6506	6506-E	6509	6509-E	6509-NEB	6509-NEB-A	6513
H x W x D (In.)	7 x 17.37 x 21.75	7 x 17.37 x 21.75	20.1 x 17.2 x 18.2	19.2 x 17.5 x 18.2	25.3 x 17.2 x 18.2	24.5 x 17.5 x 18.2	33.3 x 17.2 x 18.1	36.65 x 17.20 x 20.32	33.3 x 17.3 x 18.1
H x W x D (cm)	17.8 x 44.1 x 55.2	17.8 x 44.1 x 55.2	51.1 x 43.7 x 46.0	48.8 x 44.5 x 46.0	64.0 x 43.7 x 46.0	62.2 x 44.5 x 46.0	84.6 x 43.7 x 46.0	93.09 x 43.68 x 51.61	84.6 x 43.7 x 46.0
Rack units (RU); 1.75 in., 4.4 cm	4 RU	4 RU	12 RU	12 RU	15 RU	15 RU	20 RU	21 RU	20 RU

Table 7. Cisco Catalyst 6500 Series Chassis Weights

Weight	6503	6503-E	6506	6506-E	6509	6509-E	6509-NEB	6509-NEB-A	6513
Chassis only (lb)	27 lb	33 lb	45 lb	50 lb	55 lb	60 lb	55 lb	121 lb	98 lb
Fully configured (lb)	75 lb	80 lb	153 lb	159 lb	184 lb	190 lb	194.5 lb	270 lb	280 lb
Chassis only (kg)	12.3 kg	15 kg	20.6 kg	22.7 kg	24.9 kg	27.3 kg	24.9 kg	54.88 kg	45 kg
Fully configured (kg)	34 kg	36.4 kg	69.6 kg	72.3 kg	83.7 kg	86.4 kg	88.4 kg	122.47 kg	127.3 kg

ering Information

Table 8. Cisco Catalyst 6500 Series Chassis Part Numbers

Part Number	Chassis
WS-C6503	Cisco Catalyst 6503 chassis (three slots)
WS-C6503-E	Enhanced Cisco Catalyst 6503 chassis (three slots)
WS-C6506	Cisco Catalyst 6506 chassis (six slots)
WS-C6506-E	Enhanced Cisco Catalyst 6506 chassis (six slots)
WS-C6509	Cisco Catalyst 6509 chassis (nine slots)
WS-C6509-E	Enhanced Catalyst 6509 chassis (nine slots)
WS-C6509-NEB	Cisco Catalyst 6509-NEB chassis (nine vertically oriented slots)
WS-C6509-NEB-A	Enhanced Cisco Catalyst 6509-NEB chassis (nine vertically oriented slots)
WS-C6513	Cisco Catalyst 6513 chassis (13 slots)

Environmental Conditions

Table 9. Cisco Catalyst 6500 and 6500-E Series Chassis Environmental Conditions

Parameter	Performance Range
Operating temperature	32 to 104°F (0 to 40°C)
Storage temperature	−4 to 149°F (−20 to 65°C)
Relative humidity	10 to 90%, noncondensing

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Parameter	Performance Range
Operating altitude	3000 meters
Mean time between failure (MTBF)	7 years for system configuration

Regulatory Compliance

Safety

- UL 1950
- EN 60950
- CSA-C22.2 no. 950
- IEC 60950
- AS/NZA 3260
- 21 CFR 1040
- EN 60825-1
- IEC 60825-1
- TS 001

EMC

- FCC (CFR 47, Part 15) Class A
- VCCI
- CE Marking
- EN 55022
- EN 55024
- CISPR 22
- AS/NZS 3548
- NEBS Level 3 (GR-1089-CORE, GR-63-CORE)
- ETSI ETS-300386-2

Table 10. Cisco Catalyst 6500 and 6500-E Series Specifications

Specification	Number	Description
IEEE Compliance		
802.1		
	802.1d	Bridging
	802.1p, q	VLAN tagging
	802.1s	Per-VLAN Group Spanning Tree Protocol
	802.1w	RSTP
	802.1x	IBNS – Identity Based Networking Services
802.3		
	802.3	10BASE-T, 10BASE-FL
	802.3ad	Link aggregation
	802.3ab	1000BASE-T
	802.3ae	10 Gigabit Ethernet

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Specification	Number	Description
	802.3af	PoE
	802.3u	100BASE-TX, 100BASE-FX
	802.3x	Flow control
	802.3z	1000BASE-SX, 1000BASE-LX
RFC Compliance		
ATM	1483, 2584	Protocol encapsulation over ATM Adaptation Level 5 (AAL-5)
		ATM permanent virtual circuit (PVC) to 802.1q tagging
Border Gateway Protocol (BGP)	1269	Definitions of managed objects for BGP Version 3 (BGP3)
	1745	BGP/Open Shortest Path First (OSPF) interactions
	1771	BGP4
	1965	BGP4 autonomous system confederations
	1966	BGP4 route reflection
	1997	Communities attribute
	2385	Transmission Control Protocol (TCP) Message Digest Algorithm 5 (MD5) authentication for BGP
	2439	Route flap dampening
	2796	Route reflection
	2842	Capabilities advertisement
General routing protocols	768	User Datagram Protocol (UDP)
	783	Trivial File Transfer Protocol (TFTP)
	791	IP
	792	Internet Control Message Protocol (ICMP)
	793	TCP
	826	Address Resolution Protocol (ARP)
	854	Telnet
	894	IP over Ethernet
	903	Reverse Address Resolution Protocol (RARP)
	906	TFTP Bootstrap
	951, 1542	BOOTP, BOOTP extensions
	1027	Proxy ARP
	1122	Host requirements
	1256	ICMP Router Discovery Protocol (IRDP) IPv4 router discovery
	1519	Classless interdomain routing (CIDR)
	1541	Dynamic Host Control Protocol (DHCP)
	1591	Domain Name System (DNS) client
	1619	PPP over SONET
	1662	PPP HDLC-like framing

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Specification	Number	Description
	1812	IPv4
	2131	BOOTP/DHCP
	2338	VRRP
	1552	Internetwork Packet Exchange Routing Information Protocol/Service Advertising Protocol (IPX RIP/SAP)
IP Multicast	1112	Internet Group Management Protocol (IGMP)
	1122	Host extensions, Distance Vector Multicast Routing Protocol (DVMRP)
	2236	IGMP v1, v2, v3
		IGMP v1, v2, v3 snooping
	2283	Multicast Border Gateway Protocol (MBGP)
	2362	Protocol-Independent Multicast (PIM)-SM
	1075	DVMRP v3-07
		Multicast Source Discovery Protocol (MSDP)
	Draft	PIM-Dense Mode (PIM-DM)
	Draft	Bidirectional PIM (Supervisor Engine 720 only)
Intermediate System to Intermediate System (IS-IS)	1195	TCP
	1377	PPP
	2763	Dynamic host name exchange
	2966	Domainwide prefixes
Label Switched Path tunnels	2211	Controlled load network element service
	2702	Traffic engineering over MPLS
MPLS	2547	MPLS VPN
	2961	Resource Reservation Protocol (RSVP) refresh
	3031	MPLS architecture
	3032	MPLS label stack encoding
	3036	Label Distribution Protocol (LDP)
OSPF	1583	OSPFv2
	1587	OSPF NSSA
	1745	OSPF interactions
	1765	OSPF database overflow
	1850	OSPFv2 Management Information Base (MIB), traps
	1997	Communities and attributes
	2154	OSPF digital signatures, MD5
	2178	OSPFv2 (superceded by RFC 2328)
	2328	OSPF v2
	2370	OSPF opaque link-state advertisement (LSA) option

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Specification	Number	Description
	2385	TCP M5
	2439	Route flap damping
	2842	Capabilities advertisement
	2918	Route refresh capability
RIP	1058	RIPv1
	1723	RIPv2
	2453	RIPv2
Miscellaneous protocols	1866	HTML
	2030	Simple Network Time Protocol (SNTP) Version 4 for IPv4, IPv6, and Open Systems Interconnection (OSI)
	2068	HTTP
Denial of service (DoS) protection	2267	Network ingress filtering
		ACLs: wire-speed
		ICMP and IP-option control
		IP broadcast forwarding control
		Rate limiting using ACLs
		Unicast Reverse Path Forwarding (RPF)
		Server load balancing with Layer 3 and Layer 4 protection
		SYN attack protection
		Session control
Network management	782	VLAN Trunking Protocol (VTP)
	783	TFTP
	854	Telnet
	951	BOOTP
	1155	Structure of Management Information (SMIv1)
	1156	TCP/IP MIB
	1157	Simple Network Management Protocol (SNMP)v1
	1212	MIB definitions
	1213	SNMP MIB II
	1215	SNMP traps
	1256	ICMP router discovery
	1285	Station management (SMT) 7.3
	1354	IP forwarding table MIB
	1493	Bridge MIB
	1516	Ethernet repeater MIB
	1573	Interface table MIB
	1643	Ethernet MIB

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Specification

Number	Description
1650	Ether-like MIB
1657	BGPv4 MIB
1724	RIPv2 MIB
1757	Remote Monitoring (RMON) MIB
1850	OSPFv2 MIB
1901, 1907	SNMPv2c
1908	SNMPv1/v2 coexistence
2021	RMON2 probes
2037	ENTITY-MIB
2096	IP forwarding
2233	Interface MIB
2613	RMON analysis for switched networks (SMON) MIB
2668	802.3 media attachment unit (MAU) MIB
2787	VRRP MIB
2925	Ping/Traceroute/NS Lookup MIB
	Sampled NetFlow
	999 local messages
	BSD Syslog with multiple servers
	Configuration logging
	CISCO-CDP-MIB
	CISCO-COPS-CLIENT-MIB
	Cisco Discovery Protocol
	CISCO-ENTITY-FRU-CONTROL-MIB
	CISCO-PAGP-MIB
	CISCO-STACK-MIB
	CISCO-STP-Extensions-MIB
	Cisco Traffic Director Software
	CISCO-UDLDP-MIB
	CiscoView
	CISCO-VLAN-Bridge-MIB
	Cisco VLAN Director Software
	CISCO-VLAN-Membership-MIB
	CISCO-VTP-MIB
	Cisco Workgroup MIB
	SPAN and Remote SPAN (RSPAN)
	HSRP
	HC-RMON

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Specification	Number	Description
		HTML/HTTP management
		NetFlow v1 export
		RMON HP Open View
		SMON-MIB
		Standard Cisco IOS Software security capabilities: passwords and TACACS+
		Telnet client
		Telnet management
		Text-based CLI
		Web-based GUI management tools (CiscoWorks)
Security	1492	TACACS+
	2138	RADIUS authentication
		ACLs for Layers 2, 3, 4, and 7
		Access profiles on all routing protocols
		Access profiles on all management methods
		Media Access Control (MAC) address security/lockdown
		Network Address Translation (NAT)
		Network login (including DHCP/RADIUS integration)
		RADIUS accounting
		RADIUS per-command authentication
		Secure Copy Protocol (secure file transfer)

SERVICE AND SUPPORT

Cisco offers a wide range of services programs to accelerate customer success. These innovative services programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you to protect your network investment, optimize network operations, and prepare the network for new applications to extend network intelligence and the power of your business. For more information about Cisco Services, see Cisco Technical Support Services or Cisco Advanced Services.

FOR MORE INFORMATION

For more information about the Cisco Catalyst 6500 Series Switch, contact your local account representative or visit:

http://www.cisco.com/en/US/products/hw/switches/ps708/index.html

Additional Cisco Catalyst 6500 Series Information

For additional information about the following data sheets that describe Cisco Catalyst 6500 Series, supervisor engines, interface modules, SFM, and services modules, visit:

http://www.cisco.com/en/US/products/hw/switches/ps708/products_data_sheets_list.html

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Cisco Catalyst 6500 Software

- Cisco Catalyst OS
- Cisco IOS Software Release 12.2X Train
- Cisco IOS Software Release 12.1E Train
- Cisco Catalyst 6500 General Software Information
- Using RSPAN with VACLs for Granular Traffic Analysis

Supervisors and Switch Fabric Modules

- Cisco Catalyst 6500 Series Supervisor Engine 720 Data Sheet
- Cisco Catalyst 6500 Series Supervisor Engine 1A and Supervisor Engine 2 Data Sheet
- Cisco Catalyst 6500 Series Switch Fabric Interface Modules Data Sheet

Modules

- Cisco Catalyst 6500 Series 10 Gigabit Ethernet Interface Modules Data Sheet
- Cisco Catalyst 6500 Series Gigabit Ethernet Interface Modules Data Sheet
- Cisco Catalyst 6500 Series 10/100 and 10/100/1000 Ethernet Interface Modules Data Sheet

Layer 4 Through 7 Modules

- Cisco Catalyst 6500 Series Communication Media Module
- Cisco Catalyst 6000 Family Voice T1 and Services Module
- Cisco Catalyst 6500 Cisco Content Switching Module
- Cisco Content Services Gateway
- Cisco Catalyst 6500 Series Firewall Services Module
- Cisco Catalyst 6500 Series IDS Module (IDSM-2)
- IPSec VPN Services Module for the Cisco Catalyst 6500 Series Switch and Cisco 7600 Series Router
- Cisco Multiprocessor WAN Application Mode
- Cisco Catalyst 6500 Series NAM (NAM-1/NAM-2)
- Cisco Persistent Storage Device
- SSL Services Module for the Cisco Catalyst 6500 Series and Cisco 7600 Series
- Cisco Catalyst 6500 Series Wireless LAN Services Module

FlexWAN, Optical Services Modules, and ATM

- Cisco 7600 Series/Catalyst 6500 Series Optical Services Modules
- Cisco 7600 Series/Catalyst 6500 Series Enhanced FlexWAN Module
- FlexWAN Module for the Cisco Catalyst 6500 Series and Cisco 7600 Series
- New High-Speed ATM LANE/MPOA Modules

GBIC, SFP, XENPAK Optics

- Cisco 10GBASE XENPAK Modules
- Cisco Small Form-factor Pluggable (SFP)
- Cisco Gigabit Interface Converter (GBIC)
- Cisco Coarse Wavelength-Division Multiplexing (CWDM) GBIC/SFP
- Cisco Dense Wavelength-Division Multiplexing (DWDM) GBIC

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DATA SHEET

CISCO CATALYST 3750 SERIES SWITCHES

The Cisco® Catalyst® 3750 Series switches are innovative switches that improve LAN operating efficiency by combining industry-leading ease of use and the highest resiliency available for stackable switches. This product series represents the next generation in desktop switches, and features Cisco StackWise™ technology, a 32-Gbps stack interconnect that allows customers to build a unified, highly resilient switching system—one switch at a time.

Figure 1. Cisco Catalyst 3750 Series Switches for 10/100 and 10/100/1000 Access and Aggregation

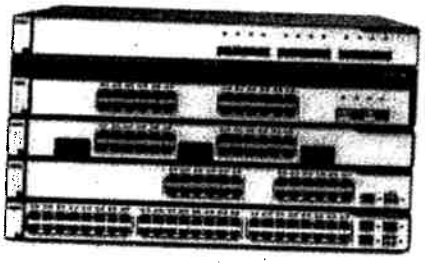
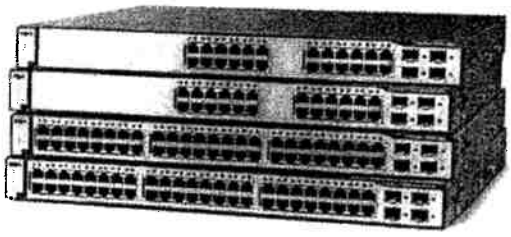


Figure 2. Cisco Catalyst 3750-24PS and Cisco Catalyst 3750-48PS Switches with IEEE 802.3af Power

Figure 3. Cisco Catalyst 3750-16TD Switch

Figure 4. Cisco Catalyst 3750G-48TS Switch, Cisco Catalyst 3750G-48PS Switch with IEEE 802.3af Power, Cisco Catalyst 3750G-24TS-1U Switch, and Cisco Catalyst 3750G-24PS Switch with IEEE 802.3af Power



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PRODUCT OVERVIEW

For midsized organizations and enterprise branch offices, the Cisco Catalyst 3750 Series eases deployment of converged applications and adapts to changing business needs by providing configuration flexibility, support for converged network patterns, and automation of intelligent network-services configurations. In addition, the Cisco Catalyst 3750 Series is optimized for high-density Gigabit Ethernet deployments and includes a diverse range of switches that meet access, aggregation, or small-network backbone-connectivity requirements.

CONFIGURATIONS

The Cisco Catalyst 3750 Series includes the following configurations:

- Cisco Catalyst 3750G-24TS—24 Ethernet 10/100/1000 ports and 4 Small Form-Factor Pluggable (SFP) uplinks
- Cisco Catalyst 3750G-24T—24 Ethernet 10/100/1000 ports
- Cisco Catalyst 3750G-12S—12 Gigabit Ethernet SFP ports
- Cisco Catalyst 3750-48TS—48 Ethernet 10/100 ports and 4 SFP uplinks
- Cisco Catalyst 3750-24TS—24 Ethernet 10/100 ports and 2 SFP uplinks
- Cisco Catalyst 3750-48PS—48 Ethernet 10/100 ports with IEEE 802.3af and Cisco prestandard Power over Ethernet (PoE) and 4 SFP uplinks
- Cisco Catalyst 3750-24PS—24 Ethernet 10/100 ports with IEEE 802.3af and Cisco prestandard PoE and 2 SFP uplinks
- Cisco Catalyst 3750G-16TD—16 Gigabit Ethernet 10/100/1000 ports and one 10 Gigabit Ethernet XENPAK uplink
- Cisco Catalyst 3750G-24TS-1U—24 Ethernet 10/100/1000 ports and 4 SFP uplinks, 1-rack unit (RU) height
- Cisco Catalyst 3750G-24PS—24 Ethernet 10/100/1000 ports with IEEE 802.3af and Cisco prestandard PoE and 4 SFP uplinks
- Cisco Catalyst 3750G-48TS—48 Ethernet 10/100/1000 ports and 4 SFP uplinks
- Cisco Catalyst 3750G-48PS—48 Ethernet 10/100/1000 ports with IEEE 802.3af and Cisco prestandard PoE and 4 SFP uplinks

Cisco Catalyst 3750 Series is available in the Standard Multilayer Software Image (SMI) or the Enhanced Multilayer Software Image (EMI). The SMI feature set includes advanced quality of service (QoS), rate-limiting, access control lists (ACLs), and basic static and Routing Information Protocol (RIP) routing capability. The EMI provides a richer set of enterprise-class features including advanced hardware-based IP unicast and multicast routing.

Cisco StackWise Technology—A New Standard in Stackable Resiliency

Cisco StackWise technology is a premium stacking architecture optimized for Gigabit Ethernet. This technology is designed to respond to additions, deletions, and redeployment while maintaining constant performance. Cisco StackWise technology unites up to nine individual Cisco Catalyst 3750 switches into a single logical unit, using special stack-interconnect cables and stacking software. The stack behaves as a single switching unit that is managed by a master switch elected from one of the member switches. The master switch automatically creates and updates all the switching and optional routing tables. A working stack can accept new members or delete old ones without service interruption.

KEY FEATURES AND BENEFITS

Ease of Use—"Plug-and-Play" Configuration

A working stack is self-managing and self-configuring. When switches are added or removed, the master switch automatically loads the Cisco IOS® Software version running on the stack to the new switch, loads the global configuration parameters, and updates all the routing tables to reflect changes. Upgrades are applied universally and simultaneously to all members of the stack.

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The Cisco Catalyst 3750 Series stacks up to nine switches as a single logical unit for a total of 468 Ethernet or PoE 10/100 ports, or 468 Ethernet 10/100/1000 ports or PoE 10/100/1000 ports, or nine 10 Gigabit Ethernet ports. Individual 10/100, 10/100/1000, and 10 Gigabit Ethernet units may be joined in any combination to evolve with network needs.

Return on Investment through Lower Operations Costs

The automatic Cisco IOS Software version checking and loading of the global configuration parameters provide the first level of operational time saving. The second level is added during the event of an outage. When you remove a troubled switch from an existing stack of switches, and replace it with another switch, the master switch will recognize this as a maintenance outage and automatically reload the port-level configuration that was on the previous switch without user intervention. This allows IT managers to have local personnel in remote locations perform maintenance tasks instead of sending costly technicians out for a few minutes of work, thus saving thousands of dollars in operational costs.

Mix-and-Match Switch Types—Pay as You Expand Your Network

Stacks can be created with any combination of Cisco Catalyst 3750 switches. Customers who need a mixture of 10/100 and 10/100/1000 ports, PoE, and wiring-closet aggregation capability can incrementally develop the access environment, paying only for what they need. When uplink capacity needs to be increased, you can easily upgrade your bandwidth by adding a 10 Gigabit Ethernet version to the stack and upgrade your 1 Gigabit Ethernet links with 10 Gigabit Ethernet on the existing fiber.

Availability—Uninterrupted Performance at Layer 2 and Layer 3

The Cisco Catalyst 3750 Series increases availability for stackable switches. Each switch can operate both as master controller and forwarding processor. Each switch in the stack can serve as a master, creating a 1:N availability scheme for network control. In the unlikely event of a single unit ure, all other units continue to forward traffic and maintain operation.

Smart Multicast—A New Level of Efficiency for Converged Networks

With Cisco StackWise technology, the Cisco Catalyst 3750 Series offers greater efficiency for multicast applications such as video. Each data packet is put onto the backplane only once, which provides more effective support for more data streams.

Superior Quality of Service—Across the Stack and at Wire Speed

The Cisco Catalyst 3750 Series offers Gigabit Ethernet speed with intelligent services that keep everything flowing smoothly—even at 10 times the normal network speed. Industry-leading mechanisms for marking, classification, and scheduling deliver best-in-class performance for data, voice, and video traffic—all at wire speed.

Network Security—Granular Control for the Access Environment

The Cisco Catalyst 3750 Series supports a comprehensive set of security features for connectivity and access control, including ACLs, authentication, port-level security, and identity-based network services with 802.1x and extensions. This set of comprehensive features not only helps prevent external attacks, but defends the network against "man-in-the-middle" attacks, a primary concern in today's business environment.

Single IP Management—Many Switches, One Address

Each Cisco Catalyst 3750 Series stack is managed as a single object and has a single IP address. Single IP management is supported for activities such as fault detection, VLAN creation and modification, network security, and QoS controls.

Jumbo Frames—Support for High-Demand Applications

The Cisco Catalyst 3750 Series supports jumbo frames on the 10/100/1000 configurations for advanced data and video applications requiring very frames.

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The Catalyst 3750 Series supports IPv6 routing in hardware for maximum performance. As network devices grow and the need for larger addressing and higher security become critical, the Catalyst 3750 Series will be ready to meet the requirement.

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Standard PoE Support—Graceful Addition of IP Communications

The Cisco Catalyst 3750 and 3750G PoE models support Cisco IP phones and Cisco Aironet® wireless LAN (WLAN) access points, as well as any IEEE 802.3af-compliant end device. The Catalyst 3750 and 3750G 24-port versions can support 24 simultaneous full-powered PoE ports at 15.4 watts (W) for maximum powered device support. The 48-port versions can deliver the necessary power to support 24 ports at 15.4W, 48 ports at 7.7W, or any combination in between.

10 Gigabit Ethernet Support—Increase Uplink Bandwidth for Gigabit Ethernet Deployments

The Cisco Catalyst 3750 Series allows network managers to incrementally add IEEE 802.3ae compliant 10 Gigabit Ethernet connectivity in their wiring closets or GRID clusters, further facilitating and enhancing Gigabit Ethernet networks. This provides investment protection to customers who wish to use their existing fiber plant, add uplink bandwidth capacity to their switching stacks, and who want to provide higher performance to applications and users.

Management Options

The Cisco Catalyst 3750 Series (Figure 5) offers both a superior command-line interface (CLI) for detailed configuration and Cisco Network Assistant Software, a Web-based tool for quick configuration based on preset templates. In addition, CiscoWorks supports the Catalyst 3750 Series for networkwide management. Table 1 lists the features and benefits of the Catalyst 3750 Series.

Figure 5. Cisco Catalyst 3750 Series Switches

Table 1. Features and Benefits

Feature	Benefit
Ease of use and deployment	• Autoconfiguration of new stack units eliminates reconfiguration. • Dynamic Host Configuration Protocol (DHCP) autoconfiguration of multiple switches through a boot server eases switch deployment. • Automatic Cisco IOS Software version checking and updating helps ensure that all stack members have the same software version. • Automatic QoS (AutoQoS) simplifies QoS configuration in voice over IP (VoIP) networks by issuing interface and global switch commands to detect Cisco IP phones, classify traffic, and help enable egress queue configuration. • Master configuration management helps ensure that all switches are automatically upgraded when the master switch receives a new software version. • Autosensing on each non-SFP port detects the speed of the attached device and automatically configures the port for 10-, 100-, or 1000-Mbps operation, easing switch deployment in mixed 10, 100, and 1000BASE-T

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Feature	Benefit
	environments. • Autonegotiating on all ports automatically selects half- or full-duplex transmission mode to optimize bandwidth. • Dynamic Trunking Protocol (DTP) facilitates dynamic trunk configuration across all switch ports. • Port Aggregation Protocol (PAgP) automates the creation of Cisco Fast EtherChannel® groups or Gigabit EtherChannel groups to link to another switch, router, or server. • Link Aggregation Control Protocol (LACP) allows the creation of Ethernet channeling with devices that conform to IEEE 802.3ad. This feature is similar to Cisco EtherChannel technology and PAgP. • DHCP Relay allows a DHCP relay agent to broadcast DHCP requests to the network DHCP server. • IEEE 802.3z-compliant 1000BASE-SX, 1000BASE-LX/LH, 1000BASE-ZX, 1000BASE-T, and CWDM physical-interface support through a field-replaceable SFP module provides unprecedented flexibility in switch deployment. • To help ensure that the switch can be quickly connected to the network and can pass traffic with minimal user intervention, there is a default configuration stored in Flash memory. • Automatic media-dependent interface crossover (MDIX) automatically adjusts transmit and receive pairs if an incorrect cable type (cross-over or straight-through) is installed.
AVAILABILITY AND SCALABILITY	
Superior redundancy for ult backup	• 1:N master redundancy allows each stack member to serve as a master, providing the highest reliability for forwarding. • Cisco CrossStack UplinkFast (CSUF) technology provides increased redundancy and network resiliency through fast spanning-tree convergence (less than 2 seconds) across a switch stack with Cisco StackWise technology. • Cross-Stack EtherChannel provides the ability to configure Cisco EtherChannel technology across different members of the stack for high resiliency. • IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) provides rapid spanning-tree convergence independent of spanning-tree timers and also offers the benefit of distributed processing. • Stacked units behave as a single spanning-tree node. • Per-VLAN Rapid Spanning Tree (PVRST+) allows rapid spanning-tree reconvergence on a per-VLAN spanning-tree basis, without requiring the implementation of spanning-tree instances. • Cisco Hot Standby Router Protocol (HSRP) is supported to create redundant, failsafe routing topologies. • Unidirectional Link Detection Protocol (UDLD) and Aggressive UDLD allow unidirectional links caused by incorrect fiber-optic wiring or port faults to be detected and disabled on fiber-optic interfaces. • Switch-port autorecovery (errdisable) automatically attempts to reenable a link that is disabled because of a network error. • Cisco RPS 675 Redundant Power System support provides superior power-source redundancy for up to 6 Cisco networking devices, resulting in improved fault tolerance and network uptime. • Equal-cost routing for load balancing and redundancy. • Bandwidth aggregation up to 16 Gbps through 10 Gigabit EtherChannel technology, 8 Gbps through Gigabit EtherChannel technology, and up to 800 Mbps through Fast EtherChannel technology enhances fault tolerance and offers higher-speed aggregated bandwidth between switches and to routers and individual servers.

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Feature	Benefit
	• Uplink bandwidth can be easily upgraded by adding a 10 Gigabit Ethernet version to a wiring-closet stack and replacing the 1 Gigabit Ethernet uplinks with 10 Gigabit Ethernet without having to change fiber pairs.
High-performance IP routing	• Cisco Express Forwarding hardware routing architecture delivers extremely high-performance IP routing. • Basic IP unicast routing protocols (static, Routing Information Protocol Version 1 [RIPv1], and RIPv2) are supported for small-network routing applications. • IPv6 routing support in hardware for maximum performance in the future. • Advanced IP unicast routing protocols (Open Shortest Path First [OSPF], Interior Gateway Routing Protocol [IGRP], Enhanced IGRP [EIGRP], and Border Gateway Protocol Version 4 [BGPv4]) are supported for load balancing and constructing scalable LANs. Enhanced Multilayer Software Image (EMI) is required. • Policy-based routing (PBR) allows superior control by facilitating flow redirection regardless of the routing protocol configured. EMI is required. • HSRP provides dynamic load balancing and failover for routed links, up to 32 HSRP links supported per unit or stack. • Inter-VLAN IP routing for full Layer 3 routing between 2 or more VLANs. • Protocol Independent Multicast (PIM) for IP multicast routing is supported, including PIM sparse mode (PIM-SM), PIM dense mode (PIM-DM), and PIM sparse-dense mode. EMI is required. • Distance Vector Multicast Routing Protocol (DVMRP) tunneling interconnects 2 multicast-enabled networks across nonmulticast networks. EMI is required. • Fallback bridging forwards non-IP traffic between 2 or more VLANs. EMI is required. • Routing is possible across the stack. • 128 switch virtual interfaces (SVIs) are recommended. Maximum of 1000 are supported (depending on the number of routes and multicast entries). 468 routed ports are supported per stack.
Integrated Cisco IOS Software features for bandwidth optimization	• Per-port broadcast, multicast, and unicast storm control prevents faulty end stations from degrading overall systems performance. • IEEE 802.1d Spanning Tree Protocol support for redundant backbone connections and loop-free networks simplifies network configuration and improves fault tolerance. • PVST+ allows for Layer 2 load sharing on redundant links to efficiently use the extra capacity inherent in a redundant design. • IEEE 802.1s Multiple Spanning Tree Protocol allows a spanning-tree instance per VLAN, for Layer 2 load sharing on redundant links. • Equal-cost routing facilitates Layer 3 load balancing and redundancy across the stack. EMI is required. • Local Proxy Address Resolution Protocol (ARP) works in conjunction with Private VLAN Edge to minimize broadcasts and maximize available bandwidth. • VLAN1 minimization allows VLAN1 to be disabled on any individual VLAN trunk link. • VLAN Trunking Protocol (VTP) pruning limits bandwidth consumption on VTP trunks by flooding broadcast traffic only on trunk links required to reach the destination devices. • Internet Group Management Protocol (IGMP) snooping provides fast client joins and leaves of multicast streams and limits bandwidth-intensive video traffic to only the requestors. • Multicast VLAN Registration (MVR) continuously sends multicast streams in a multicast VLAN while isolating the streams from subscriber VLANs for bandwidth and security reasons. • Up to 12 EtherChannel groups are supported per stack.

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Feature	Benefit
Scalable stacking	• Cisco StackWise stacking creates a 32-Gbps switch interconnection. Stacking does not require user ports. Up to 9 units can be stacked together for a maximum of 468 10/100 ports, 468 10/100/1000 ports, 108 optical aggregation ports, nine 10 Gigabit Ethernet ports, or any mix thereof.
QOS AND CONTROL	
Advanced QoS	• Cross-stack QoS allows QoS to be configured across the entire stack. • 802.1p class of service (CoS) and differentiated services code point (DSCP) field classification are provided, using marking and reclassification on a per-packet basis by source and destination IP address, source and destination MAC address, or Layer 4 Transmission Control Protocol/User Datagram Protocol (TCP/UDP) port number. • Cisco control-plane and data-plane QoS ACLs on all ports help ensure proper marking on a per-packet basis. • 4 egress queues per port help enable differentiated management of up to 4 traffic types across the stack. • Shaped Round Robin (SRR) scheduling helps ensure differential prioritization of packet flows by intelligently servicing the ingress queues and egress queues. • Weighted Tail Drop (WTD) provides congestion avoidance at the ingress and egress queues before a disruption occurs. • Strict priority queuing helps ensure that the highest-priority packets are serviced ahead of all other traffic. • There is no performance penalty for highly granular QoS capability.
Granular rate limiting	• Cisco committed information rate (CIR) function provides bandwidth in increments as low as 8 Kbps. • Rate limiting is provided based on source and destination IP address, source and destination MAC address, Layer 4 TCP/UDP information, or any combination of these fields, using QoS ACLs (IP ACLs or MAC ACLs), class maps, and policy maps. • Asynchronous data flows upstream and downstream from the end station or on the uplink are easily managed using ingress policing and egress shaping. • Up to 64 aggregate or individual policers are available per Fast Ethernet or Gigabit Ethernet port.
NETWORK SECURITY	
Networkwide security features	• IEEE 802.1x allows dynamic, port-based security, providing user authentication. • IEEE 802.1x with VLAN assignment allows a dynamic VLAN assignment for a specific user regardless of where the user is connected. • IEEE 802.1x with voice VLAN permits an IP phone to access the voice VLAN irrespective of the authorized or unauthorized state of the port. • IEEE 802.1x and port security are provided to authenticate the port and manage network access for all MAC addresses, including that of the client. • IEEE 802.1x with an ACL assignment allows for specific identity-based security policies regardless of where the user is connected. • IEEE 802.1x with guest VLAN allows guests without 802.1x clients to have limited network access on the guest VLAN. • Cisco security VLAN ACLs on all VLANs prevent unauthorized data flows from being bridged within VLANs. • Cisco standard and extended IP security router ACLs define security policies on routed interfaces for control-plane and data-plane traffic. • Port-based ACLs for Layer 2 interfaces allow security policies to be applied on individual switch ports.

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Feature	Benefit
	• Secure Shell (SSH) Protocol, Kerberos, and Simple Network Management Protocol Version 3 (SNMPv3) provide network security by encrypting administrator traffic during Telnet and SNMP sessions. SSH Protocol, Kerberos, and the cryptographic version of SNMPv3 require a special cryptographic software image because of U.S. export restrictions. • Private VLAN Edge provides security and isolation between switch ports, which helps ensure that users cannot snoop on other users' traffic. • Dynamic ARP Inspection helps ensure user integrity by preventing malicious users from exploiting the insecure nature of the ARP protocol. • DHCP Snooping prevents malicious users from spoofing a DHCP server and sending out bogus addresses. This feature is used by other primary security features to prevent a number of other attacks such as ARP poisoning. • IP source guard prevents a malicious user from spoofing or taking over another user's IP address by creating a binding table between client's IP and MAC address, port, and VLAN. • Bidirectional data support on the Switched Port Analyzer (SPAN) port allows Cisco Intrusion Detection System (IDS) to take action when an intruder is detected. • TACACS+ and RADIUS authentication facilitate centralized control of the switch and restrict unauthorized users from altering the configuration. • MAC address notification allows administrators to be notified of users added to or removed from the network. • DHCP Snooping helps administrators with consistent mapping of IP to MAC addresses. This can be used to prevent attacks that attempt to poison the DHCP binding database, and to rate-limit the amount of DHCP traffic that enters a switch port. • Port security secures the access to an access or trunk port based on MAC address. • After a specific timeframe, the aging feature removes the MAC address from the switch to allow another device to connect to the same port. • Trusted boundary provides the ability to trust the QoS priority settings if an IP phone is present and to disable the trust setting in the event that the IP phone is removed, thereby preventing a malicious user from overriding prioritization policies in the network. • Multilevel security on console access prevents unauthorized users from altering the switch configuration. • The user-selectable address-learning mode simplifies configuration and enhances security. • Bridge protocol data unit (BPDU) guard shuts down Spanning Tree PortFast-enabled interfaces when BPDUs are received to avoid accidental topology loops. • Spanning Tree Root Guard (STRG) prevents edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes. • IGMP filtering provides multicast authentication by filtering out nonsubscribers and limits the number of concurrent multicast streams available per port. • Dynamic VLAN assignment is supported through implementation of VLAN Membership Policy Server client capability to provide flexibility in assigning ports to VLANs. Dynamic VLAN facilitates the fast assignment of IP addresses. • Cisco CMS Software security wizards ease the deployment of security features for restricting user access to a server as well as to a portion or all of the network. • 1000 access control entries (ACEs) are supported.

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Feature	Benefit
MANAGEABILITY	
Superior manageability	• Cisco IOS CLI support provides common user interface and command set with all Cisco routers and Cisco Catalyst desktop switches. • Service Assurance Agent support facilitates service-level management throughout the LAN. • Switching Database Manager templates for access, routing, and VLAN deployment allow the administrator to easily maximize memory allocation to the desired features based on deployment-specific requirements. • VLAN trunks can be created from any port, using either standards-based 802.1Q tagging or the Cisco Inter-Switch Link (ISL) VLAN architecture. • Up to 1005 VLANs per switch or stack and up to 128 Spanning-Tree instances per switch are supported. • 4000 VLAN IDs are supported. • Voice VLAN simplifies telephony installations by keeping voice traffic on a separate VLAN for easier administration and troubleshooting. • Cisco VLAN Trunking Protocol (VTP) supports dynamic VLANs and dynamic trunk configuration across all switches. • Cisco Group Management Protocol server functions allow a switch to serve as the Cisco Group Management Protocol router for client switches. EMI is required. • IGMP snooping provides fast client joins and leaves of multicast streams and limits bandwidth-intensive video traffic to only the requestors. • Remote Switch Port Analyzer (RSPAN) allows administrators to remotely monitor ports in a Layer 2 switch network from any other switch in the same network. • For enhanced traffic management, monitoring, and analysis, the Embedded Remote Monitoring (RMON) software agent supports 4 RMON groups (history, statistics, alarms, and events). • Layer 2 traceroute eases troubleshooting by identifying the physical path that a packet takes from source to destination. • All 9 RMON groups are supported through a SPAN port, which permits traffic monitoring of a single port, a group of ports, or the entire stack from a single network analyzer or RMON probe. • Domain Name System (DNS) provides IP-address resolution with user-defined device names. • Trivial File Transfer Protocol (TFTP) reduces the cost of administering software upgrades by downloading from a centralized location. • Network Timing Protocol (NTP) provides an accurate and consistent timestamp to all intranet switches. • Multifunction LEDs per port for port status; half-duplex and full-duplex mode; and 10BASE-T, 100BASE-TX, and 1000BASE-T indication as well as switch-level status LEDs for system, redundant-power supply, and bandwidth utilization provide a comprehensive and convenient visual management system. • SPAN works across all the ports in a stack.
Cisco Network Assistant Software	• Cisco Network Assistant Software provides an easy-to-use, Web-based management interface through a standard Web browser. • Cisco AVVID (Architecture for Voice, Video and Integrated Data) wizards need just a few user inputs to automatically configure the switch to optimally manage different types of traffic: voice, video, multicast, and high-priority data. • A security wizard is provided to restrict unauthorized access to applications, servers, and networks. • Cisco Network Assistant Software allows management of up to 16 interconnected Cisco Catalyst 3750,

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Feature	Benefit
	Catalyst 3550, Catalyst 3500 XL, Catalyst 2950, Catalyst 2950 LRE, Catalyst 2900 XL, Catalyst 2900 LRE XL, and Catalyst 1900 series switches through a single IP address, without the limitation of being physically located in the same wiring closet. Full backward compatibility helps ensure any combination of these switches can be managed with a Cisco Catalyst 3750 Series Switch. • The cluster software upgrade feature allows 1-click software upgrade across an entire cluster of Cisco Catalyst 3750, Catalyst 3550, Catalyst 2950, Catalyst 2950 LRE, Catalyst 3500 XL, Catalyst 2900 XL, Catalyst 2900 LRE XL, and Catalyst 1900 series switches. Configuration cloning facilitates rapid deployment of networks. The master switch automatically upgrades each stack. • Cisco Network Assistant Software has been extended to include multilayer feature configurations such as routing protocols, ACLs, and QoS parameters. • Cisco clustering now supports member discovery and cluster creation across a single Cisco Catalyst 3750 Series switch routed hop, allowing the entire LAN to be managed through a single Web interface (and with a single IP address, if desired). • Cisco Network Assistant Software Guide Mode assists in the configuration of powerful advanced features by providing step-by-step instructions. • Cisco Network Assistant Software provides enhanced online help for context-sensitive assistance. • The easy-to-use graphical interface provides both a topology map and front-panel view of the cluster and stacks. • Multidevice and multiport configuration capabilities allow administrators to save time by configuring features across multiple switches and ports simultaneously. • Web-based management for a Cisco Aironet wireless access point is launched by clicking the relevant icon in the topology map. • The user-personalized interface allows modification of polling intervals, table views, and other settings within Cisco CMS Software and retains these settings. • Alarm notification provides automated e-mail notification of network errors and alarm thresholds.
Smartports	• Simple macros help enable advanced QoS features with one command instead of multiple commands in the configuration file.
Easy Web setup	• Web-browser setup utility allows 1-click initialization for IP addresses and passwords.
CiscoWorks support	• CiscoWorks network-management software provides management capabilities on a per-port and per-switch basis, providing a common management interface for Cisco routers, switches, and hubs. Stacking is supported. • SNMPv1, v2c, and v3 and Telnet interface support delivers comprehensive in-band management, and a CLI-based management console provides detailed out-of-band management. • Cisco Discovery Protocol versions 1 and 2 help enable a CiscoWorks network-management station for automatic switch discovery. • The CiscoWorks 2000 LAN Management Solution provides support.

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PRODUCT SPECIFICATIONS

Table 2 lists product specifications for the Cisco Catalyst 3750 Series.

Table 2. Descriptions and Specifications

Description	Specification
Performance	• 32-Gbps maximum forwarding bandwidth at Layer 2 and Layer 3 switching fabric • Stack-forwarding rate of 38.7 mpps for 64-byte packets • Forwarding rate: 6.5 mpps (Cisco Catalyst 3750-24TS and Catalyst 3750-24PS), 13.1 mpps (Catalyst 3750-48TS and Catalyst 3750-48PS), 17.8 mpps (Catalyst 3750G-12S), 35.7 mpps (Catalyst 3750G-24T), 38.7 mpps (Catalyst 3750G-24TS), 35.7 mpps (Catalyst 3750G-16TD), 38.7 mpps (Catalyst 3750G-24TS-1U), 38.7 mpps (Catalyst 3750G-24PS), 38.7 mpps (Catalyst 3750G-48TS), 38.7 mpps (Catalyst 3750G-48PS) • 128 MB DRAM and 16 MB Flash memory (Cisco Catalyst 3750G-24TS, Catalyst 3750G-24T, Catalyst 3750G-12S, Catalyst 3750-24TS, Catalyst 3750-24PS, Catalyst 3750-48TS, Catalyst 3750-48PS, and Catalyst 3750G-16TD) • 128 MB DRAM and 32 MB Flash memory (Cisco Catalyst 3750G-24TS-1U, Catalyst 3750G-24PS, Catalyst 3750G-48TS, Catalyst 3750G-48PS) • Configurable up to 12,000 MAC addresses (Cisco Catalyst 3750G-24TS, Catalyst 3750G-24T, Catalyst 3750G-12S, Catalyst 3750-24TS, Catalyst 3750-24PS, Catalyst 3750-48TS, Catalyst 3750-48PS, Catalyst 3750G-24TS-1U, Catalyst 3750G-24PS, Catalyst 3750G-48TS, Catalyst 3750G-48PS, and Catalyst 3750G-16TD) • Configurable up to 20,000 unicast routes (Cisco Catalyst 3750G-12S) and up to 11,000 unicast routes (Catalyst 3750G-24TS, Catalyst 3750G-24T, Catalyst 3750-24TS, Catalyst 3750-24PS, Catalyst 3750-48TS, Catalyst 3750-48PS, Catalyst 3750G-24TS-1U, Catalyst 3750G-24PS, Catalyst 3750G-48TS, Catalyst 3750G-48PS, and Catalyst 3750G-16TD) • Configurable up to 1000 IGMP groups and multicast routes (Cisco Catalyst 3750G-24TS, Catalyst 3750G-24T, Catalyst 3750G-12S, Catalyst 3750-24TS, Catalyst 3750-24PS, Catalyst 3750-48TS, Catalyst 3750-48PS, Catalyst 3750G-24TS-1U, Catalyst 3750G-24PS, Catalyst 3750G-48TS, Catalyst 3750G-48PS, and Catalyst 3750G-16TD) • Configurable maximum transmission unit (MTU) of up to 9000 bytes, with a maximum Ethernet frame size of 9018 bytes (jumbo frames) for bridging on Gigabit Ethernet ports, and up to 1546 bytes for bridging and routing on Fast Ethernet ports
Connectors and Cabling	• 10BASE-T ports: RJ-45 connectors, 2-pair Category 3 (Cat-3), 4, or 5 unshielded twisted-pair (UTP) cabling • 100BASE-TX ports: RJ-45 connectors, 2-pair Cat-5 UTP cabling • 1000BASE-T ports: RJ-45 connectors, 2-pair Cat-5 UTP cabling • 1000BASE-T SFP-based ports: RJ-45 connectors, 2-pair Cat-5 UTP cabling • 1000BASE-SX, -LX/LH, -ZX, and CWDM SFP-based ports: LC fiber connectors (single-mode, or multimode fiber) • 10GBASE-ER XENPAK-based port (single-mode) • 10GBASE-LR XENPAK-based port (single-mode) • 10GBASE-SR XENPAK-based port (multimode) • 10GBASE-LX4 XENPAK-based port (multimode) • 10GBASE-CX4 XENPAK-based port (Infiniband copper) • Cisco StackWise stacking ports: copper-based Cisco StackWise cabling

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Description	Specification
Power Connectors	• Management console port: RJ-45-to-DB9 cable for PC connections • Customers can provide power to a switch by using either the internal power supply or the Cisco RPS 675. The connectors are located at the back of the switch. • Internal Power Supply Connector • The internal power supply is an autoranging unit. • The internal power supply supports input voltages between 100 and 240 VAC. • Use the supplied AC power cord to connect the AC power connector to an AC power outlet. • Cisco RPS Connector • The connector offers connection for an optional Cisco RPS 675 that uses AC input and supplies DC output to the switch. • The connector offers a 675W redundant power system (RPS) that supports up to 6 external network devices and provides power to 1 failed device at a time. • The connector automatically senses when the internal power supply of a connected device fails and provides power to the failed device, preventing loss of network traffic. • Only the Cisco RPS 675 (model PWR675-AC-RPS-N1=) should be attached to the redundant-power-supply receptacle.
Indicators	• Per-port status LEDs: link integrity, disabled, activity, speed, and full-duplex indications • System-status LEDs: system, RPS, and bandwidth-utilization indications
Dimensions	• 2.59 x 17.5 x 11.6 in. (6.59 x 44.5 x 29.5 cm) (Cisco Catalyst 3750G-24TS) • 1.73 x 17.5 x 12.83 in. (4.39 x 44.5 x 32.6 cm) (Cisco Catalyst 3750G-24T) • 1.73 x 17.5 x 12.83 in. (4.39 x 44.5 x 32.6 cm) (Cisco Catalyst 3750G-12S) • 1.73 x 17.5 x 11.83 in. (4.39 x 44.5 x 30.1 cm) (Cisco Catalyst 3750-48TS) • 1.73 x 17.5 x 11.83 in. (4.39 x 44.5 x 30.1 cm) (Cisco Catalyst 3750-24TS) • 1.73 x 17.5 x 14.83 in. (4.39 x 44.5 x 37.7 cm) (Cisco Catalyst 3750-48PS) • 1.73 x 17.5 x 11.83 in. (4.39 x 44.5 x 30.1 cm) (Cisco Catalyst 3750-24PS) • 1.73 x 17.5 x 16.1 in. (4.39 x 44.5 x 40.9 cm) (Cisco Catalyst 3750G-16TD) • 1.73 x 17.5 x 14.9 in. (4.39 x 44.5 x 37.8 cm) (Cisco Catalyst 3750G-24TS-1U) • 1.73 x 17.5 x 14.9 in. (4.39 x 44.5 x 37.8 cm) (Cisco Catalyst 3750G-24PS) • 1.73 x 17.5 x 16.1 in. (4.39 x 44.5 x 40.9 cm) (Cisco Catalyst 3750G-48TS) • 1.73 x 17.5 x 16.1 in. (4.39 x 44.5 x 40.9 cm) (Cisco Catalyst 3750G-48PS)
Weight (H x W x D)	• 12.5 lb (5.68 kg) (Cisco Catalyst 3750G-24TS) • 10.0 lb (4.55 kg) (Cisco Catalyst 3750G-24T, Catalyst 3750G-12S) • 9.1 lb (4.1 kg) (Cisco Catalyst 3750-48TS) • 8.0 lb (3.6 kg) (Cisco Catalyst 3750-24TS) • 13.2 lb (5.987 kg) (Cisco Catalyst 3750-48PS) • 11.3 lb (5.25 kg) (Cisco Catalyst 3750-24PS) • 12.5 lb (5.68 kg) (Cisco Catalyst 3750G-16TD) • 12 lb (5.5 kg) (Cisco Catalyst 3750G-24TS-1U) • 13.5 lb (6.1 kg) (Cisco Catalyst 3750G-24PS) • 14 lb (6.4 kg) (Cisco Catalyst 3750G-48TS) • 15.5 lb (7 kg) (Cisco Catalyst 3750G-48PS)
/ironmental Ranges	• Operating temperature: 32 to 113°F (0 to 45°C)

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Description	Specification
	• Storage temperature: –13 to 158°F (–25 to 70°C) • Operating relative humidity: 10 to 85% (noncondensing) • Operating altitude: Up to 10,000 ft (3049 m) • Storage altitude: Up to 15,000 ft (4573 m)
Acoustic Noise	• International Organization for Standardization (ISO) 7779: bystander position operating to an ambient temperature of 30°C
Non-PoE models -	• Cisco Catalyst 3750G-24TS: 42 dB • Cisco Catalyst 3750G-24T: 42 dB • Cisco Catalyst 3750G-12S: 42 dB • Cisco Catalyst 3750-48TS: 42 dB • Cisco Catalyst 3750-24TS: 42 dB • Cisco Catalyst 3750G-16TD: 42 dB • Cisco Catalyst 3750G-48TS: 48 dB • Cisco Catalyst 3750G-24TS-1U: 42 dB
PoE models—(levels increase with amount of active PoE ports)	• Cisco Catalyst 3750-48PS: 42–48 dB • Cisco Catalyst 3750-24PS: 38–42 dB • Cisco Catalyst 3750G-48PS: 52–58 dB • Cisco Catalyst 3750G-24PS: 38–44 dB
Mean Time Between Failure (MTBF)	• 188,574 hours (Cisco Catalyst 3750G-24TS) • 210,936 hours (Cisco Catalyst 3750G-24T) • 215,000 hours (Cisco Catalyst 3750G-12S) • 217,824 hours (Cisco Catalyst 3750-48TS) • 294,928 hours (Cisco Catalyst 3750-24TS) • 166,408 hours (Cisco Catalyst 3750-48PS) • 209,170 hours (Cisco Catalyst 3750-24PS) • 184,422 hours (Cisco Catalyst 3750G-16TD) • 165,243 hours (Cisco Catalyst 3750G-48TS) • 141,005 hours (Cisco Catalyst 3750G-48PS) • 221,150 hours (Cisco Catalyst 3750G-24TS-1U) • 182,373 hours (Cisco Catalyst 3750G-24PS)

Table 3 lists the power specifications for the Cisco Catalyst 3750 Series.

Table 3. Power Specifications

Description	Specification
Power Consumption	• 190W (maximum), 650 Btus per hour (Cisco Catalyst 3750G-24TS) • 165W (maximum), 536 Btus per hour (Cisco Catalyst 3750G-24T) • 120W (maximum), 409 Btus per hour (Cisco Catalyst 3750G-12S) • 50W (maximum), 171 Btus per hour (Cisco Catalyst 3750-24TS) • 75W (maximum), 256 Btus per hour (Cisco Catalyst 3750-48TS) • 495W (maximum), 426 Btus per hour (Cisco Catalyst 3750-24PS)

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Description	Specification
	• 540W (maximum), 580 Btus per hour (Cisco Catalyst 3750-48PS)
	• 180W (maximum), 615 Btus per hour (Cisco Catalyst 3750G-16TD)
	• 100W (maximum), 314 Btus per hour (Cisco Catalyst 3750G-24TS-1U)
	• 170W (maximum), 534 Btus per hour (Cisco Catalyst 3750G-24PS)
	• 160W (maximum), 500 Btus per hour (Cisco Catalyst 3750G-48TS)
	• 220W (maximum), 690 Btus per hour (Cisco Catalyst 3750G-48PS)
AC Input Voltage and Frequency	• 100–240 VAC, 3.0–1.5A, 50–60 Hz (Cisco Catalyst 3750G-24TS)
	• 100–240 VAC, 3.0–1.5A, 50–60 Hz (Cisco Catalyst 3750G-24T)
	• 100–240 VAC, 3.0–1.5A, 50–60 Hz (Cisco Catalyst 3750G-12S)
	• 100–240 VAC, 3.0–1.5A, 50–60 Hz (Cisco Catalyst 3750-24TS)
	• 100–240 VAC, 3.0–1.5A, 50–60 Hz (Cisco Catalyst 3750-48TS)
	• 100–240 VAC, 8.0–4.0A, 50–60 Hz (Cisco Catalyst 3750-24PS)
	• 100–240 VAC, 8.0–4.0A, 50–60 Hz (Cisco Catalyst 3750-48PS)
	• 100–240 VAC, 3.0–1.5A, 50–60 Hz (Cisco Catalyst 3750G-16TD)
	• 100–240 VAC, 3.0–1.5A, 50–60 Hz (Cisco Catalyst 3750G-24TS-1U)
	• 100–240 VAC, 8.0–4.0A, 50–60 Hz (Cisco Catalyst 3750G-24PS)
	• 100–240 VAC, 3.0–1.5A, 50–60 Hz (Cisco Catalyst 3750G-48TS)
	• 100–240 VAC, 8.0–4.0A, 50–60 Hz (Cisco Catalyst 3750G-48PS)
DC Input Voltages	• RPS input
	• +12V at 17A (Cisco Catalyst 3750G-24TS and Catalyst 3750G-16TD)
	• +12V at 13A (Cisco Catalyst 3750G-24T and Catalyst 3750G-12S)
	• +12V at 8.5A (Cisco Catalyst 3750-48 and Catalyst 3750-24)
	• +12V at 7.5A (Cisco Catalyst 3750-48PS and Catalyst 3750-24PS)
	• +12V at 10.5A (Cisco Catalyst 3750G-24TS-1U)
	• +12V at 17.5A (Cisco Catalyst 3750G-48TS)
	• +12V at 14A (Cisco Catalyst 3750G-48PS and Catalyst 3750G-24PS)

Table 4 lists the management and standards support for the Cisco Catalyst 3750 Series.

Table 4. Management and Standards

Description	Specification
Management	• BRIDGE-MIB
	• CISCO-CDP-MIB
	• CISCO-CLUSTER-MIB
	• CISCO-CONF-MAN-MIB
	• CISCO-ENTITY-FRU-CONTROL-MIB
	• CISCO-ENVMON-MIB
	• CISCO-FLASH-MIB
	• CISCO-FTP-CLIENT-MIB
	• CISCO-HSRP-MIB
	• CISCO-HSRP-EXT-MIB
	• CISCO-IGMP-FILTER-MIB

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Description	Specification
	• CISCO-IMAGE-MIB • CISCO-L2L3-INTERFACE-CONFIG-MIB • CISCO-MAC-NOTIFICATION-MIB • CISCO-MEMORY-POOL-MIB • CISCO-PAGP-MIB • CISCO-PING-MIB • CISCO-PROCESS-MIB • CISCO-RTTMON-MIB • CISCO-STACK-MIB • CISCO-STACKMAKER-MIB • CISCO-STP-EXTENSIONS-MIB • CISCO-SYSLOG-MIB • CISCO-TCP-MIB • CISCO-VLAN-IFTABLE-RELATIONSHIP-MIB • CISCO-VLAN-MEMBERSHIP-MIB • CISCO-VTP-MIB • ENTITY-MIB • ETHERLIKE-MIB • IF-MIB • IGMP-MIB • IPMROUTE-MIB • OLD-CISCO-CHASSIS-MIB • OLD-CISCO-FLASH-MIB • OLD-CISCO-INTERFACES-MIB • OLD-CISCO-IP-MIB • OLD-CISCO-SYS-MIB • OLD-CISCO-TCP-MIB • OLD-CISCO-TS-MIB • OSPF-MIB (RFC 1253) • PIM-MIB • RFC1213-MIB • RFC1253-MIB • RMON-MIB • RMON2-MIB • SNMP-FRAMEWORK-MIB • SNMP-MPD-MIB • SNMP-NOTIFICATION-MIB • SNMP-TARGET-MIB • SNMPv2-MIB • TCP-MIB • UDP-MIB
ındards	• IEEE 802.1s

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Description	Specification
	• IEEE 802.1w • IEEE 802.1x • IEEE 802.3ad • IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX, and 1000BASE-T ports • IEEE 802.1D Spanning Tree Protocol • IEEE 802.1s • IEEE 802.1w • IEEE 802.1x • IEEE 802.3ad • IEEE 802.3ae • IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX, and 1000BASE-T ports • IEEE 802.1D Spanning Tree Protocol

Table 5 lists the safety and compliance information for the Cisco Catalyst 3750 Series.

Table 5. Safety and Compliance

Description	Specification
Safety Certifications	• UL to UL 60950, Third Edition • C-UL to CAN/CSA C22.2 No. 60950-00, Third Edition • TUV/GS to EN 60950:2000 • CB to IEC 60950 with all country deviations • NOM to NOM-019-SCFI • CE Marking
Electromagnetic Emissions Certifications	• FCC Part 15 Class A • EN 55022: 1998 (CISPR22) • EN 55024: 1998 (CISPR24) • VCCI Class A • AS/NZS 3548 Class A • CE • CNS 13438 Class A • MIC
Telco	• CLEI code
Warranty	• Limited lifetime warranty

SERVICE AND SUPPORT

Cisco Systems® is committed to minimizing total cost of ownership (TCO). Cisco offers a portfolio of Technical Support Services to help ensure that Cisco products operate efficiently, remain highly available, and benefit from the most up-to-date system software. The services and support programs described in Table 6 are available as part of the Cisco Desktop Switching Service and Support solution, and are available directly from Cisco and through resellers.

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Table 6. Service and Support

Service and Support	Features	Benefits
Advanced Services		
Cisco Total Implementation Solutions (TIS), available directly from Cisco Cisco Packaged TIS, available through resellers	• Project management • Site survey, configuration, and deployment • Installation, text, and cutover • Training • Major moves, adds, and changes • Design review and product staging	• Supplement existing staff • Help ensure functions meet needs • Mitigate risk
Cisco SMARTnet® support and SMARTnet Onsite support, available directly from Cisco Cisco Packaged SMARTnet support, available through resellers	• 24-hour access to software updates • Web access to technical repositories • Telephone support through the Cisco Technical Assistance Center (TAC) • Advance replacement of hardware parts	• Facilitate proactive or expedited issue resolution • Lower TCO by taking advantage of Cisco expertise and knowledge • Minimize network downtime

ORDERING INFORMATION

Table 7 lists the ordering information for the Cisco Catalyst 3750 Series. To place an order, visit the Cisco Ordering Home Page at http://www.cisco.com/en/US/ordering/or13/or8/order_customer_help_how_to_order_listing.html.

Table 7. Ordering Information

Part Number	Description
WS-C3750G-24TS-E	• 24 Ethernet 10/100/1000 ports and 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1.5-rack unit (RU) stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • EMI installed • Full dynamic IP routing
WS-C3750G-24TS-S	• 24 Ethernet 10/100/1000 ports and 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1.5-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • Standard Multilayer Software Image (SMI) installed • Basic Routing Information Protocol (RIP) and static routing, upgradable to full dynamic IP routing
WS-C3750G-24T-E	• 24 Ethernet 10/100/1000 ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • EMI installed

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Part Number	Description
WS-C3750G-24T-S	• Full dynamic IP routing • 24 Ethernet 10/100/1000 ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • SMI installed
WS-C3750G-12S-E	• Basic RIP and static routing, upgradable to full dynamic IP routing • 12 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable multilayer switch • Enterprise-class intelligent services delivered to the network edge
WS-C3750G-12S-S	• EMI installed provides full dynamic IP routing • 12 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 rack unit (RU) stackable multilayer switch • Enterprise-class intelligent services delivered to the network edge • SMI installed
WS-C3750-48PS-E	• SMI provides basic RIP and static routing, upgradable to full dynamic IP routing • 48 Ethernet 10/100 ports with IEEE 802.3af and Cisco prestandard PoE and 4 SFP uplinks • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • EMI installed
WS-C3750-48PS-S	• Full dynamic IP routing • 48 Ethernet 10/100 ports with IEEE 802.3af and Cisco prestandard PoE and 4 SFP uplinks • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • SMI installed
WS-C3750-48TS-E	• Basic RIP and static routing, upgradable to full dynamic IP routing • 48 Ethernet 10/100 ports and 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • EMI installed
	• Full dynamic IP routing

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Part Number	Description
WS-C3750-48TS-S	• 48 Ethernet 10/100 ports and 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • SMI installed
WS-C3750-24PS-E	• Basic RIP and static routing, upgradable to full dynamic IP routing • 24 Ethernet 10/100 ports with IEEE 802.3af and Cisco prestandard PoE and 2 SFP uplinks • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • EMI installed
WS-C3750-24PS-S	• Full dynamic IP routing • 24 Ethernet 10/100 ports with IEEE 802.3af and Cisco prestandard PoE and 2 SFP uplinks • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • SMI installed
WS-C3750-24TS-E	• Basic RIP and static routing, upgradable to full dynamic IP routing • 24 Ethernet 10/100 ports and 2 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • EMI installed
WS-C3750-24TS-S	• Full dynamic IP routing • 24 Ethernet 10/100 ports and 2 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • SMI installed
WS-C3750G-16TD-E	• Basic RIP and static routing, upgradable to full dynamic IP routing • Sixteen 10/100/1000 Gigabit Ethernet ports and one 10 Gigabit Ethernet XENPAK port • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable multilayer switch • Enterprise-class intelligent services delivered to the network edge • EMI installed provides full dynamic IP routing • IEEE 802.3ae 10 Gigabit Ethernet port is 1.25:1 oversubscribed

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Part Number	Description
WS-C3750G-16TD-S	• Sixteen 10/100/1000 Gigabit Ethernet ports and one 10 Gigabit Ethernet XENPAK port • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable multilayer switch • Delivers enterprise-class intelligent services to the network edge • SMI installed provides basic RIP and static routing, upgradable to full dynamic IP routing • IEEE 802.3ae 10 Gigabit Ethernet port is 1.25:1 oversubscribed
WS-C3750G-24TS-E1U	• 24 Ethernet 10/100/1000 ports and 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • EMI installed • Full IP routing with BGPv4, EIGRP, OSPF, and PIM
WS-C3750G-24TS-S1U	• 24 Ethernet 10/100/1000 ports and 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • SMI installed • Basic RIP and static routing, upgradable to full dynamic IP routing
WS-C3750G-24PS-E	• 24 Ethernet 10/100/1000 ports with IEEE 802.3af and Cisco prestandard PoE and 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • EMI installed • Full IP routing with BGP-4, EIGRP, OSPF, PIM
WS-C3750G-24PS-S	• 24 Ethernet 10/100/1000 ports with IEEE 802.3af and Cisco prestandard PoE and 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • SMI installed • Basic RIP and static routing, upgradable to full dynamic IP routing
WS-C3750G-48TS-E	• 48 Ethernet 10/100/1000 ports and 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge

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Part Number	Description
WS-C3750G-48TS-S	• EMI installed • Full IP routing with BGPv4, EIGRP, OSPF, PIM • 48 Ethernet 10/100/1000 ports and 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • SMI installed
WS-C3750G-48PS-E	• Basic RIP and static routing, upgradable to full dynamic IP routing • 48 Ethernet 10/100/1000 with IEEE 802.3af and Cisco prestandard PoE ports and 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • EMI installed
WS-C3750G-48PS-S	• Full IP routing with BGPv4, EIGRP, OSPF, PIM • 48 Ethernet 10/100/1000 with IEEE 802.3af and Cisco prestandard PoE ports and 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1-RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • SMI installed • Basic RIP and static routing, upgradable to full dynamic IP routing
PWR675-AC-RPS-N1=	• Cisco RPS 675 Redundant Power System with 1 connector cable
CAB-RPS-1614=	• 1.2 meter cable for Cisco RPS 675 to external device connection
CD-3750G-EMI=	• EMI upgrade kit for standard versions of the Catalyst 3750G-24TS, Catalyst 3750G-24T, Catalyst 3750G-24TS-1U, Catalyst 3750G-24PS, and Catalyst 3750G-12S switches • Provides advanced IP routing
CD-3750G-48EMI=	• EMI upgrade kit for standard versions of the Catalyst 3750G-48TS and Catalyst 3750G-48PS switches • Provides advanced IP routing
CD-3750-EMI=	• EMI upgrade kit for standard versions of the Catalyst 3750-48TS and Catalyst 3750-24TS switches • Provides advanced IP routing
CAB-STACK-50CM=	• Cisco StackWise 50-cm stacking cable
CAB-STACK-1M=	• Cisco StackWise 1-m stacking cable
CAB-STACK-3M=	• Cisco StackWise 3-m stacking cable

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Part Number	Description
RCKMNT-3550-1.5RU=	• Spare rack-mount kit for the Cisco Catalyst 3750G-24TS
RCKMNT-1RU=	• Spare rack-mount kit for the Catalyst 3750-24TS, Catalyst 3750-48TS, Catalyst 3750G-24T
RCKMNT-REC-1.5RU=	• 1.5-RU recessed rack-mount kit for the Catalyst 2970, Catalyst 3550, Catalyst 3750
RCKMNT-REC-1RU=	• 1-RU recessed rack-mount kit for the Catalyst 2970, Catalyst 3550, Catalyst 3750
GLC-LH-SM=	• GE SFP, LC connector, LH transceiver
GLC-SX-MM=	• GE SFP, LC connector, SX transceiver
GLC-ZX-SM=	• GE SFP, LC connector, ZX transceiver
GLC-T=	• GE SFP, RJ-45 connector, 10/100/1000BASE-T transceiver
CWDM-SFP-1470=	• Cisco CWDM SFP 1470 nm; GE and 1G/2G FC (Grey)
CWDM-SFP-1490=	• Cisco CWDM SFP 1490 nm; GE and 1G/2G FC (Violet)
CWDM-SFP-1510=	• Cisco CWDM SFP 1510 nm; GE and 1G/2G FC (Blue)
CWDM-SFP-1530=	• Cisco CWDM SFP 1530 nm; GE and 1G/2G FC (Green)
CWDM-SFP-1550=	• Cisco CWDM SFP 1550 nm; GE and 1G/2G FC (Yellow)
CWDM-SFP-1570=	• Cisco CWDM SFP 1570 nm; GE and 1G/2G FC (Orange)
WDM-SFP-1590=	• Cisco CWDM SFP 1590 nm; GE and 1G/2G FC (Red)
CWDM-SFP-1610=	• Cisco CWDM SFP 1610 nm; GE and 1G/2G FC (Brown)
XENPAK-10GB-CX4	• 10GBASE-CX4, up to 15 m over 26 gauge Infiniband cable
XENPAK-10GB-LX4	• 10GBASE-LX4, up to 300 m over 62.5/200 MHz per km, multimode fiber
XENPAK-10GB-SR	• 10GBASE-SR, up to 300 m over 50/2000 MHz per km or 33 m over 62.5/200 MHz per km
XENPAK-10GB-LR	• 10GBASE-LR, up to 10 km single mode fiber; WAN PHY
XENPAK-10GB-ER	• 10GBASE-ER, up to 40 km single-mode fiber; WAN PHY
CSS5-CABLX-LCSC=	• CSS11500 10-m single-mode fiber, LX LC-to-SC connectors
CSS5-CABSX-LC=	• CSS11500 10-m multimode fiber, SX LC connectors
CSS5-CABSX-LCSC=	• CSS11500 10-m multimode fiber, SX LC-to-SC connectors
CAB-SM-LCSC-1M	• 1-m single-mode fiber, LC-to-SC connectors
CAB-SM-LCSC-5M	• 5-m single-mode fiber, LC-to-SC connectors
CAB-MCP-LC=	• Mode-conditioning patch cable; LC connector
CAB-INF-28G-SH	• Short-haul Infiniband CX4 copper XENPAK cable
CAB-INF-28G-5	• 5-m Infiniband CX4 copper XENPAK cable
CAB-INF-28G-10	• 10-m Infiniband CX4 copper XENPAK cable
CAB-INF-26G-15	• 15-m Infiniband CX4 copper XENPAK cable

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SERVICE AND SUPPORT

For more information about the Cisco Catalyst 3750 Series visit http://www.cisco.com/en/US/products/hw/switches/ps5023/index.html or contact your local account representative.

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Cisco Systems

Data Sheet

Cisco **7200** Series Router

The Cisco 7200 Series Router delivers exceptional performance/price, modularity, and scalability in a compact form factor with a wide range of deployment options. With processing speeds up to 1 million packets per second, port adapters ranging from NxDS0 to OC-12, and an unparalleled number of high-touch IP services, the Cisco 7200 is the ideal WAN edge device for enterprises and service providers deploying any of the following solutions:

- *WAN edge*—Award-winning quality-of-service (QoS) feature performance
- *Broadband aggregation*—Up to 8,000 Point-to-Point Protocol (PPP) sessions per chassis
- *Multiprotocol Label Switching provider edge (MPLS PE)*—Number one choice for provider edge deployment today
- *Voice/video/data integration*— Time-division multiplexer (TDM)-enabled VXR chassis and voice port adapters
- *IP Security virtual private networking (IPSec VPN)*—Scalable to 5,000 tunnels per chassis
- High-end customer premises equipment (CPE)
- The Cisco 7200 addresses these solution requirements by integrating functions previously performed by separate devices into a single platform. Through this integration, the Cisco 7200 provides a single, cost-effective platform that supports:
- High-density LAN and WAN interfaces
- Broadband subscriber services aggregation, including PPP, RFC 1483 termination, and Layer 2 Tunneling Protocol (L2TP) tunneling
- Digital T1/E1 TDM trunk termination for voice, video, and data
- High-density multichannel T3/E3 and T1/E1 with integrated channel service unit/data service unit (CSU/DSU)
- ATM, Packet over SONET (POS), and Dynamic Packet Transport (DPT) connectivity
- Direct ATM Circuit Emulation Standard (CES) connectivity for voice, video, and data
- Direct IBM mainframe channel connectivity
- Light-density Layer 2 Ethernet switching

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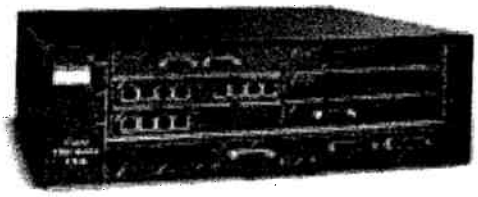
Figure 1
The Cisco 7200 Router Series



The Cisco 7200 Series offers a rich set of capabilities that address requirements for performance, density, high reliability, availability, serviceability, and manageability (Table 1).

Table 1 Cisco 7200 Features and Benefit

Features	Benefits
Up to 1 Mpps processing capability	Provides high-performance routing and processing performance
Maximum connectivity options	Meets a variety of topology requirements with the widest range of port densities and interface options
Breadth of services	Supports QoS, security, MPLS, broadband, multiservice, and management features for next-generation networks
Investment protection	Low initial investment with upgrade and redeployment capability

Applications

- *VPN gateways*—With the new VPN Acceleration Module (VAM), the Cisco 7200 provides high performance, hardware-assisted encryption, key generation, and compression services suitable for site-to-site VPN applications.
- *Broadband subscriber aggregation services*—For small- and medium-density aggregation for network operators, competitive local exchange carriers (CLECs), Internet service providers (ISPs), post, telephone, and telegraph networks (PTTs), and enterprises worldwide, the Cisco 7200 offers differentiated, value-added service platform with hardware-accelerated Parallel Express Forwarding (PXF) services. Key features include:
  - Flexible, modular interfaces for traffic aggregation: OC-3, DS3, Fast Ethernet, Gigabit Ethernet, POS
  - IP and ATM QoS/class of service (CoS)
  - MPLS VPN and full L2TP support
  - Feature-rich IP services and PPP termination support
- *Multiservice capabilities*—The Cisco 7200 Series provides a scalable voice gateway solution, ranging from 2 to 20 T1s and E1s. The advanced QoS and multiservice features of the Cisco 7200 Series makes it an ideal platform in a large number of enterprise and service provider deployments as managed multiservice CPE or as a voice gateway.
- *Managed network services CPE*—The Cisco 7200 is a cost-effective CPE solution with a field upgradable modular platform. Key features for revenue-generating services include QoS, MPLS (MPLS VPN, MPLS QoS, MPLS TE), WAN edge services (VLAN support, NetFlow, NBAR), Security services (NAT, ACL, hardware encryption for VPNs), and voice/video/data integration.
- *Enterprise WAN aggregation*—The Cisco 7200 provides a flexible aggregation solution that accommodates a wide range of connectivity and service options, offers high quality and reliability, and can scale to meet future requirements. The Cisco 7200's performance per price ratio in the DS0 to OC-3/STM1 range makes it the ideal platform for aggregating multiple branch offices or remote locations.

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Product Specifications

Cards, Ports, Slots

Table 2

	Cisco 7204VXR	Cisco 7206VXR
Configurable Slots	4	6
Ethernet (10BASE-T) Ports	32	48
Ethernet (10BASE-FL) Ports	20	30
Fast Ethernet (TX) Ports	4	Up to 6
Fast Ethernet (FX) Ports	4	Up to 6
EtherSwitch Port Adapters	2	2
100VG-AnyLAN Ports	4	Up to 6
FDDI (FDX, HDX) Ports	0	0
ATM Ports (T3, OC-3)	4, 4	Up to 6, 4
Packet over SONET	2	2
ATM-CES Port Adapters (Data, Voice, Video), Dual-Wide	1	1
Token Ring (FDX, HDX) Ports	16	24
Synchronous Serial Ports	32	48
ISDN BRI Ports (U, S/T)	16, 32	24, 48
ISDN PRI, Multichannel T1/E1 Ports	32	48
Multichannel T3 Ports	Up to 4	Up to 6
HSSI Ports	Up to 8	Up to 12
Packet over T3/E3 Ports (Integrated DSU)	Up to 8	Up to 12
IBM Channel Interface Ports (ESCON and Parallel)	6	6
VPN Acceleration Module	1	1

Components

Chassis

Table 3

Feature	Cisco 7204VXR	Cisco 7206VXR
Chassis/Rack	16 with side-to-side air flow 9 with RDS mounting system for front-to-back airflow	Same as Cisco 7204VXR
I/O Card slots	1	Same as Cisco 7204VXR
Port Adapter Slots	4	6
Midplane	2 independent 32-bit, 50-MHz PCI buses with an aggregate bandwidth of 1.6 Gbps when used with NPE-400 or above	Same as Cisco 7204VXR

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Table 3

Feature	Cisco 7204VXR	Cisco 7206VXR
Online Insertion and Removal (OIR)	Yes	Same as Cisco 7204VXR
Field-Replaceable Components	Processor, memory, power supply, I/O card, and port adapters	Same as Cisco 7204VXR
Additional Standard Components	AC power supply, AC power cord	Same as Cisco 7204VXR

- The Cisco 7200 Series VXR chassis also include a Multiservice Interchange (MIX), which supports switching of DS0 time slots via MIX interconnects across the midplane to each port adapter slot.
- The midplane and the MIX also support distribution of clocking between channelized interfaces on the Cisco 7200 to support voice and other constant-bit-rate applications. The VXR midplane provides two full-duplex 8.192-Mbps TDM streams between each port adapter slot and the MIX, which is capable of switching DS0s on all 12 8.192-Mbps streams. Each stream can support up to 128 DS0 channels.
- The MIX in the Cisco 7200VXR provides the ability to switch DS0 time slots between multichannel T1 and E1 interfaces, much like TDM capabilities. This enables the Cisco 7200VXR to switch DS0 voice channels on a T1/E1 interface on one port adapter to and from separate voice-processing port adapters. It also enables DS0s to be switched through the Cisco 7200VXR without any processing, which is a requirement in certain voice configurations.

Processors

- The Cisco 7200 Series sets new standards in meeting requirements for high-performance Layer 3 services at an affordable price for both service providers and enterprises.
- The following processors are currently available for the Cisco 7200 Series:
  - NPE-225
  - NPE-400
  - NSE-1
  - NPE-G1
- The NPE processors offer exceptional price/performance for most applications, including enterprise WAN aggregation, CPE, multiservice, and VPN. These processors provide the greatest flexibility when deploying new features.
- The NSE-1 Network Services Engine takes advantage of PXF to offer services acceleration for "high-touch" edge services for applications such as broadband and leased-line aggregation.
- Key features supported by the Cisco 7200 Series processors include security, QoS, traffic management, and network management.
- More information on the Cisco 7200 processors is available at:

http://www.cisco.com/warp/public/cc/pd/rt/7200/prodlit/npe72_ds.htm

http://www.cisco.com/warp/public/cc/pd/ifaa/prossor/nse1/

http://www.cisco.com/warp/public/cc/pd/ifaa/prossor/prodlit/npeg1_ds.htm

Input/Output Controllers

- Each Cisco 7200 Series chassis has a dedicated slot for an I/O controller. The following types of I/O controllers are currently supported, including some with LAN ports for increased density without using a port adapter slot:
  - C7200-I/O, Cisco 7200 I/O Controller
  - C7200-I/O-2FE/E, Cisco 7200 I/O Controller with dual autosensing 10/100 Ethernet ports
  - C7200-I/O-GE+E, Cisco 7200 I/O Controller with 1 Gigabit Ethernet Interface Converter (GBIC) port and one Ethernet port

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- More information on I/O controllers is available at: http://www.cisco.com/warp/public/cc/pd/rt/7200/prodlit/7200i_ds.htm

Environmental Conditions

Table 4

	Cisco 7204VXR	Cisco 7206VXR
Operating temperature	32 to 104 F (0 to 40 C)	Same as Cisco 7204VXR
Storage temperature	-4 to 149 F (-20 to 65 C)	Same as Cisco 7204VXR
Operating humidity	10 to 90% (noncondensing)	Same as Cisco 7204VXR

Interfaces

- The Cisco 7200 Series offers scalable density with the widest range of connectivity options including:
  - Ethernet 10BASE-T and 10BASE-FL
  - Fast Ethernet 100BASE-T (RJ-45 and MII)
  - Gigabit Ethernet
  - Token Ring (half and full duplex)
  - Synchronous serial ISDN BRI, PRI, HSSI, T3, E3
  - Multichannel T1, ISDN PRI
  - Multichannel E1, ISDN PRI
  - Multichannel T3, E3
  - Multichannel STM-1
  - Packet Over SONET (POS)
  - Dynamic Packet Transport (DPT)
  - ATM (single-mode and multimode)
  - ATM-CES
  - Digital Voice Port Adapter, Enhanced
  - Mix-enabled T1/E1
  - Integrated Service Adapter (ISA)
  - VPN Acceleration Module (VAM)
- The Cisco 7200 shares the same port adapters with the Cisco 7400, 7500, and 7600 FlexWAN module, protecting customer investment in interfaces, providing a clear migration path, and simplifying sparing
- More detailed information on specific port adapters is available at: http://www.cisco.com/warp/public/cc/pd/ifaa/pa/index.shtml

Options—Features

Key features supported by the Cisco 7200 include:

- Cisco Express Forwarding
- QoS
  - Low-Latency Queuing (LLQ)
  - Class-Based Weighted Fair Queuing (CBWFQ)
  - Class-Based Weighted Random Early Detection (CBWRED)

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  - Policing
  - Marking
  - Shaping
  - Committed Access Rate (CAR)
  - Generic Traffic Shaping (GTS)
  - Frame Relay Traffic Shaping (FRTS)
  - Modular QoS command-line interface (MQC) support
- MPLS
  - MPLS VPN
  - MPLS QoS
  - MPLS traffic engineering
- Broadband aggregation
  - PPPoX
  - RBE
  - PPP over X (PPPoX) with L2TP
  - MLPPP
- Multiservice/voice
  - cRTP
  - LFI
  - FRF11/12
  - MLPPP
  - MLFR
- Tunneling
  - GRE
  - L2TP
  - UTI
- Other
  - ACLs
  - NAT
  - NetFlow
  - Firewall
  - Multicast

Performance

- Up to 225 kpps with NPE-225 processor
- Up to 400 kpps with NPE-400 processor
- Up to 300 kpps with accelerated services with NSE-1 processor
- Up to 1 Mpps with NPE-G1 processor

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Memory

Table 5

	Cisco 7204VXR	Cisco 7206VXR
Processor Memory	128 MB (default for NPE-225, NPE-400 and NSE-1) 256 MB (default for NPE-G1, max for NPE-225, NSE-1) 512 MB (max for NPE-400)	Same as Cisco 7204VXR
Flash disk memory card (optional, up to 2 slots available)	48 MB, expandable to 128 MB for I/O controllers 64 MB, expandable to 256 MB for NPE-G1	Same as Cisco 7204VXR

Network Management

Network Management Applications:

- Element Manager Software (EMS) for the Cisco 7200 and 7400 Series
- Cisco Secure Policy Manager
- Cisco VPN Device Manager (VDM)
- Cisco QoS Device Manager (QDM)
- Cisco Info Center
- CiscoWorks
- Secure command-line interface using Secure Shell (SSH) Protocol
- HTML-based management tool

Physical Specifications

Table 6

	Cisco 7204VXR	Cisco 7206VXR
Height	5.25 in. (13.34 cm)	5.25 in. (13.34 cm)
Width	16.8 in. (42.67 cm)	16.8 in. (42.67 cm)
Depth	17 in. (43.18 cm)	17 in. (43.18 cm)
Weight	Chassis is fully configured with a network processing engine, I/O controller, four port adapters, two power supplies, and a fan tray: ~50 lb (22.7 kg)	Chassis is fully configured with a network processing engine, I/O controller, six port adapters, two power supplies, and a fan tray: ~50 lb (22.7 kg)

Power

The Cisco 7200 is available with single and dual power supply options for both AC and DC.

Table 7

	Cisco 7204VXR	Cisco 7206VXR
AC-input power	370W max. (single or dual power supply configuration)	Same as Cisco 7204VXR
AC-input voltage rating	100–240 VAC wide input with power factor correction	Same as Cisco 7204VXR
AC-input current rating	Not to exceed 5A max. at 100 VAC and 2.5A max. at 240 VAC with the chassis fully configured	Same as Cisco 7204VXR
AC-input frequency rating	50/60 Hz	Same as Cisco 7204VXR

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Table 7

	Cisco 7204VXR	Cisco 7206VXR
AC-input cable	18 AWG 3-wire cable, with 3-lead IEC-320 receptacle on the power supply end, and a country-dependent plug on the power source end	Same as Cisco 7204VXR
DC-output power	280W max. (single or dual power supply configuration)	Same as Cisco 7204VXR
DC-input power	370W max. (single or dual power supply configuration)	Same as Cisco 7204VXR
DC-input voltage rating	-24 to -60 VDC for global DC power requirements	Same as Cisco 7204VXR
DC-input current rating	Not to exceed 13A max. at -48 VDC (370W/-48 VDC = 7.7A typical draw) Not to exceed 8A max. at -60 VDC (370W/-60 VDC = 6.2A typical draw)	Same as Cisco 7204VXR
DC voltages supplied and maximum steady-state current ratings	+5.2V at 360A +12.2V at 9A -12.0V at 1.5A +3.5V at 13A	Same as Cisco 7204VXR
DC-input cable	14 AWG recommended minimum, with at least 3 conductors rated for at least 140 F (60 C)	Same as Cisco 7204VXR
Frequency	50/60 Hz	Same as Cisco 7204VXR
Airflow	-80 cfm	Same as Cisco 7204VXR
Power dissipation	-370W max. configuration	Same as Cisco 7204VXR
Heat dissipation	370W (1262 BTUs)	Same as Cisco 7204VXR
Noise level	Front (I/O Controller and PA side):44.2 db Back (Power supply side): 43.7 db Left (Fan side): 47.2 db Right: 44.8 db	Same as Cisco 7204VXR

Protocols

The Cisco 7200 Series Router supports the following standard Internet protocols:

- *Layer 2 and Layer 3 protocols*—Address Resolution Protocol (ARP), IPCP, IP forwarding, IP host, IP Multicast, PPP-over-ATM, TCP, Telnet, Trivial File Transfer Protocol (TFTP), User Datagram Protocol (UDP), transparent bridging, virtual LAN (VLAN), MPLS, and IPv6
- *Layer 3 routing protocols*—EIGRP, IGRP, IS-IS, OSPF, BGP, PIM, and RIP
- *Network management and security*—AAA, CHAP, FTP, RADIUS, SNMP, PAP, and TACACS
- RFC 1483: Multiprotocol Encapsulation over ATM AAL 5
- RFC 1577: Classical IP and ARP over ATM AAL 5
- *ARP*—Determines the destination MAC address of a host using its known IP address
- *BOOTP*—Uses connectionless transport layer (UDP); allows the switch (BOOTP client) to get its IP address from a BOOTP server
- *Internet Control Message Protocol (ICMP)*—Allows hosts to send error or control messages to other hosts; is a required part of IP; for example, the ping command uses ICMP echo requests to test if a destination is alive and reachable
- *IP or IP over ATM*—Suite used to send IP datagram packets between nodes on the Internet

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- *TCP*—A reliable, full-duplex, connection-oriented end-to-end transport protocol running on top of IP; for example, the Telnet protocol uses the TCP/IP protocol suite
- *Packet Internet groper (ping)*—Tests the accessibility of a remote site by sending it an ICMP echo request and waiting for a reply
- *TFTP*—Downloads network software updates and configuration files (Flashcode) to workgroup switch products
- *Reverse Address Resolution Protocol (RARP)*—Determines an IP address knowing only a MAC address; for example, BOOTP and RARP broadcast requests are used to get IP addresses from a BOOTP or RARPD server
- *Serial Line Internet Protocol (SLIP)*—A version of IP that runs over serial links, allowing IP communications over the administrative interface
- *PPP*—Provides host-to-network and switch-to-switch connections over synchronous and asynchronous circuits
- *Simple Network Management Protocol (SNMP)*—Agents that process requests for network management stations and report exception conditions when they occur; requires access to information stored in a MIB
- *Telnet*—A terminal emulation protocol that allows remote access to the administrative interface of a switch over the network (in-band)
- *UDP*—Enables an application (such as an SNMP agent) on one system to send a datagram to an application (a network management station using SNMP) on another system; uses IP to deliver datagrams; TFTP uses UDP/IP protocol suites
- *Dynamic Host Connection Protocol (DHCP)*—Lets a host automatically obtain their IP address, subnet mask, and default route from a pre-configured DHCP server on the network
- *Hot Standby Router Protocol (HSRP)*—Provides fast cut-over to a backup router in the event of a system or link failure

Product Regulatory Approvals and Compliance

Product Regulatory Compliance

The following table lists regulatory compliance standards for the Cisco 7204VXR and 7206VXR chassis.

Table 8

	Compliance Standard
Product Safety	UL 1950, CSA 22.2 No. 950, EN60950, EN41003, AUSTEL TS001, AS/NZ 3260, IEC 950
Emissions	FCC Class A, CSA Class A, EN55022 Class B, VCCI Class 2, AS/NRZ 3548 Class A
Immunity	IEC-1000-4-2, IEC-1000-4-3, IEC-1000-4-4, IEC-1000-4-5, IEC-1000-4-6, IEC-1000-4-11, IEC-1000-3-2
NEBS	Level 3

Product System Requirements

Hardware Requirements

Hardware for Cisco 7200 Series Router includes:

- 7204VXR or Cisco 7206VXR chassis
- Network Processing Engine or Network Services Engine
- Input/Output controller
- Processor memory
- Input/Output controller memory
- Power supply
- Console and auxiliary cables

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- Second power supply, accessories
- Port adapters
- Service adapters

Note: You must order a network processing or services engine for the Cisco 7206VXR and Cisco 7204VXR. With the NPE-225, NPE-400, and NSE-1 processors, you must also order an input/output controller. With the NPE-G1 processor, the input/output controller is optional.

Software Requirements

To locate the minimum supported Cisco IOS Software Release by train for all Cisco 7200 Series products, use the Hardware/Software Compatibility Matrix at: http://www.cisco.com/cgi-bin/front.x/Support/HWSWmatrix/hwswmatrix.cgi.

In general, the minimum support Cisco IOS Software releases for the Cisco 7204VXR and Cisco 7206VXR are 11.1(16)CA or later; 11.2(11)P or later; or 11.3(1) or later. Consult the compatibility matrix above for more detailed information.

Product Ordering Details

Ordering Instructions

Please visit http://www.cisco.com/public/ordering_info.shtml to place an order.

Product Part Number

To find part descriptions and part numbers for Cisco products, use the online Cisco Pricing Tool at: http://www.cisco.com/cgi-bin/front.x/pricing.

The base chassis product IDs are shown below. In addition, various bundles, spares, and options are available. To access part descriptions and part numbers use the online Cisco Pricing Tool at: http://www.cisco.com/cgi-bin/front.x/pricing.

Table 9

Part Number	Description
Cisco 7204VXR	Cisco 7204VXR, 4-slot chassis, 1 AC supply with IP software
Cisco 7206VXR	Cisco 7206VXR, 6-slot chassis, 1 AC supply with IP software

Migration Program

A Technology Migration Plan has been established for this product.

The Technology Migration Plan is an innovative, industry-first sales program that allows customers to trade in Cisco and competitors' products to receive a trade-in credit toward the purchase of any new Cisco product. The program underscores Cisco's commitment to its customers to provide end-to-end product solutions and effective migration options in the face of ever-changing network requirements.

For details about technology migration, go to http://www.cisco.com/offer/tic/TMP_PA.html.

Service and Support

Cisco Systems offers a wide range of service and support options for its customers. More information on Cisco service and support programs and benefits are available at: http://www.cisco.com/public/Support_root.shtml.

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Cisco Systems

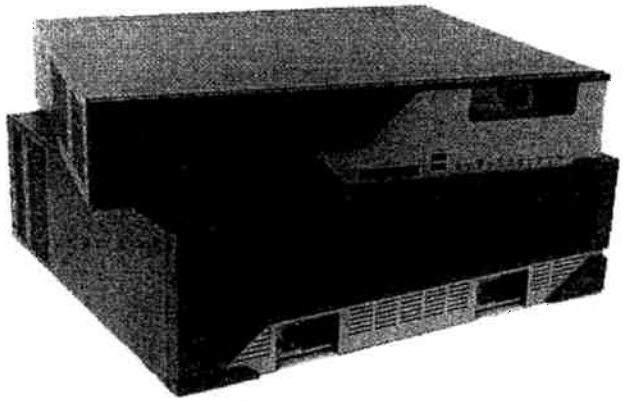
DATA SHEET

CISCO 3800 SERIES INTEGRATED SERVICES ROUTERS

CISCO 3825 AND CISCO 3845

Cisco Systems®, Inc. is redefining best-in-class enterprise routing with a new portfolio of Integrated Services Routers optimized for secure, wire-speed delivery of concurrent data, voice, and video services. Founded on 20 years of innovation, the Cisco® 3800 Series of Integrated Services Routers extends Cisco Systems' leadership in multiservice routing, providing customers with unparalleled network agility, performance, and intelligence. By transparently integrating advanced technologies, adaptive services, and secure enterprise communications into a single, resilient system; the Cisco 3800 Series routers ease deployment and management, lower network cost and complexity, and provide unmatched investment protection. The Cisco 3800 Series routers feature embedded security processing, significant performance and memory enhancements, and new high-density interfaces that deliver the performance, availability, and reliability required for scaling mission-critical security, IP telephony, business video, network analysis, and Web applications in the most demanding enterprise environments. Built for performance, the Cisco 3800 Series routers deliver multiple concurrent services at wire-speed T3/E3 rates.

Figure 1. Cisco 3825 and Cisco 3845 Integrated Services Routers



PRODUCT OVERVIEW

The integrated services routing architecture of the Cisco 3800 Series builds on the powerful Cisco 3700 Series routers designed to embed and integrate security and voice processing with advanced services for rapid deployment of new applications, including application layer functions, intelligent network services, and converged communications. The Cisco 3800 Series supports the bandwidth requirements for multiple Fast Ethernet interfaces per slot, time-division multiplexing (TDM) interconnections, and fully integrated power distribution to modules supporting 802.3af Power over Ethernet (PoE), while still supporting the existing portfolio of modular interfaces. This ensures continuing investment protection to accommodate network expansion or changes in technology as new services and applications are deployed. By integrating the functions of multiple separate devices into a single compact unit, the Cisco 3800 Series dramatically reduces the cost and complexity of managing remote networks.

New models include the Cisco 3825 and the Cisco 3845, available with three optional configurations for AC power, AC power with integrated inline power support, and DC power.

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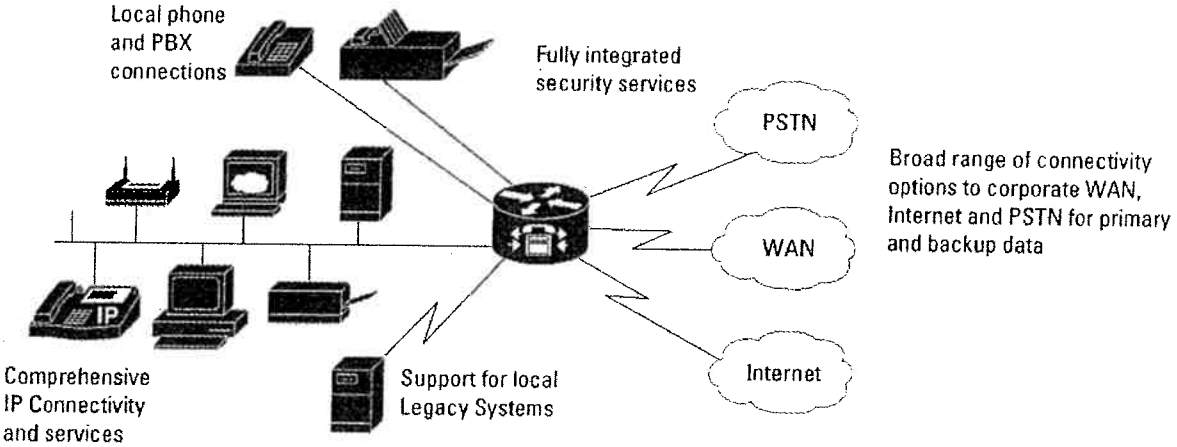
SECURE NETWORK CONNECTIVITY FOR DATA, VOICE, AND VIDEO

An important component of the Cisco Self-Defending Network, the Cisco 3800 Series features the industry's most comprehensive security services embedded and integrated within the router, providing customers with a single, resilient platform to rapidly deploy secure networks and applications.

Cisco Integrated Services Router provide advanced security services and management capabilities such as built-in hardware encryption acceleration, IPSec, VPN (Advanced Encryption Standard [AES], Triple Digital Encryption Standard [3DES], DES and Multiprotocol Label Switching [MPLS]), stateful firewall protection, dynamic intrusion prevention (Intrusion Prevention System [IPS]), and URL filtering support. Cisco IOS security feature sets enable all of these rich security features, as well as applications such as Network Admission Control (NAC), Dynamic Multipoint VPN (DMVPN), and Voice and Video Enabled VPN (V3PN).

For ease of management and configuration, the 3800 Series also features the intuitive, Web-based Cisco Router and Security Device Manager (SDM). For secure services management, every Cisco integrated services router supports Secure Shell Protocol Version 2 (SSHv2) and Simple Network Management Protocol Version 3 (SNMPv3) protocols to encrypt the management session.

Figure 2. Secure Network connectivity with converged IP Communications



CONVERGED IP COMMUNICATIONS

As shown in Figure 2, the Cisco 3800 Series meets the IP Communications needs of midsize to large enterprise branch offices, while delivering industry-leading security within a single routing platform. By embedding voice services inside the router, Cisco provides customers with maximum deployment flexibility, plus higher densities for stations, trunks, and conferencing.

The Cisco 3800 Series routers offer the award-winning Cisco IP Telephony solution, Cisco CallManager Express (CME), as an optional feature set embedded within Cisco IOS® Software. This solution is ideal for customers who want to decrease costs and complexity by converging voice and data networks. By adding a Cisco Unity™ Express advanced integration module (AIM) or network module to this solution, small offices and branch offices can take advantage of a complete, all-in-one data, voice-processing, voice-mail, and auto-attendant system. For larger, centralized IP Communications deployments, customers can deploy Survivable Remote Site Telephony (SRST) in their Cisco 3800 Series routers with a central Cisco CallManager for highly scalable, highly available enterprise IP Communications. SRST is an important component of the Cisco end-to-end IP telephony offering, providing feature-rich call-processing redundancy, while taking advantage of the existing infrastructure at the branch office.

Cisco 3800 Series routers also feature the widest range of voice-gateway interfaces, scaling to meet the needs of the smallest to largest branch requirements for voice termination densities using a combination of network modules, extension voice modules (EVMs), voice interface cards (VICs), voice/WAN interface cards (VWICs), and onboard packet voice DSP modules (PVDMs). Customers have unprecedented scalability for

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supporting up to 24 T1/E1 trunks and 88 foreign-exchange-station (FXS) ports for analog phones, fax machines, key systems, and conference stations.

INTEGRATED SERVICES

Figure 2 also highlights the fact that with the unique integrated services architecture of the Cisco 3800 Series, customers can now securely deploy IP Communications with traditional IP routing and still leave the network-module slots available for additional advanced services. With the optional integration of a wide array of services modules, the Cisco 3800 offers the ability to easily integrate the functions of standalone network appliances and components into the Cisco 3800 Series chassis itself. Many of these network modules, such as the Cisco Network Analysis, Cisco Intrusion Detection System, and Cisco Content Engine network modules, have embedded processors and hard drives that allow them to run largely independently of the router, while allowing their management from a single management interface. This flexibility greatly expands the potential applications of the Cisco 3800 Series beyond traditional routing while still maintain the benefits of integration: ease of management, lower solution costs, and increased speed of deployment.

PRIMARY FEATURES AND BENEFITS

The global economy is increasingly reliant on networked enterprise applications and the Internet as indispensable tools for tackling urgent business challenges. Successful companies require secure, high-performance networks that can quickly adapt to support volatile business conditions, while helping boost competitive advantage and increase network efficiencies. They must invest in network infrastructure that uses essential technologies and easily enables improved models of communication without disruption to core business functions. The Cisco 3800 Series helps companies operate securely in a networked economy and easily implement network services that will improve their business without impacting existing operations or degrading network performance.

Table 1 gives the features and benefits of the Cisco 3800 Series.

Table 1. Features and Benefits of Cisco 3800 Series

Feature	Benefit
Architecture optimized for services growth	• This high-performance architecture is optimized for concurrent service deployment. • This architecture offers increased default and maximum memory for future services growth. • PVDM slots accommodate digital-signal-processor (DSP) modules for packet voice processing. • Enhanced chassis interfaces help enable unprecedented performance and service densities. • Advanced service interfaces integrate applications directly into the router, without the need for separate appliances: – Network analysis module (NAM)—Integrated traffic monitoring helps enable application level visibility into network traffic for remote troubleshooting and traffic analysis. – Cisco Intrusion Detection System (IDS) Module—The Cisco IDS Module provides the ability to inspect all traffic traversing router interfaces; to identify unauthorized or malicious activity such as hacker attacks, worms, or denial-of-service attacks; and to terminate illegitimate traffic to suppress or contain threats. – The Cisco Content Engine Network Module delivers application layer services including Web application acceleration, business video streaming, software distribution, and URL filtering.

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Feature	Benefit
Embedded security processing and best-in-class security feature support	• Integrated hardware for offload of encryption services processing supports IPSec DES, 3DES, and AES 128, AES 192, and AES 256 encryption modes without the need for separate modules. • Cisco IOS Software features offer support for identifying, preventing, and adapting to security threats and maintaining a self-defending network, including Cisco SDM 2.0, Network Admission Control, Dynamic Multipoint VPN, dynamic IPS, Cisco IOS Software Firewall, and URL filtering capabilities.
Ideal platform for integrated IP telephony	• Onboard DSPs—Integrated PVDMs support analog voice, digital voice, conferencing, transcoding, and secure Real-Time Transport Protocol (SRTP) media while enabling network-module or AIM slots for switching, concurrent applications, content, and voice mail. The DSPs help enable packet voice technologies, including VoIP protocols such as H.323, Media Gateway Control Protocol (MGCP), and Session Initiation Protocol (SIP); voice over Frame Relay; and voice over ATM (including ATM Adaption Layer 5 (AAL5) and AAL2 adaptation layers). • The platform offers scalability for centralized and distributed call processing: – SRST with centralized Cisco CallManager—Up to 720 phones – Cisco Unity Express (CUE) voice mail—Up to 100 mail boxes – Cisco CallManager Express IP phones—From 24 to 240 IP phones – Small to large branch connectivity—Up to 24 T1/E1 trunks – Analog phones, fax machines, key systems, and conference stations—Up to 88 FXS ports – Local or long-distance calling with the EVM module—Up to 48 foreign exchange office (FXO) or 32 Basic Rate Interface (BRI) ports • Cisco IOS Software delivers customized features and applications, such as Tool Command Language (TCL) and Voice Extensible Markup Language (VXML) support • Secure calls are possible with Cisco CallManager and Cisco IP phones using the Cisco 3800: – Offers standards-based, secure media and signaling authentication and encryption from IP phone to IP phone, IP phone to analog phone or public switched telephone network (PSTN) gateway using IPSec, transport layer security (TLS), and Secure Real Time Protocol (SRTP) – Maintains channel capacity for medium- and high-complexity codecs
Investment protection	• Field-upgradable, modular components are supported on the Cisco 3800 Series, allowing customers to easily change network interfaces without upgrading their entire branch-office network. The Cisco 3800 Series takes advantage of the existing portfolio of WICs, VICs, network modules and AIMs to reduce sparing, training, configuration, installation, and maintenance costs.
Availability	• The Cisco 3800 Series minimizes downtime with availability features, including optional redundant power, Error Checking and Correction (ECC) memory for improved fault isolation and correction, USB Flash memory for ease of image recovery, advanced temperature monitoring and variable-speed cooling fans, Cisco IOS Software Warm Reboot for improved bootup times, network-module online insertion and removal, and field-replaceable components such as fan tray, motherboard, and power supplies (Cisco 3845 only).

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PRODUCT ARCHITECTURE

Table 2. Features of Cisco 3825 and Cisco 3845

Cisco 3800 Series Features	Cisco 3825	Cisco 3845
Network-module slots—These slots can accommodate a standard network-module, enhanced-network-module (NME), enhanced-extended-network-module (NME-X), and high-density extension module (EVM-HD). The NME-X, when available, will have a wider form factor than the NME. Two side-by-side NME slots can be combined to accommodate one double-wide network module (NMD) or when available, a double-wide enhanced extended network module (NME-XD).	NM NME NME-X NMD NME-XD EVM-HD	NM NME NME-X NMD NME-XD EVM-HD
Maximum number of network modules, NMEs, and NME-Xs supported	2	4
Maximum number of NMD/NME-XDs supported	1	2
Maximum number of EVM-HDs supported	1	2
Number of high-speed WIC (HWIC) slots—These HWIC slots also support VICs, VWICs, and WICs.	4	4
Number of fixed LAN ports (fixed RJ-45 port for 10/100/1000 connectivity)	2 Gigabit Ethernet (10/100/1000)	2 Gigabit Ethernet (10/100/1000)
Number of fixed Small Form-Factor Pluggable (SFP) ports (for SFP Gigabit Ethernet connectivity)	1	1
Number of AIM slots (for optional AIMs for offloading compute-intensive features)	2	2
Number of PVDM slots (for optional PVDM2s)	4	4
Number of USB 1.1 ports (for future use with USB Flash memory, security tokens for secure Cisco IOS Software configuration distribution, and off-platform storage of VPN credentials)	2	2
Embedded VPN (hardware-based VPN encryption acceleration)	Yes	Yes
Number of console ports (up to 115.2 kbps)	1	1
Number of auxiliary ports (up to 115.2 kbps)	1	1
Memory—External Compact Flash and internal DDR (Double Data Rate) SDRAM with ECC	Default—64 MB Compact Flash; 256 MB DDR SDRAM Maximum—256 MB Compact Flash; 1 GB DDR SDRAM	Default—64 MB Compact Flash; 256 MB DDR SDRAM Maximum—256 MB Compact Flash; 1 GB DDR SDRAM

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SUMMARY

The Cisco 3800 Series introduces best-in-class routing, security, and voice technologies embedded into the router fabric, making it possible for enterprises to securely deliver concurrent, mission-critical services and applications at wire-speed performance. The Cisco 3800 Series extends network capabilities and productivity from the corporate headquarters to the branch offices for increased operational efficiencies and end-user productivity. The advanced adaptability and modularity of the Cisco 3800 Series routers provides customers with the widest variety of network interfaces and services, including: VPN IPSec, intrusion detection, IP Communications, integrated switching, business video, URL filtering, application optimization, DSL, ATM access, and serial device aggregation. By consolidating the functions of multiple, separate services into a single, resilient platform that can be easily managed and deployed, Cisco is providing customers with the industry's leading routing platforms for growth and investment protection.

PRODUCT SPECIFICATIONS

Table 3 gives the specifications of the Cisco 3825 and the Cisco 3845.

Table 3. Specifications of Cisco 3825 and Cisco 3845

Cisco 3800 Series Features	Cisco 3825	Cisco 3845
Physical Specifications		
Dimensions (H x W x D)	3.5 x 17.1 x 14.7 in.	5.25 x 17.25 x 16 in.
	2 Rack Unit (RU)	3 Rack Unit (RU)
Weight (minimum)	23 lb	45 lb
Rack-mounting	Yes, 19- and NEBS/ETSI options	Yes, 19- and NEBS/ETSI options
Wall-mounting	No	No
Power Specifications		
AC–Input voltage	100–240 VAC, auto-ranging	100–240 VAC, auto-ranging
AC–Input frequency	47–63 Hz	47–63 Hz
AC–Input current	3A (110V)	4A (110V)
	2A (230V)	2A (230V)
	Startup current 50A maximum (one cycle)	Startup current 50A maximum (one cycle)
AC-IP–Input current	8A (110V)	8A (110V)
	4A (230V)	4A (230V)
	Startup current 50A maximum (one cycle)	Startup current 50A maximum (one cycle)
DC–Input voltage	24–60 VDC, auto-ranging positive or negative	24–60 VDC, auto-ranging positive or negative

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Cisco 3800 Series Features	Cisco 3825	Cisco 3845
DC–Input current	12A (24V)	18A (24V)
	5A (60V)	7A (60V)
	Startup current 50A<10 ms	Startup current 50A<10 ms
Output	AC or DC power supply: 210W for system	AC or DC power supply: 300W for system
	AC-IP power supply: 210W for system	AC-IP power supply: 300W for system
	360W for IP phones (–48V)	360W for IP Phones (–48V)
Power Specifications		
Redundant power supply (RPS)	External only (Cisco RPS 675)	Internal AC, AC-IP, or DC RPS
Recommended RPS unit	Cisco RPS 675	–
Power Dissipations		
AC without IP phone support	300W (1025 BTU/hr)	435W (1485 BTU/hr)
AC with IP phone support–System only	370W (1262 BTU/hr)	555W (1890 BTU/hr)
AC with IP phone support–IP phones	360W (1128 BTU/hr)	360W (1128 BTU/hr)
DC	325W (1100 BTU/hr)	460W (1570 BTU/hr)
Environmental Specifications		
Operating temperature	32° to 104°F (0° to 40°C)	32° to 104°F (0 to 40°C)
Nonoperating temperature	–40° to 185°F (–40° to 85°C)	–40° to 185°F (–40° to 85°C)
Relative humidity noncondensing	5–95% noncondensing	5–95% noncondensing
Operation altitude	Up to 6500 ft (2000m), derate 1C per 1000 ft	Up to 6500 ft (2000m), derate 1C per 1000 ft
Noise level (minimum)	50 dBa typical, 53 dBa maximum	56 dBa typical, 58 dBa maximum
Regulatory Compliance		
Safety	UL 60950	
	CAN/CSA C22.2 No. 60950	
	EN 60950	
	AS/NZS 60950	

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Cisco 3800 Series Features	Cisco 3825	Cisco 3845
EMC	47 CFR, Part 15	
	ICES-003 Class A	
	EN55022 Class A	
	CISPR22 Class A	
	AS/NZS 3548 Class A	
	VCCI V-3	
	EN 300386	
	EN 61000	
TELCOM	47 CFR, Part 68	
	TIA/EIA/IS-968	
	CS-03	
	RTTE Directive	

SUPPORTED MODULES

Table 4 gives the modules supported by the Cisco 3800 Series.

Table 4. Modules Supported by Cisco 3800 Series

Ethernet Switching Network Modules	
NM-16ESW	16-port 10/100 Cisco EtherSwitch network module
NM-16ESW-1GIG	16-port 10/100 Cisco EtherSwitch network module with 1 Gigabit Ethernet (1000BASE-T) port
NM-16ESW-PWR	16-port 10/100 Cisco EtherSwitch network module with inline power support
NM-16ESW-PWR-1GIG	16-port 10/100 Cisco EtherSwitch network module with inline power and 1 Gigabit Ethernet port
NMD-36ESW	36-port 10/100 Cisco EtherSwitch high-density services module (HDSM)
NMD-36ESW-2GIG	36-port 10/100 Cisco EtherSwitch HDSM with 1 Gigabit Ethernet (1000BASE-T) port
NMD-36ESW-PWR	36-port 10/100 Cisco EtherSwitch HDSM with inline power support
NMD-36ESW-PWR-2GIG	36-port 10/100 Cisco EtherSwitch HDSM with inline power and 1 Gigabit Ethernet port
LAN Network Modules	
NM-1FE-FX-V2	1-port Fast Ethernet, revision 2 (100BASE-FX interface)
NM-1GE	1-port Cisco Gigabit Ethernet network module
NM-2W	2-WIC-slot network module (no LAN)

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NM-1FE1R2W	1-port 10/100 Ethernet 1-port 4/16 Token Ring 2-WIC-slot network module
NM-1FE2W	1-port 10/100 Ethernet 2-WIC-slot network module
NM-2FE2W	2-port 10/100 Ethernet 2-WIC-slot network module
NM-1FE2W-V2	1-port 10/100 Ethernet 2-WIC-slot network module, version 2
NM-2FE2W-V2	2-port 10/100 Ethernet 2-WIC-slot network module, version 2

Serial Connectivity Network Modules

NM-1T3/E3	1-port clear-channel T3/E3 network module
NM-1HSSI	1-port High-Speed Serial Interface (HSSI) network module
NM-4T	4-port serial network module
NM-4A/S	4-port asynchronous/synchronous serial network module
NM-8A/S	8-port asynchronous/synchronous serial network module
NM-16A/S	16-port asynchronous/synchronous serial network nodule
NM-16A	16-port asynchronous serial network module
NM-32A	32-port asynchronous serial network modul-

Channelized T1/E1 and ISDN Network Modules

NM-1CE1T1-PRI	1-port Channelized E1/T1/ISDN-PRI network module
NM-2CE1T1-PRI	2-port Channelized E1/T1/ISDN-PRI network module
NM-4B-S/T	4-port ISDN BRI network module (S/T interface)
NM-4B-U	4-port ISDN BRI network module with integrated Network Termination 1 (NT1) (U interface)
NM-8B-S/T	8-port ISDN BRI network module (S/T interface)
NM-8B-U	8-port ISDN BRI network module with integrated NT1 (U interface)

ATM Network Modules

NM-1A-T3	1-port DS-3 ATM network module
NM-1A-E3	1-port E3 ATM network module
NM-4T1-IMA	4-port T1 ATM network module with Inverse Multiplexing over ATM (IMA)
NM-4E1-IMA	4-port E1 ATM network module with IMA
NM-8T1-IMA	8-port T1 ATM network module with IMA
NM-8E1-IMA	8-port E1 ATM network module with IMA

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Digital Dialup and Remote-Access Network Modules

NM-6DM	6-digital-modem network module
NM-12DM	12-digital-modem network module
NM-18DM	18-digital-modem network module
NM-24DM	24-digital-modem network module
NM-30DM	30-digital-modem network module

Analog Dialup and Remote-Access Network Modules

NM-8AM-V2	8-port analog modem network module with v.92
NM-16AM-V2	16-port analog modem network module with v.92

Analog and ISDN Basic Rate Voice Network Modules and Accessories

NM-HD-1V	1-slot IP communications voice/fax network module
NM-HD-2V	2-slot IP communications voice/fax network module
NM-HD-2VE	2-slot IP communications enhanced voice/fax network module
NM-HDA-4FXS	High-density analog voice/fax network module with 4-port FXS
EM-HDA-8FXS	8-port FXS voice/fax expansion module
EM-HDA-4FXO	4-port FXO voice/fax expansion module
EVM-HD-8FXS/DID	High-density analog (FXS/FXO/DID) and digital (BRI S/T) voice network module
EM-HDA-3FXS/4FXO	7-port voice/fax expansion module—3FXS/4FXO
EM-HDA-6FXO	6-port voice/fax expansion module—FXO
EM-4BRI-NT/TE	4-port voice/fax expansion module—BRI

High-Density Voice Network Modules and Accessories

NM-HDV2	IP communications high-density voice/fax network module
NM-HDV2-1T1/E1	1-port T1/E1 IP communications high-density voice/fax network module
NM-HDV2-2T1/E1	2-port T1/E1 IP communications high-density voice/fax network module
NM-HDV-1T1-12	1-port 12-channel T1 voice/fax network module
	Bundle: NM-HDV with one (1) VWIC-1MFT-T1 and one (1) PVDM-12
NM-HDV-1T1-24	1-port 24-channel T1 voice/fax network module
	Bundle: NM-HDV with one (1) VWIC-1MFT-T1 and two (2) PVDM-12

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NM-HDV-1T1-24E	Single-port 24 enhanced channel T1 voice/fax network module
	Bundle: NM-HDV with one (1) VWIC-1MFT-T1 and four (4) PVDM-12
NM-HDV-2T1-48	2-port 48-channel T1 voice/fax network module
	Bundle: NM-HDV with one (1) VWIC-2MFT-T1-DI and four (4) PVDM-12
NM-HDV-1E1-12	1-port 12-channel E1 voice/fax network module
	Bundle: NM-HDV with one (1) VWIC-1MFT-E1 and one (1) PVDM-12
NM-HDV-1E1-30	1-port 30-channel E1 voice/fax network module
	Bundle: NM-HDV with one (1) VWIC-1MFT-E1 and three (3) PVDM-12
NM-HDV-1E1-30E	1-port 30-enhanced-channel E1 voice/fax network module
	Bundle: NM-HDV with one (1) VWIC-1MFT-E1 and five (5) PVDM-12
NM-HDV-2E1-60	2-port 60-channel E1 voice/fax network module
	Bundle: NM-HDV with one (1) VWIC-2MFT-E1-DI and five (5) PVDM-12
NM-HDV-1J1-30	1-port 30-channel J1 high-density voice network module
	Bundle: NM-HDV with three (3) PVDM-12 and one (1) VIC-1J1
NM-HDV-1J1-30E	1-port 30-enhanced-channel J1 high-density voice network module
	Bundle: NM-HDV with five (5) PVDM-12 and one (1) VIC-1J1
NM-HDV-FARM-C36	Network module 36-port DSP farm bundle
	High Density Voice/Fax Transcoding/conferencing DSP farm equipped with two (2) DSP SIMMs
NM-HDV-FARM-C54	Network module 54-port DSP farm bundle
	HDV transcoding/conferencing DSP farm equipped with three (3) DSP SIMMs
NM-HDV-FARM-C90	Network module 90-port DSP farm bundle
	HDV transcoding/conferencing DSP farm equipped with five (5) DSP SIMMs

Application Network Modules

NM-CE-BP-40G-K9	Cisco Content Engine network module, basic performance, 40-GB IDE hard disk
NM-CE-BP-80G-K9	Cisco Content Engine network module, basic performance, 80-GB IDE hard disk
NM-CIDS	Cisco Intrusion Detection System network module
NM-CUE	Cisco Unity™ Express voice mail network module
NM-NAM	Cisco 2600/3660/3700 series network analysis module

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Alarm Monitoring and Control Network Modules and Accessories

NM-AIC-64	Alarm monitoring and control network module

Circuit Emulation over IP (CESoIP) Network Modules

NM-CEM-4SER	4 Port Serial Circuit Emulation over IP network module
NM-CEM-T1E1	4 Port T1/E1 Circuit Emulation over IP network module

Serial WAN Interface Cards

WIC-1T	1-port high-speed serial WIC
WIC-2T	2-port high-speed serial WIC
WIC-2A/S	2-port asynchronous/synchronous serial WIC

Channel Service Unit/Data Service Unit (CSU/DSU) WAN Interface Cards

WIC-1DSU-T1-V2	1-port T1/Fractional-T1 DSU/CSU WIC
WIC-1DSU-56K4	1-port 4-wire 56-/64-kbps CSU/DSU WIC

ISDN BRI WAN Interface Cards

WIC-1B-U-V2	1-port ISDN BRI with integrated NT1 (U interface)
WIC-1B-S/T-V3	1-port ISDN BRI Wan Interface card for Dial and Lease Line

DSL WAN Interface Cards

WIC-1ADSL	1-port asymmetric DSL (ADSL) over basic telephone service WIC
WIC-1ADSL-DG	1-port ADSL over basic telephone service with dying-gasp WIC
WIC-1ADSL-I-DG	1-port ADSL over ISDN with dying-gasp WIC
WIC-1SHDSL	1-port G.shdsl WIC (two wire only)
WIC-1SHDSL-V2	1-port G.shdsl WIC (two or four wire)

Analog Modem WAN Interface Cards

WIC-1AM	1-port analog modem WIC
WIC-2AM	2-port analog modem WIC

T1, E1, and G.703 Multiflex Trunk Voice and WAN Interface Cards

VWIC-1MFT-T1	1-port RJ-48 multiflex trunk—T1
VWIC-2MFT-T1	2-port RJ-48 multiflex trunk—T1
VWIC-2MFT-T1-DI	2-port RJ-48 multiflex trunk—T1 with drop and insert
VWIC-1MFT-E1	1-port RJ-48 multiflex trunk—E1

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VWIC-1MFT-G703	1-port RJ-48 multiflex trunk—G.703
VWIC-2MFT-E1	2-port RJ-48 multiflex trunk—E1
VWIC-2MFT-E1-DI	2-port RJ-48 multiflex trunk—E1 with drop and insert
VWIC-2MFT-G703	2-port RJ-48 multiflex trunk—G.703

Voice Interface Cards

VIC-2DID	2-port DID voice and fax interface card
VIC-1J1	1-port digital voice interface card (J1) for Japan
VIC-4FXS/DID	4-port FXS or DID VIC
VIC2-2FXS	2-port VIC—FXS
VIC2-2FXO	2-port VIC—FXO (universel)
VIC2-4FXO	4-port VIC—FXO (universel)
VIC2-2E/M	2-port VIC—ear and mouth (E&M)
VIC2-2BRI-NT/TE	2-port VIC—BRI (NT and TE)

Ethernet Switching High-Speed WAN Interface Cards

HWIC-4ESW	4-port 10/100 Ethernet switch interface card
HWIC-4ESW-POE	4-port Ethernet switch HWIC with PoE
HWIC-D-9ESW	9-port 10/100 Ethernet switch interface card
HWIC-D-9ESW –POE	9-port Ethernet switch HWIC with PoE

Gigabit Ethernet High-Speed WAN Interface Card

HWIC-1GE-SFP	Cisco Gigabit Ethernet High-Speed Interface Card

Advanced Integration Modules

AIM-ATM	High-performance ATM segmentation and reassembly (SAR) advanced integration module
AIM-COMPR4	Data compression advanced integration module
AIM-CUE	Cisco Unity Express voice mail advanced integration module
AIM-VPN/EPII-PLUS	Enhanced-performance DES/3DES/AES and compression VPN encryption advanced integration modul e
AIM-VPN/HPII-PLUS	High-performance DES/3DES/AES and compression VPN encryption advanced integration module

Packet Voice Data Modules

PVDM2-8	8-channel fax and voice DSP module
PVDM2-16	16-channel fax and voice DSP module

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PVDM2-32	32-channel fax and voice DSP module
PVDM2-48	48-channel fax and voice DSP module
PVDM2-64	64-channel fax and voice DSP module

ORDERING INFORMATION

To place an order, visit the Cisco Ordering Home Page. Table 5 gives further ordering information for the Cisco 3800 Series.

Table 5. Ordering Information for Cisco 3800 Series

Part Number	Description
CISCO3825	Cisco 3825 integrated services router with two Gigabit Ethernet fixed LAN ports, one Small Form-Factor Pluggable (SFP) slot, two enhanced network modules (NMEs), four high-speed WAN interface cards (HWICs), two Advanced Integration Module (AIM) slots, four PVDM slots, Cisco IP Base software, and AC power
CISCO3825-AC-IP	Cisco 3825 integrated services router with two Gigabit Ethernet fixed LAN ports, one SFP slot, two NMEs, four HWICs, two AIM slots, four PVDM slots, Cisco IP Base software, and Inline Power
CISCO3825-DC	Cisco 3825 integrated services router with two Gigabit Ethernet fixed LAN ports, one SFP slot, two NMEs, four HWICs, two AIM slots, four PVDM slots, Cisco IP Base software, and DC power
CISCO3845	Cisco 3845 integrated services router with two Gigabit Ethernet fixed LAN ports, one SFP slot, four NMEs, four HWICs, two AIM slots, 4 PVDM slots Cisco IP Base software, and AC power
CISCO3845-AC-IP	Cisco 3845 integrated services router with two Gigabit Ethernet fixed LAN ports, one SFP slot, four NMEs, four HWICs, two AIM slots, four PVDM slots, Cisco IP Base software, and Inline Power
CISCO3845-DC	Cisco 3845 integrated services router with two Gigabit Ethernet fixed LAN ports, one SFP slot, four NMEs, four HWICs, two AIM slots, four PVDM slots, Cisco IP Base software, and DC power

To download the Cisco IOS Software, go to http://www.cisco.com/public/sw-center/index.shtml.

Table 6 gives the Cisco IOS Software feature sets that the Cisco 3825 and the Cisco 3845 support.

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Table 6. Cisco IOS Software Feature Sets that Cisco 3825 and Cisco 3845 Support

Cisco IOS Software Feature Sets	Cisco 3825	Cisco 3845
IP Base	S382IPB	S384IPB
IP VOICE	S382IPV	S384IPV
ENTERPRISE BASE	S382EB	S384EB
ADVANCED SECURITY	S382ASK9	S384ASK9
SP SERVICES	S382SPSK9	S384SPSK9
ENTERPRISE SERVICES	S382ESK9	S384ESK9
ADVANCED IP SERVICES	S382AISK9	S384AISK9
ADVANCED ENTERPRISE SERVICES	S382AESK9	S384AESK9
INTEGRATED VOICE/VIDEO: GK, IPIP GW, TDMIP GW	S382IVS	S384IVS
INTEGRATED VOICE/VIDEO: GK, IPIP GW, TDMIP GW AES	S382AVSK9	S384AVSK9
ADVANCED ENTERPRISE SERVICES WITH SNA SWITCHING	S382SNAK9	S34SNAK9

SERVICE AND SUPPORT

Leading-edge technology deserves leading-edge support. Cisco SMARTnet® technical support for the Cisco 3800 Series is available on a one-time or annual contract basis. Support options range from help-desk assistance to proactive, onsite consultation. All support contracts include:

- Major Cisco IOS Software updates in protocol, security, bandwidth, and feature improvements
- Full access rights to Cisco.com technical libraries for technical assistance, electronic commerce, and product information
- Access to the industry's largest dedicated technical support staff 24 x 7

Cisco offers a wide range of services programs to accelerate customer success. These innovative services programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you protect your network investment, optimize network operations, and prepare the network for new applications to extend network intelligence and the power of your business. For more information about Cisco services, refer to Cisco Technical Support Services or Cisco Advanced Services.

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Cisco Systems

DATA SHEET

CISCOWORKS WIRELESS LAN SOLUTION ENGINE 2.9

Organizations are adopting wireless LANs (WLANs) for their productivity and accessibility. The Cisco® Structured Wireless-Aware Network (SWAN) facilitates the adoption of WLANs by extending "wireless awareness" into important elements of the network infrastructure such as switches and routers, providing the same level of security, scalability, reliability, ease of deployment, and management for wireless LANs that organizations expect from their wired LANs.

CiscoWorks Wireless LAN Solution Engine (WLSE) is the management console for Cisco SWAN, a comprehensive network management solution for managing hundreds to thousands of Cisco Aironet® access points. CiscoWorks WLSE helps to simplify and automate the deployment and security of WLANs, helping ensure their smooth operation and availability.

PRODUCT OVERVIEW

CiscoWorks WLSE is a centralized network management solution for managing the entire Cisco Aironet WLAN infrastructure. As the management component of the Cisco SWAN framework, CiscoWorks WLSE uses the WLAN's intelligent capabilities to automate advanced air/radio frequency (RF) and device management capabilities in ways that simplify deployment, reduce operational complexity, and provide administrators visibility into WLAN. This automation reduces the costs and time needed for WLAN deployment, management, and security.

CiscoWorks WLSE quickly and easily detects, locates (Figure 1), and disables unauthorized (rogue) access points, helping to ensure that security policies are applied consistently throughout the network. It also detects unauthorized WLAN client networks, further enhancing the security of the WLAN. These capabilities can benefit any organization, including those that have not formally operationalized WLANs but want to guard against intruders.

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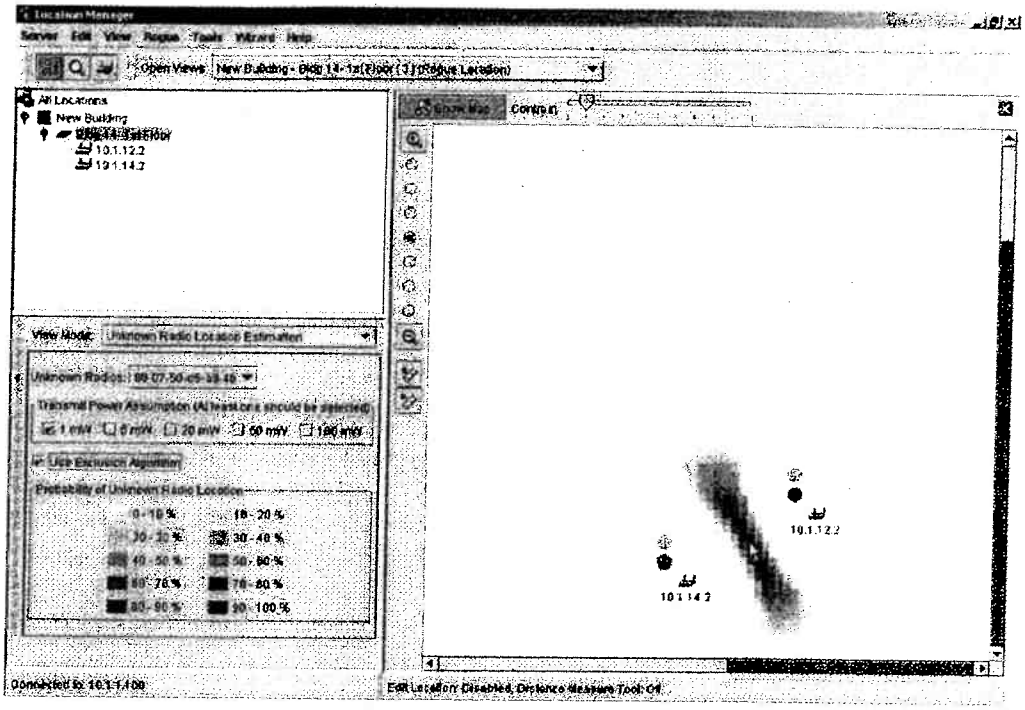
Figure 1. CiscoWorks WLSE "Location View" Displays Rogue Access Point Location



CiscoWorks WLSE provides dynamic RF management through self-healing, which enables a Cisco Aironet access point to adjust its cell coverage area automatically when an adjacent access point becomes disabled or fails. It also helps optimize performance by detecting and locating RF interference while proactively monitoring utilization and faults.

CiscoWorks WLSE automates a range of time-consuming and repetitive tasks, such as bulk firmware updates and mass configuration of access points and bridges. CiscoWorks WLSE may be transparently integrated with other network management systems, operations support systems, and CiscoWorks applications through syslog messages, Simple Network Management Protocol (SNMP) traps, and an Extensible Markup Language (XML) interface. The secure HTML-based user interface provides access anywhere, even through firewalls.

KEY FEATURES AND BENEFITS

Deployment

CiscoWorks WLSE speeds deployment by automating configuration and setup, reducing the overall cost to provision WLANs. The result is superior return on investment and enhanced productivity.

- *Out-of-box access point configuration*—Newly deployed access points can be automatically discovered and configured using Dynamic Host Configuration Protocol (DHCP), with the flexibility to assign different configurations based on the access point device type, its source subnet, and its software version. This allows administrators to automate deployment and simultaneously maintain control in rapidly expanding environments. Cisco Aironet access points, bridges, and the switches to which they are connected are automatically discovered using Cisco Discovery Protocol.
- *Assisted site surveys*—Complete and reliable WLAN coverage is achieved only with a detailed site survey. Site surveys are essential during deployment, and they should be performed regularly thereafter to address changes in the environment. Site surveys once required special knowledge and were both expensive and time-consuming. Most organizations contracted with outside consultants, but CiscoWorks WLSE enables IT managers to perform cost-effective site surveys in-house without being experts in RF propagation and measurement. The assisted site survey

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tool automatically determines optimal frequency selection, transmit power, and other settings, which the administrator can then apply. The coverage areas desired can be defined to cover only specified areas.

- *Mass configuration*—Configuring a group with hundreds of devices requires no more effort than configuring a single device. Configuration tasks may be scheduled or executed on demand. Cisco Works WLSE supports all the configuration settings available on access points, including Wi-Fi Protected Access (WPA) and Wi-Fi Protected Access 2 (WPA2) security settings. Configuration updates are done using Secure Shell (SSH) Protocol.

Operations

CiscoWorks WLSE automates a wide range of repetitive time-consuming tasks, simplifying the management of Cisco Aironet access points and bridges to enhance productivity for network administrators.

- *Centralized firmware updates*—Access point and bridge firmware may be updated in mass. Updates may be assigned to a specific device or to groups. Tasks may be scheduled or executed on demand.
- *Mass conversion to Cisco IOS® Software*—CiscoWorks WLSE can perform mass upgrades of older Cisco Aironet 1200 Series and 350 Series access points running VxWorks to newer Cisco IOS Software versions. (Many of the RF management and Cisco SWAN features require that access points run Cisco IOS Software.)
- *Dynamic grouping*—The Device Groups feature makes administering the WLAN more effective and intuitive. Devices may be organized into hierarchical groups defined by the administrator. Groups may span multiple subnets.
- *Automated discovery*—CiscoWorks WLSE automatically discovers Cisco Aironet access points, bridges, and switches connected to access points using Cisco Discovery Protocol. Discovery may be scheduled or run on demand.
- *Configuration archive*—The CiscoWorks WLSE is able to store the last four configuration versions for each managed access point, allowing configuration tasks to be undone.
- *VLAN configuration*—VLANs on access points may be configured and monitored, allowing differentiation of LAN policies and services, such as security and quality of service, for different users on enterprise and public-access VLANs.
- *Customizable thresholds*—Administrators may define different faults and performance thresholds for specific sites and groups accompanied by specific actions and fault priorities. A centralized fault screen simplifies quick resolution of problems. Network load, RF usage, errors, and client associations can be monitored.
- *Fault status*—CiscoWorks WLSE provides a centralized tree view of all access points and device groups. Color coding and group icons indicate fault status. Faults may be filtered and sorted by priority to facilitate viewing and resolving problems.
- *Fault notification*—Fault notification and forwarding are implemented with syslog messages, SNMP traps, and e-mail.
- *Switch monitoring*—Switches connected to access points are monitored for availability and the utilization of ports, CPU, and memory.

Security and Wireless LAN Intrusion Detection

Wireless LAN threat defense is provided by the Cisco SWAN wireless LAN Intrusion Detection System (IDS). Organizations need to protect their RF environment and data networks from unauthorized access. Unauthorized (rogue) access points installed by employees or intruders create security breaches that put the entire network at risk. Cisco SWAN quickly detects, locates, and automatically shuts down rogue access points. CiscoWorks WLSE also detects unauthorized access points and WLAN networks, quickly locating them and identifying which wireless clients are participating. It also monitors WPA message integrity failures, which may signal man-in-middle attacks. WLAN IDS protection can be tailored to suit individual needs:

- *Integrated WLAN IDS*—Standard Cisco Aironet access points are deployed with the radio (IEEE 802.11a, b, or g) placed in multifunction mode to service client devices and to provide WLAN intrusion monitoring. Intrusion detection information is gathered from the access points that scan the RF environment. Optionally, Cisco client cards and Cisco Compatible client devices provide additional information about the RF environment.
- *Dedicated WLAN IDS*—A dedicated access point-only WLAN is deployed with the access point radio (802.11a, b, or g) placed in radio scan mode to support WLAN intrusion monitoring. This solution provides continuous monitoring of the RF environment. Active-but-unassociated client device monitoring is supported to minimize the risk of clients associating to rogue access points and to protect the network from malicious intruders probing the RF environment for weaknesses.

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Other security features of CiscoWorks WLSE include:

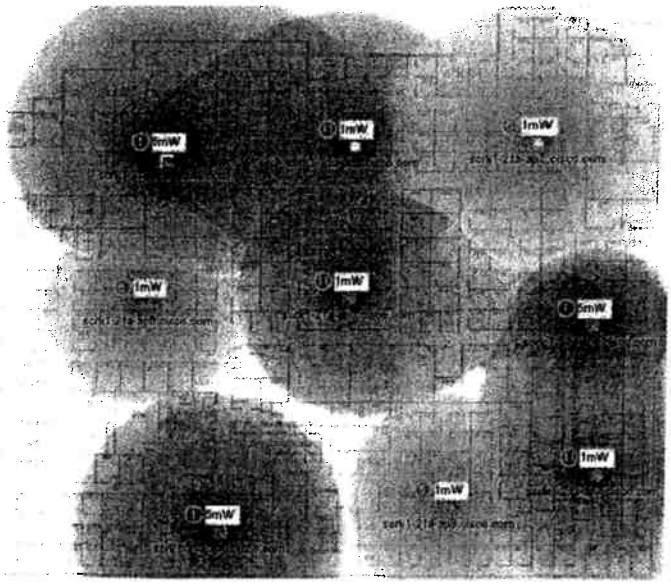
- *Security policy monitoring*—All access points on the network are monitored for consistent application of security policies. Alerts are generated for violations and can be delivered by e-mail, syslog, or SNMP trap notifications.
- *Monitoring of IEEE 802.1X server availability*—IEEE 802.1X Extensible Authentication Protocol (EAP) servers, including Cisco Secure access control servers (ACSs), are monitored for response time. Cisco LEAP, EAP-Flexible Authentication via Secure Tunneling (EAP-FAST), Protected EAP (PEAP), and generic RADIUS authentication types are supported.
- *Secure user interface*—CiscoWorks WLSE provides a secure HTML-based user interface that may be accessed anywhere, even through firewalls. In addition to the Web-based GUI, a command-line interface like that in Cisco IOS Software provides direct console, Telnet, or SSH access for basic configuration and troubleshooting. CiscoWorks WLSE communicates with access points using HTTP Secure Sockets Layer (SSL) sessions for management.
- *Role-based access model*—CiscoWorks WLSE has a flexible, role-based user access model. For example, help desk personnel can be limited to viewing reports and faults. Several common authentication modules are supported, including TACACS+, RADIUS, and Microsoft NT Domain authentication.

Performance Optimization and High Availability

Interference detection and location is critical to maintaining a reliable WLAN. RF measurements sent to CiscoWorks WLSE include measurements for both 802.11 and non-802.11 interference. If the interference exceeds an administrator-defined threshold, a fault is generated so that the administrator can quickly locate and suppress the source of the interference.

- *Air/RF scanning and monitoring*—Cisco Aironet access points are multifunctional, with built-in RF scanning and measurement capabilities. CiscoWorks WLSE analyzes these RF measurements, provides notification if performance degrades, and displays air/RF coverage (Figure 2). It also analyzes RF measurements from Cisco Aironet and Cisco Compatible client devices. Client air scanning and monitoring provides 10 to 20 times more RF measurement data than access-point RF measurements alone. Because WLAN clients can freely move about all areas of a building, the addition of client scanning and monitoring extends RF monitoring into areas most likely to contain rogue access points while allowing for more accurate detection.

Figure 2. Assisted Site Survey, "Access Point Scan Mode"



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- *Interference detection*—CiscoWorks WLSE catalogs the physical location of all managed access points and creates a site map of the WLAN installation. This allows the wireless-aware network to detect points of interfering RF energy that affect network performance. The source of this energy could be a rogue access point or a device that operates in the same frequency range, such as a cordless telephone or leaky microwave oven. Interference detection and location is critical to maintaining a reliable WLAN. Administrators can define thresholds to generate fault notifications when detected interference levels are exceeded.
- *Self-healing WLANs*—CiscoWorks WLSE can detect and compensate for an access point that has failed by automatically increasing the power and cell coverage of surrounding access points. The self-healing process provides contiguous coverage to maximize the available coverage of the WLAN and minimize client impact.
- *Automated resite surveys*—CiscoWorks WLSE automatically reassesses radio throughput and performance to provide notification if performance falls below administrator-defined thresholds. New optimal settings can be found by running the site survey wizard, then applied to the network.
- *Warm standby redundancy*—CiscoWorks WLSE supports redundancy through a primary and backup mechanism. If the primary fails, the backup automatically takes over. Data such as performance data, fault messages, and radio scans between the primary and backup is synchronized on a user-defined interval to minimize the loss of collected data when a backup takes over.

Reporting, Trending, Planning, and Troubleshooting

Real-time client tracking, together with a variety of reports, is a powerful tool for troubleshooting and capacity planning. Using only a client name, user name (supported for Cisco LEAP and PEAP), or MAC address, it is easy to determine to what access point a client is associated in real time. In addition, the previous 10 associations for the client and associated access points can be accessed to aid in troubleshooting.

Information about network utilization, client association and utilization, historical and current client usage statistics, Cisco Aironet Access Point Ethernet and radio interfaces status, and error details are displayed in both graphical and tabular form. Reports may be generated both at the individual device level and the group level. All reports may be scheduled, delivered by e-mail, or exported in comma separated value (CSV), [illegible], and PDF formats.

CiscoWorks WLSE also provides comprehensive coverage display overlaid on floor maps to provide visibility into the RF environment. The Location Manager feature provides coverage by data rate and signal strength. CiscoWorks WLSE also supports RF management for directional antennas. Details about device settings, including channel and power, can be overlaid on the coverage display.

Integration

Integration with third-party network management systems is provided through syslog messages, SNMP traps, and an XML interface. As part of the CiscoWorks network management series of products, CiscoWorks WLSE integrates with the CiscoWorks LAN Management Solution and other CiscoWorks applications to increase the efficiency of managing a converged wired and wireless network. Device inventory and credentials, for example, can be imported or exported between CiscoWorks WLSE and CiscoWorks Resource Manager Essentials (RME), an application that provides broad network management for a wide range of Cisco devices. If desired, device discovery may be turned off to allow automatic inventory synchronization with CiscoWorks RME. CiscoWorks WLSE uses the same default user roles as CiscoWorks RME, but it allows customization. CiscoWorks WLSE can be launched from the CiscoWorks Cisco Management Connection desktop.

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FEATURES AND BENEFITS

Table 1 summarizes the features and benefits of CiscoWorks WLSE.

Table 1. Features and Benefits

Feature	Benefit
Wireless LAN IDS with rogue access point detection, automatic switch port shutdown, and unauthorized WLAN detection	Eliminates security threats posed by malicious intruders and by employee-installed unauthorized access points
Interference detection	Notifies administrators quickly about conditions that may affect network performance
Self-healing adjusts cell coverage area to compensate for disabled or failed access points	Increases WLAN availability and optimizes WLAN performance
Assisted site survey tool	Assisted site surveys performed by IT personnel reduce the costs, skills, and time required to make optimal radio settings for best network performance
Automated resite surveys	Maintains peak WLAN performance and reliable WLAN coverage by periodically reassessing the performance of optimal settings in the network
Automated configuration and bulk firmware updates	Simplifies daily operations and management
Access point and bridge security policy misconfiguration detection and alerts	Enhances security by monitoring consistency throughout the network
Out-of-box access point deployment	Allows for rapid deployment and expansion
Proactive fault and performance monitoring	Increases WLAN availability
Access point group usage reports	Fast troubleshooting improves user satisfaction
XML data export	Facilitates integration with third-party applications

SUPPORTED CISCO DEVICES

The following sections show the Cisco devices supported by the CiscoWorks WLSE, up-to-date device support information can be located at the following URL: http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cwparent/cw_1105/wlse/2_9/index.htm.

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Network Management—Supported Access Points and Bridges

Table 2. Supported Access Points and Bridges

Series	SysObjectID	Supported Firmware Versions: Discovery, Inventory, Faults, Reporting	Configuration	Firmware
Cisco Aironet 1100 Series Access Points	1.3.6.1.4.1.9.1.507	12.2(4)JA, 12.2(4)JA1, 12.2(8)JA, 12.2(11)JA, 12.2(13)JA, 12.2(13)JA1, 12.2(13)JA2, 12.2(13)JA3, 12.2(15)JA[1], 12.3(2)JA	12.2(4)JA, 12.2(4)JA1, 12.2(8)JA, 12.2(11)JA, 12.2(11)JA1, 12.2(13)JA, 12.2(13)JA1, 12.2(13)JA2, 12.2(13)JA3, 12.2(15)JA[1], 12.3(2)JA	12.2(4)JA, 12.2(4)JA1, 12.2(8)JA, 12.2(11)JA, 12.2(11)JA1, 12.2(13)JA, 12.2(13)JA1, 12.2(13)JA2, 12.2(13)JA3, 12.2(15)JA[1], 12.3(2)JA
Cisco 1130 Series Access Points	1.3.6.1.4.1.9.1.618	12.3(2)JA	12.3(2)JA	12.3(2)JA
Cisco Aironet 1210 and 1230 Series (Cisco IOS) Access Points	1.3.6.1.4.1.9.1.525	12.2(8)JA, 12.2(11)JA, 12.2(11)JA1, 12.2(13)JA, 12.2(13)JA1, 12.2(13)JA2, 12.2(13)JA3, 12.2(15)JA[1], 12.2(15)XR, 12.3(2)XT, 12.3(2)JA	12.2(8)JA, 12.2(11)JA, 12.2(11)JA1, 12.2(13)JA, 12.2(13)JA1, 12.2(13)JA2, 12.2(13)JA3, 12.2(15)JA[1], 12.2(15)XR, 12.3(2)XT, 12.3(2)JA	12.2(8)JA, 12.2(11)JA, 12.2(11)JA1, 12.2(13)JA, 12.2(13)JA1, 12.2(13)JA2, 12.2(13)JA3, 12.2(15)JA[1], 12.2(15)XR, 12.3(2)XT, 12.3(2)JA

.11a with radio: minimum version 12.3(2)XT

.11a with connectors: minimum version 12.3(2)XT

. 11g radio: 12.2(15)JA or later

Cisco Aironet 1200 and 1220 Series Access Points[2]	1.3.6.1.4.1.9.1.474	11.54T, 11.56, 12.01T1, 12.02T1, 12.03T, 12.04	12.01T1, 12.02T1, 12.03T, 12.04	11.54T, 11.56, 12.01T1, 12.02T1, 12.03T, 12.04
Cisco Aironet 350 Series Access Points	1.3.6.1.4.1.9.1.380	11.21, 11.23T, 12.01T1, 12.02T1, 12.03T, 12.04	12.01T1, 12.02T1, 12.03T, 12.04	11.21, 11.23T, 12.01T1, 12.02T1, 12.03T, 12.04
Cisco Aironet 350 IOS Series Access Points[3]	1.3.6.1.4.1.9.1.552	12.2(13)JA, 12.2(13)JA1, 12.2(13)JA2, 12.2(13)JA3, 12.2(15)JA, 12.3(2)JA	12.2(13)JA, 12.2(13)JA1, 12.2(13)JA2, 12.2(13)JA3, 12.2(15)JA, 12.3(2)JA	12.2(13)JA, 12.2(13)JA1, 12.2(13)JA2, 12.2(13)JA3, 12.2(15)JA, 12.3(2)JA
Cisco Aironet 340 Series Access Points	1.3.6.1.4.1.9.1.379	11.21, 11.23T, 12.01T, 12.02T1, 12.03T, 12.04	12.01T1, 12.02T1, 12.03T, 12.04	11.21, 11.23T, 12.01T1, 12.02T1, 12.03T, 12.04
Cisco Aironet 350 Series Bridges	1.3.6.1.4.1.9.1.380	11.21, 11.23T, 12.01T, 12.02T1, 12.03T, 12.04	12.01T1, 12.02T1, 12.03T, 12.04	11.21, 11.23T, 12.01T1, 12.02T1, 12.03T, 12.04

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Series	SysObjectID	Supported Firmware Versions: Discovery, Inventory, Faults, Reporting	Configuration	Firmware
Cisco Aironet 350 Series Workgroup Bridges[4]	N/A	Not supported.	Not supported.	Not supported.
Cisco Aironet 1410 Wireless Bridges	1.3.6.1.4.1.9.1.533	12.2(15)JA, 12.3(2)JA	12.2(15)JA, 12.3(2)JA	12.2(15)JA, 12.3(2)JA

1 802.11g radios for Series 1100 and 1200 access points are supported only with 12.2(15)JA or later.

2 When a 1200 access point is converted to IOS, its SysObjectID and supported images correspond with the IOS 1210 and 1230 models.

3 Cannot be used as a WDS.

4 Workgroup bridges are discovered as clients.

Radio Management—Supported Access Points and Radios

Table 3. Radio Management Supported Access Points and Radios

Radio Management Feature	Supported AP Models	Supported Radios	Minimum IOS Version Required
Radio Monitoring, AP Radio Scan, Client Walkabout, RM Assisted Configuration, [illegible] Healing, Auto Re-Site Survey, Location Manager	Cisco Aironet 1100 series access points	.11b	12.2(13)JA1, 12.2(13)JA2, 12.2(13)JA3, 12.2(15)JA or later, 12.3(2)JA
		.11g	12.2(15)JA or later, 12.3(2)JA
	Cisco 1130 (Cisco IOS) series access points	.11a, .11g	12.3(2)JA
	Cisco Aironet 1210 and 1230 series (Cisco IOS) access points	.11a	12.2(15)JA or later, 12.3(2)JA
		.11b	12.2(13)JA1, 12.2.(13)JA2, 12.2(15)JA or later, 12.3(2)JA
		.11g	12.2(15)JA or later, 12.3(2)JA
	Cisco Aironet 350 IOS series access points[1]	.11b	12.2(13)JA, 12.2(13)JA1, 12.2(13)JA2, 12.2(13)JA3, 12.2(15)JA or later, 12.3(2)JA
	BR1310 (AP-only mode)	.11a, .11g	12.3(2)JA
Scanning-Only AP	Cisco Aironet 1100 series access points	.11b, .11g	12.2(15)JA or later, 12.3(2)JA
	Cisco 1130 (Cisco IOS) series access points	.11a, .11g	12.3(2)JA
	Cisco Aironet 1210 and 1230 series (Cisco IOS) access points	.11a, .11b, .11g	12.2(15)JA or later, 12.3(2)JA

1 Cannot be used as a WDS or Scanning-Only AP

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Radio Management—Supported Client Adaptor Cards

Table 4. Radio Management Supported Client Adaptor Cards

Radio Management Feature	Supported Client Adaptors
All Radio Manager and Location Manager Features[1]	AIR-PCI351x (Air350 based client card, B-radio)[2]
	AIR-CB20A[2], AIR-CB21AG[3],[4]

1 Require CCX-V2 or later compliant clients. To check the status of partner client cards, see the CCX partner website at cetifid. http://www.cisco.com/en/US/partners/pr46/pr147/partners_pgm_concept_home.html

2 To allow the client adaptor to participate in the Radio Management feature, the Enable Radio Management Support parameter must be checked. This parameter, which is accessible from the Advanced (Infrastructure) Parameters screen in ACU, is available in:

- Windows ACU version 6.2 or later for 350 series client adapters using firmware version 5.30.17 or later
- Windows ACU version 6.3 or later for CB20A client adapters using firmware version 5.40.10 or later

3 Requires ADU software version 1.1 or later.

4 Includes both 802.11a and 802.11g radios. The 802.11g radio can act like a 802.11b radio (g is a superset of b), so effectively the AG client can operate in A, B, and G modes.

Radio Management—Supported Directional Antennas

Following are the supported directional antennas:

- AIR-ANT1729 2.4 GHz, 6 dBi Patch Ant w/RP-TNC Connector
- AIR-ANT2410 2.4 GHz, 10 dBi Yagi Mast Mount Ant. with RP-TNC Connector
- AIR-ANT2012 2.4 GHz, 6.5 dBi Diversity Patch Ant with RP-TNC Connector
- AIR-ANT3549 2.4 GHz, 9 dBi Patch Antenna with RP-TNC Connector
- AIR-ANT570-R 5 GHz, 7 dBi Diversity AIR-ANT1729 2.4 GHz, 6 dBi Patch Ant with RP-TNC Connector
- AIR-ANT2410 2.4 GHz, 10 dBi Yagi Mast Mount Ant. with RP-TNC Connector
- AIR-ANT2012 2.4 GHz, 6.5 dBi Diversity Patch Ant with RP-TNC Connector
- AIR-ANT3549 2.4 GHz, 9 dBi Patch Antenna with RP-TNC Connector
- AIR-ANT570-R 5 GHz, 7 dBi Diversity Directional Antenna for Connectors on Release 12.3(2)XT

Supported Switches

Note: The WLSE monitors basic MIB-II attributes that are available on all switches. In general, different software versions of these devices will be supported because those attributes are not expected to change.

Table 5. Supported Switches

Series	Devices Supported	SysObjectID
Cisco Catalyst 1200	1200	1.3.6.1.4.1.9.5.5
Cisco Catalyst 1900	1924	1.3.6.1.4.1.9.5.18
		1.3.6.1.4.1.9.5.28
	1912	1.3.6.1.4.1.9.5.175
		1.3.6.1.4.1.9.5.31

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Series	Devices Supported	SysObjectID
Cisco PGW 2200 Softswitch	2200	1.3.6.1.4.1.9.5.13
Cisco Catalyst 2820	2820	1.3.6.1.4.1.9.5.20
Cisco Catalyst 2900[1]	2980G-A	1.3.6.1.4.1.9.5.51
	2980G	1.3.6.1.4.1.9.5.49
	2948GL3Dc	1.3.6.1.4.1.9.1.386
	2948G	1.3.6.1.4.1.9.5.42
	2926	1.3.6.1.4.1.9.5.35
	2900	1.3.6.1.4.1.9.5.12
Cisco Catalyst 2900XL[2]	2908XL	1.3.6.1.4.1.9.1.170
	2912XL	1.3.6.1.4.1.9.1.219
	2912MFXL	1.3.6.1.4.1.9.1.221
	2916MXL	1.3.6.1.4.1.9.1.171
	2924XL	1.3.6.1.4.1.9.1.183
	2924CXL	1.3.6.1.4.1.9.1.184
	2924XLV	1.3.6.1.4.1.9.1.217
	2924CXLV	1.3.6.1.4.1.9.1.218
	2924MXL	1.3.6.1.4.1.9.1.220
Cisco Catalyst 2950[3]	2950-12	1.3.6.1.4.1.9.1.323
	2950-24	1.3.6.1.4.1.9.1.324
	2950-24C	1.3.6.1.4.1.9.1.325
	2950T	1.3.6.1.4.1.9.1.359
	2950-12G	1.3.6.1.4.1.9.1.427
	2950-24G	1.3.6.1.4.1.9.1.428
	2950-48G	1.3.6.1.4.1.9.1.429
	2950-24S	1.3.6.1.4.1.9.1.430
	2950-24GDC	1.3.6.1.4.1.9.1.472

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Series	Devices Supported	SysObjectID
Cisco Catalyst 3000 Series Switches	C3000	1.3.6.1.4.1.9.5.10
		1.3.6.1.4.1.9.5.26
	C3100	1.3.6.1.4.1.9.5.23
	C3200	1.3.6.1.4.1.9.5.15
	CPW16	1.3.6.1.4.1.9.5.9
		1.3.6.1.4.1.9.5.25
Cisco Catalyst 3500 XL Series Switches[4]	3508GXL	1.3.6.1.4.1.9.1.246
	3512XL	1.3.6.1.4.1.9.1.247
	3524XL,	1.3.6.1.4.1.9.1.248
	3548XL	1.3.6.1.4.1.9.1.278
	3524PWRXL,	1.3.6.1.4.1.9.1.287
	3524PWRXLEn	1.3.6.1.4.1.9.1.515
;co Catalyst 3550 Series Switches[5]	3550-24	1.3.6.1.4.1.9.1.366
	3550-48	1.3.6.1.4.1.9.1.367
	3550-12T	1.3.6.1.4.1.9.1.368
	3550-12G	1.3.6.1.4.1.9.1.431
	3550-24DC	1.3.6.1.4.1.9.1.452
	3550-24-MMF	1.3.6.1.4.1.9.1.453
	3550-24PWR	1.3.6.1.4.1.9.1.485
	3550-24-PWR	1.3.6.1.4.1.9.1.485
Cisco Catalyst 3750 Series Switches	3750	1.3.6.1.4.1.9.1.516
	3750-24TS	1.3.6.1.4.1.9.1.511
	3750-248TS	1.3.6.1.4.1.9.1.512
	3750G-24S	1.3.6.1.4.1.9.1.513
	3750G-24T	1.3.6.1.4.1.9.1.514
Cisco Catalyst 3900 Series Switches	3900	1.3.6.1.4.1.9.5.33
	3920	1.3.6.1.4.1.9.5.37

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Series	Devices Supported	SysObjectID
Cisco Catalyst 4000 Series Switches[6]	4003	1.3.6.1.4.1.9.5.40
	4912G,	1.3.6.1.4.1.9.5.41
	4006	1.3.6.1.4.1.9.5.46
	4006-SW	1.3.6.1.4.1.9.1.448
	4908gL3Dc	1.3.6.1.4.1.9.1.387
	4503	1.3.6.1.4.1.9.1.501
Cisco Catalyst 4000 IOS Series Switches[7]	4006-SW	1.3.6.1.4.1.9.1.448
	4503	1.3.6.1.4.1.9.1.501
	4503-SUP	1.3.6.1.4.1.9.5.58
	4506	1.3.6.1.4.1.9.1.502
	4506-SUP	1.3.6.1.4.1.9.5.59
	4507R	1.3.6.1.4.1.9.1.503
:o Catalyst 5000 Series Switches[8]	5000	1.3.6.1.4.1.9.5.7
	5002	1.3.6.1.4.1.9.5.29
Cisco Catalyst 5500 Series Switches[9]	5500	1.3.6.1.4.1.9.5.17
	5505	1.3.6.1.4.1.9.5.34
	5509	1.3.6.1.4.1.9.5.36
Cisco Catalyst 6000* Series Switches[10]	6006	1.3.6.1.4.1.9.5.38
	6009	1.3.6.1.4.1.9.5.39
	6503	1.3.6.1.4.1.9.5.56
	6506	1.3.6.1.4.1.9.5.45
	6509	1.3.6.1.4.1.9.5.44
	6509SP	1.3.6.1.4.1.9.5.47
	6513	1.3.6.1.4.1.9.5.50
Cisco Catalyst 7600 Series	7603*	1.3.6.1.4.1.9.1.401
	7606*	1.3.6.1.4.1.9.1.402

* The Wireless LAN Services Module (WSM) can be implemented in these switches to provides WDS to the wireless network.

sted with Software Release 12.0(7)WX5(15a)

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2 Tested with Software Release 11.2 (8.5)SA6
3 Tested with Software Release 12.0(5.3)WC(1) and 12.1(9)EA1
4 Tested with Software Release 12.0(5.3)WC(1), 12.0(5.2)XU
5 Tested with Software Release 12.1(6)EA1
6 Tested with Software Release 6.3 (3) and 7.2(2)
7 Tested with Software Release 12.1(12c)EW
8 Tested with Software Release 4.5(3)
9 Tested with Software Release 5.4(1)
10 Tested with Software Releases 6.2(2) and 6.3(1)

Supported Routers

Note: The WLSE monitors basic MIB-II attributes that are available on all switches. In general, different software versions of these devices will be supported because those attributes are not expected to change.

Table 6. Supported Routers

Series	Devices Supported	SysObjectID
Cisco 800 Series Routers	801	1.3.6.1.4.1.9.1.212
	802	1.3.6.1.4.1.9.1.213
	803	1.3.6.1.4.1.9.1.214
	804	1.3.6.1.4.1.9.1.215
	804J	1.3.6.1.4.1.9.1.296
	805	1.3.6.1.4.1.9.1.245
	806	1.3.6.1.4.1.9.1.384
	811	1.3.6.1.4.1.9.1.295
	813	1.3.6.1.4.1.9.1.396
	826	1.3.6.1.4.1.9.1.322
	826 QuadV	1.3.6.1.4.1.9.1.321
	827	1.3.6.1.4.1.9.1.284
	827-H	1.3.6.1.4.1.9.1.446
	827 QuadV	1.3.6.1.4.1.9.1.270
	828	1.3.6.1.4.1.9.1.382
	831	1.3.6.1.4.1.9.1.497
	837	1.3.6.1.4.1.9.1.495
Cisco 1700 Series Routers	1710	1.3.6.1.4.1.9.1.200

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Series	Devices Supported	SysObjectID
	1721	1.3.6.1.4.1.9.1.444
	1760	1.3.6.1.4.1.9.1.416
Cisco 2600 Series Routers[1]	2610	1.3.6.1.4.1.9.1.185
	2611	1.3.6.1.4.1.9.1.186
	2612	1.3.6.1.4.1.9.1.187
	2613	1.3.6.1.4.1.9.1.195
	2620	1.3.6.1.4.1.9.1.208
	2621	1.3.6.1.4.1.9.1.209
	2650	1.3.6.1.4.1.9.1.319
	2651	1.3.6.1.4.1.9.1.320
	2691	1.3.6.1.4.1.9.1.413
	2610XM	1.3.6.1.4.1.9.1.466
	2611XM	1.3.6.1.4.1.9.1.467
	2620XM	1.3.6.1.4.1.9.1.468
	2621XM	1.3.6.1.4.1.9.1.469
	2650XM	1.3.6.1.4.1.9.1.470
	2651XM	1.3.6.1.4.1.9.1.471
Cisco 3600 Series Routers[2]	3620	1.3.6.1.4.1.9.1.122
	3640	1.3.6.1.4.1.9.1.110
	3660	1.3.6.1.4.1.9.1.205
	3661-AC	1.3.6.1.4.1.9.1.338
	3661-DC	1.3.6.1.4.1.9.1.339
	3662-AC	1.3.6.1.4.1.9.1.340
	3662-AC-CO	1.3.6.1.4.1.9.1.342
	3662-DC	1.3.6.1.4.1.9.1.341
	3662-DC-CO	1.3.6.1.4.1.9.1.343

1 Tested with Cisco IOS Software Release 12.2(1)

2 sted with Cisco IOS Software Release 12.0(5)XK

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Supported Access Servers

Table 7. Supported Access Servers

Devices	Supported Versions	
	Discovery, Inventory, Faults, Reporting	**Configuration and Firmware**
LEAP, PEAP, RADIUS, EAP-FAST, and EAP-MD5 servers	Cisco Secure Access Control Server (ACS)[1], Version 3.2.3	Not supported.
RADIUS, LEAP, and EAP-MD5 servers	Cisco Access Registrar (CAR), Version 3.0[2]	Not Supported.

1 The WLSE cannot perform Microsoft PEAP (EAP-MSCHAPv2) transactions with ACS.

2 Because CAR 3.0 supports only RADIUS, LEAP, and EAP-MD5 protocols, the WLSE 2.9 supports monitoring of CAR 3.0 configured as RADIUS, LEAP, and EAP-MD5 type AAA servers only.

TECHNICAL SPECIFICATIONS

Table 8 outlines the technical specifications of CiscoWorks WLSE.

Table 8. Technical Specifications

	CPU	Intel Pentium IV processor, 3.06 GHz
Core Logic	Front Side Bus	533 MHz
Drives	Hard drives	One 40 GB Integrated Drive Electronics (IDE) hard drive
	CD-ROM drive	Slim type, low profile IDE CD-ROM drive
	Disk drive	One 3.5 inch, 1.44 MB disk drive
Ports	Serial	One 9-pin connector
	USB	One USB connector in front and two in rear
	RJ-45	Two RJ-45 connectors for connection to two 10/100/1000 Ethernet controllers
Power	AC power supply wattage	230W
	AC power supply voltage	100–120V at 50–60 Hz; 200–240V at 50–60 Hz
	System battery	CR2032 3V lithium coin cell

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	CPU	**Intel Pentium IV processor, 3.06 GHz**
Physical	Rack mountable	1 rack unit
	Height	1.68 in. (4.27 cm)
	Width	16.8 in. (42.7 cm)
	Depth	23 in. (58.4 cm)
	Weight	28.6 lb (13 kg) maximum
Environmental	Operating temperature	50 to 95°F (10 to 35°C)
	Storage temperature	–40 to 149°F (–40 to 65°C)

SUPPORTED WEB BROWSERS

CiscoWorks WLSE is accessible through the following browsers:

- Mozilla 1.6
- Microsoft Internet Explorer 6.0 with Service Pack 1

ORDERING INFORMATION

To place an order, contact your Cisco sales representative. For more information, go to: http://www.cisco.com/go/wlse and http://www.cisco.com/go/swan.

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Cisco Systems

DATA SHEET

CISCO AIRONET 1200 SERIES ACCESS POINTS

RODUCT OVERVIEW

Cisco® Aironet® 1200 Series access points deliver the investment protection, versatility, and enterprise-class features demanded by wireless LAN customers. It is designed specifically for challenging environments like factories, warehouses, and large retail establishments that require the antenna versatility associated with connectorized antennas, as well as a rugged metal enclosure and a broad operating temperature range.

Supporting Cisco IOS® Software, the Cisco Aironet 1200 Series is a component of the Cisco Structured Wireless-Aware Network (SWAN) framework, a comprehensive framework that delivers an integrated, end-to-end wired and wireless network. Using the radio and network management features of the Cisco SWAN framework for simplified deployment, the Cisco Aironet 1200 Series extends the security, scalability, reliability, ease of deployment, and manageability available in wired networks to the WLAN.

The Cisco Aironet 1200 Series meets the needs of today's applications and protects future network infrastructure investments. The modular design of the 1200 Series provides a high-performance 802.11g configured access point that allows for either single- or dual-radio configuration. While the 802.11g-configured access point meets the needs of most customers and applications that may not have a current need for 802.11a, an easy 802.11a upgrade kit is available, to increase scalability and performance with complete backward compatibility for legacy clients.

The Cisco Aironet 1200 Series is part of the award-winning Cisco Wireless Security Suite, which supports 802.11i, Wi-Fi Protected Access 2 (WPA2), WPA, and numerous Extensible Authentication Protocol (EAP) types. WPA and WPA2 are the Wi-Fi Alliance certifications for interoperable, standards-based wireless LAN security. These certifications support IEEE 802.1X for user-based authentication, Temporal Key Integrity Protocol (TKIP) for WPA encryption, and Advanced Encryption Standard (AES) for WPA2 encryption. These certifications help to ensure interoperability between Wi-Fi-certified wireless LAN devices from different manufacturers.

The Cisco Aironet 1200 Series hardware-accelerated AES encryption supports enterprise-class, government-grade secure encryption over the wireless LAN without compromising performance. IEEE 802.1X authentication helps to ensure that only authorized users are allowed on the ork. The series also provides backward compatibility and support for WPA client devices running TKIP, the RC4 encryption algorithm.

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BENEFITS AND FEATURES

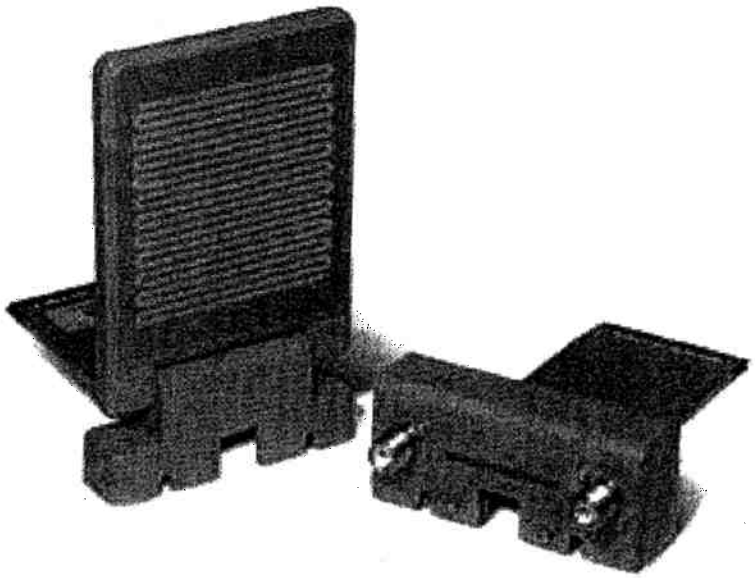
Investment Protection for Future Network Needs

With large storage capacity and support for Cisco management tools, the Cisco Aironet 1200 Series provides the capacity and the means to upgrade firmware and deliver new features as they become available. For additional investment protection, the Cisco Aironet 1200 Series comes complete with an integrated mounting system that secures the device using the customer's choice of laptop security cables or standard padlocks. The reliability of the 802.11g solution makes the Cisco Aironet 1200 Series a wise investment for enterprise customers. It provides field-proven reliability, featuring a Cisco Aironet fifth-generation 2.4 GHz radio. An available 802.11a radio module upgrade maximizes capacity and performance, delivering up to 54 Mbps data rates on all 12 available channels and allowing the wireless network to scale to accommodate a large number of users. With the Cisco Aironet 1200 Series, a single access point can operate one radio for 802.11b/g clients, while supporting new users by adding a second 802.11a radio to scale network performance and capacity.

Installation Options Increase Flexibility

As the popularity of wireless LANs increases, enterprises are installing access points in more types of facilities, locations, and orientations. The Cisco Aironet 1200 Series is designed with this in mind. With its broad operating temperature range and cast-aluminum housing, this device provides the ruggedness required in factories, warehouses, and the most challenging environments. Support for inline power over Ethernet (PoE) and local power maximizes powering option flexibility. The access point and integrated mounting system are designed for installation on walls, below ceilings, and, with its plenum ratable metal case, above suspended ceilings.

Figure 1. Cisco Aironet 1200 Series Access Points 802.11a Radio Modules



All available radios (802.11a, 802.11b, and 802.11g) provide a variety of transmit power settings to adjust coverage area size. To extend the flexibility of deployments, the 802.11a radio module is available in two versions (Figure 1). Both versions provide up to 12 nonoverlapping channels in the 5 GHz band (subject to local regulations); an additional 11 will become available in 2005 with a field firmware upgrade. One version offers dual antenna connectors for use with a wide variety of Cisco antennas to achieve extended range and application-specific coverage. The second has an integrated antenna design that incorporates diversity omnidirectional (5 dBi) and patch antennas (9 dBi). For ceiling, desktop, or other horizontal installations, the integrated omnidirectional antenna provides an optimal coverage pattern and maximum range. For wall-mount installations,

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the patch antenna provides a hemispherical coverage pattern that uniformly directs the radio energy from the wall and across the room. Both the omnidirectional and patch antennas provide diversity for maximum reliability, even in high-multipath environments such as offices and other indoor environments. Coupled with the broadest selection of 2.4 GHz and 5 GHz antennas in the industry, this provides users with unparalleled flexibility in cell size and coverage patterns.

Table 1. Features and Benefits of Cisco Aironet 1200 Series Access Points

Feature	Benefit
Cisco SWAN Framework	Extends the security, scalabililty, reliability, ease of deployment, and manageability available in wired networks to the wireless infrastructure.
Modular Platform	Allows single or dual radio configuration. Provides numerous configuration and upgrade options.
Field-Upgradeable to Dual 802.11a/g Operation	Offers great flexibility and investment protection, allowing network administrators to deploy a wireless network optimized to their particular applications, even as their needs evolve.
Security Architecture Client Authentication and Encryption	Cisco Wireless Security Suite supporting WPA and WPA2, including: **Authentication** • 802.1X support, including Cisco LEAP, EAP-Flexible Authentication via Secure Tunneling (EAP-FAST), Protected EAP- Generic Token Card (PEAP-GTC), PEAP-Microsoft Challenge Authentication Protocol Version 2 (PEAP-MSCHAPv2), EAP-Transport Layer Security (EAP-TLS), EAP-Tunneled TLS (EAP-TTLS), and EAP-Subscriber Identity Module (EAP-SIM) to yield mutual authentication and dynamic, per-user, per-session encryption keys (WPA and WPA2) • MAC address and standard 802.11 authentication mechanisms **Encryption** • AES-CCMP encryption (WPA2) • TKIP encryption enhancements: key hashing (per-packet keying), message integrity check (MIC) and broadcast key rotation via Cisco TKIP or WPA TKIP • Support for static and dynamic IEEE 802.11 WEP keys of 40 bits and 128 bits
Rugged Metal Housing	Supports deployment in factories, warehouses, the outdoors (in a NEMA enclosure), and other industrial environments.
UL 2043 Plenum Rating and Extended Operating Temperature	Supports installation in environmental air spaces, such as areas above suspended ceilings.
Multipurpose and Lockable Mounting Bracket	Provides greater flexibility in installation options for site-specific options, as well as theft deterrence.
Both Local and Inline Power Support	Power can be supplied using the Ethernet cable, eliminating the need for costly electrical power line runs to remotely installed access points. Can be powered by Cisco inline power switches, single port power injectors, or local power.
Hardware-Assisted AES Encryption	Provides high security without performance degradation.
IEEE 802.11i-Compliant; WPA2-Certified and WPA-Certified	Helps to ensure interoperable security with wireless LAN client devices from other manufacturers.
Cisco IOS Software	Delivers enterprise-class features for connectivity, scalability, and high availability.

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SUMMARY/CONCLUSION

Cisco Aironet 1200 Series modular access points feature antenna connectors for greater range or coverage versatility using a broad selection of available Cisco antennas, as well as a rugged, metal housing for operation over extended temperature ranges typical of demanding environments. The 802.11g radio delivers industry-leading range and throughput, meeting the performance requirements of industrial and enterprise applications, while hardware-assisted AES encryption provides uncompromised support for interoperable IEEE 802.11i and WPA2 security. While the 802.11 g-configured Cisco Aironet 1200 Series meets the needs of many industrial applications, its modular design allows dual radio configuration and field upgradeability so administrators can deploy a wireless network optimized for their evolving requirements. The Cisco Aironet 1200 Series supports Cisco IOS Software and is a component of the Cisco SWAN framework, a comprehensive framework that delivers an integrated, end-to-end wired and wireless network.

PRODUCT SPECIFICATIONS

Table 2 lists product specifications for Cisco Aironet 1200 Series access points.

Table 2. Product Specifications for Cisco Aironet 1200 Series

Item	Specification
Part Number	• AIR-AP1231G-x-K9 • Regulatory Domains: (x = Regulatory Domain) • A = FCC • E = ETSI • I = Israel • J = TELEC (Japan) Customers are responsible for verifying approval for use in their individual countries. To verify approval and to identify the regulatory domain that corresponds to a particular country please visit: http://www.cisco.com/go/aironet/compliance Not all regulatory domains have been approved. As they are approved, the part numbers will be available on the Global Price List.
Software	Cisco IOS Software
Data Rates Supported	802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps
Network Standard	IEEE 802.11b and IEEE 802.11g
Uplink	Autosensing 802.3 10/100BASE-T Ethernet
Radio Module Form Factor	• 802.11a: CardBus (32-bit) • 802.11b or 802.11g: Mini-PCI (32-bit)
Frequency Band and Operating Channels	**Americas (FCC)** 2.412 to 2.462 GHz; 11 channels **ETSI** 2.412 to 2.472 GHz; 13 channels **Israel** 2.432 to 2.472 GHz; 9 channels **Japan (TELEC)** 2.412 to 2.472 GHz; 13 channels Orthogonal Frequency Division Multiplexing (OFDM) 2.412 to 2.484 GHz; 14 channels Complementary Code Keying (CCK)

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Item	Specification
Nonoverlapping Channels	802.11g: 3
Wireless Modulation	802.11g: Direct sequence spread spectrum (DSSS); OFDM
Receive Sensitivity (Typical)	**802.11g:** 6 Mbps: –90 dBm 9 Mbps: –84 dBm 12 Mbps: –82 dBm 18 Mbps: –80 dBm 24 Mbps: –77 dBm 36 Mbps: –73 dBm 48 Mbps: –72 dBm 54 Mbps: –72 dBm
Available Transmit Power Settings (Maximum power setting will vary according to individual country regulations)	**802.11g:** *CCK*: 100 mW (20 dBm) 50 mW (17 dBm) 30 mW (15 dBm) 20 mW (13 dBm) 10 mW (10 dBm) 5 mW (7 dBm) 1 mW (0 dBm)

Range

802.11g: Outdoor	802.11g: Indoor
110 ft (34m) @ 54 Mbps	90 ft (27 m) @ 54 Mbps
200 ft (61 m)@ 48 Mbps	95 ft (29 m) @ 48 Mbps
225 ft (69 m) @ 36 Mbps	100 ft (30 m) @ 36 Mbps
325 ft (99 m) @ 24 Mbps	140 ft (43 m) @ 24 Mbps
400 ft (122 m) @ 18 Mbps	180 ft (55 m) @ 18 Mbps
475 ft (145 m) @ 12 Mbps	210 ft (64 m) @ 12 Mbps
490 ft (149 m) @ 11 Mbps	220 ft (67 m) @ 11 Mbps
550 ft (168 m) @ 9 Mbps	250 ft (76 m) @ 9 Mbps
650 ft (198 m) @ 6 Mbps	300 ft (91 m) @ 6 Mbps
660 ft (201 m) @ 5.5 Mbps	310 ft (94 m) @ 5.5 Mbps
690 ft (210 m) @ 2 Mbps	350 ft (107 m) @ 2 Mbps
700 ft (213 m) @ 1 Mbps	410 ft (125 m) @ 1 Mbps

Ranges and actual throughput vary based upon numerous environmental factors so individual performance may differ.

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Item	Specification
Compliance	**Standards** Safety • UL 60950 • CAN/CSA C22.2 No. 60950 • IEC 60950 • UL 2043 Radio Approvals • FCC Part 15.247 • RSS-210 (Canada) • EN 300.328 • ARIB-STD 33 (Japan) • ARIB-STD 66 (Japan) • AS/NZS 4771 (Australia and New Zealand) EMI and Susceptibility (Class B) • FCC Part 15.107 and 15.109 • ICES-003 (Canada) • VCCI (Japan) • EN 301.489-1 and -17 (Europe) • AS/NZS 3548 Security • 802.11i, WPA2, WPA • 802.1X • AES, TKIP Other • IEEE 802.11g • FCC Bulletin OET-65C • RSS-102
Antenna	2.4 GHz Radio: • Two RP-TNC connectors; 802.11g approved with: – AIR-ANT1728, AIR-ANT1729, AIR-ANT2012, AIR-ANT2506, AIR-ANT3213, AIR-ANT3549, AIR-ANT4941, AIR-ANT5959, and AIR-ANT2410Y-R
Network Management	BootP, Secure Shell (SSH) Protocol, Secure HTTP (HTTPS), Trivial File Transfer Protocol (TFTP), FTP, Telnet, console port, Simple Network Management Protocol (SNMP) MIB I and MIB II, CiscoWorks Resource Manager Essentials (RME), CiscoWorks Software Image Manager (SWIM), CiscoWorks Campus Manager, CiscoWorks CiscoView, and CiscoWorks WLSE
LEDs	Three indicators on the top panel report Ethernet activity and status, device operating status, and radio activity and status.

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Item	Specification
Housing	Die-cast aluminum
Dimensions (H x W x D)	1.660 x 6.562 x 7.232 in. (4.22 x 16.67 x 18.37 cm); add 0.517 in. (1.31 cm) height for mounting bracket
Weight	1.725 lb (0.783 kg); add 0.4 lb (0.181 kg) for mounting bracket
Environmental	–4 to 122°F (–20 to 50°C), 10 to 90 percent humidity (noncondensing)
Memory and Processor	IBM PowerPC405 (200 MHz) 16 MB RAM; 8 MB Flash memory
Input Power Requirements	90 to 240 VAC ±10 percent (power supply) 48 VDC ±10 percent
Power Draw	6W maximum
Warranty	One year
Wi-Fi Certification	Wi Fi CERTIFIED

ORDERING INFORMATION

Table 3 lists ordering information for Cisco Aironet 1200 Series access points. To place an order, visit the Cisco Ordering Home Page.

e 3. Ordering Information

Part Number	Product Name
AIR-AP1231G-A-K9	Cisco Aironet 1200 Series 802.11g Access Point, FCC Configuration
AIR-AP1231G-E-K9	Cisco Aironet 1200 Series 802.11g Access Point, ETSI Configuration
AIR-AP1231G-I-K9	Cisco Aironet 1200 Series 802.11g Access Point, Israel Configuration
AIR-AP1231G-J-K9	Cisco Aironet 1200 Series 802.11g Access Point, Japan Configuration

Customers are responsible for verifying approval for use in their individual countries. To verify approval and to identify the regulatory domain that corresponds to a particular country lease, visit:
http://www.cisco.com/go/aironet/compliance

Not all regulatory domains have been approved. As they are approved, the part numbers will be available on the Global Price List.

TO DOWNLOAD THE SOFTWARE

Visit the Cisco Software Center to download Cisco IOS Software.

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Cisco offers a wide range of services programs to accelerate customer success. These innovative programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you to protect your network investment, optimize network operations, and prepare your network for new applications to extend network intelligence and the power of your business. For more information about Cisco Services, see Cisco Technical Support Services or Cisco Advanced Services.

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FOR MORE INFORMATION

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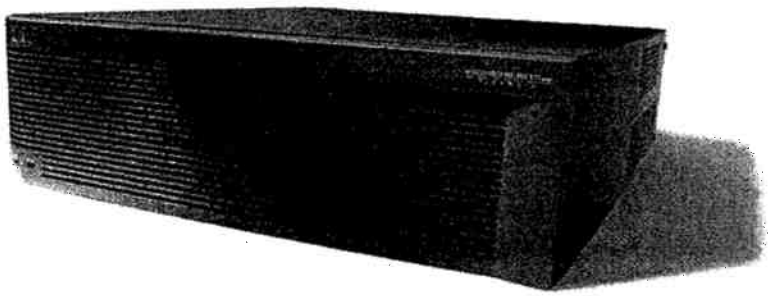
DATA SHEET

CISCO PIX 535 SECURITY APPLIANCE

The Cisco® PIX® 535 Security Appliance delivers enterprise-class security for large enterprise and service provider networks, in a high performance, purpose-built appliance. Its highly modular three-rack unit (3RU) design supports a combination of up to 10 10/100 Fast Ethernet interfaces or nine Gigabit Ethernet interfaces as well as redundant power supplies, making it an ideal choice for businesses requiring the highest levels of performance, port density, reliability, and investment protection. Part of the market-leading Cisco PIX Security Appliance Series, the Cisco PIX 535 Security Appliance provides a wide range of rich, integrated security services, hardware VPN acceleration, and powerful remote management capabilities in a highly scalable, high-performance solution.

Figure 1
Cisco PIX 535 Security Appliance



ENTERPRISE-CLASS SECURITY FOR LARGE ENTERPRISE AND SERVICE PROVIDER NETWORKS

The Cisco PIX 535 Security Appliance delivers a multilayered defense for large enterprise and service provider networks through rich, integrated security services, including stateful inspection firewall services, advanced application and protocol inspection, site-to-site and remote access VPN, inline intrusion prevention, and robust multimedia and voice security—all in a single, integrated solution.

Cisco PIX Security Appliances incorporate the state-of-the-art Cisco Adaptive Security Algorithm, which provides stateful inspection firewall services by tracking the state of all authorized network communications and by preventing unauthorized network access. As an additional layer of security, Cisco PIX Security Appliances integrate more than 24 purpose-built inspection engines that perform in-depth Layers 4–7 inspection of network traffic flows for many of today's popular applications and protocols. To defend networks from application layer attacks and to give businesses more control over applications and protocols in their environment, these inspection engines incorporate extensive application and protocol knowledge and employ security enforcement technologies that range from protocol conformance checking, application and protocol state tracking, Network Address Translation (NAT) services, and attack detection and mitigation techniques such as protocol field length checking and URL length checking.

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Administrators can easily create custom security policies using the many flexible access control technologies provided by Cisco PIX Security Appliances including network and service object groups, turbo access control lists (ACLs), user and group-based policies, and more than 100 predefined applications and protocols. By combining these flexible access control technologies with the powerful stateful inspection firewall services and advanced application and protocol inspection services that Cisco PIX Security Appliances provide, businesses can easily enforce their network security policies and protect their networks from attack.

MARKET-LEADING VOIP SECURITY SERVICES PROTECT NEXT-GENERATION CONVERGED NETWORKS

Cisco PIX Security Appliances provide market-leading protection for numerous voice-over-IP (VoIP) and multimedia standards, enabling businesses to securely take advantage of the many benefits that converged data, voice, and video networks deliver. By combining VPN with the advanced protocol inspection services that Cisco PIX Security Appliances provide for these converged networking standards, businesses can securely extend voice and multimedia services to home office and remote office environments for lower total cost of ownership, improved productivity, and increased competitive advantage.

FLEXIBLE VPN SERVICES EXTEND NETWORKS ECONOMICALLY TO REMOTE OFFICES AND MOBILE USERS

Using the full-featured VPN capabilities of the Cisco PIX 535 Security Appliance, businesses can securely extend their networks across low-cost Internet connections to mobile users, business partners, and remote offices worldwide. Solutions supported range from standards-based site-to-site VPN using the Internet Key Exchange (IKE) and IP Security (IPSec) VPN standards, to the innovative Cisco Easy VPN capabilities found in Cisco PIX Security Appliances and other Cisco Systems® security solutions—such as Cisco IOS® routers and Cisco VPN 3000 Series Concentrators. Cisco Easy VPN delivers a uniquely scalable, cost-effective, and easy-to-manage remote-access VPN architecture that eliminates the operational costs associated with maintaining the remote-device configurations that are typically required by traditional VPN solutions. Cisco PIX Security Appliances encrypt data using 56-bit Data Encryption Standard (DES), 168-bit Triple DES (3DES), or up to 256-bit Advanced Encryption Standard (AES) encryption. Certain Cisco PIX 535 Security Appliance models have integrated hardware VPN acceleration capabilities, delivering highly scalable, high-performance VPN services.

INTEGRATED INTRUSION PREVENTION GUARDS AGAINST POPULAR INTERNET THREATS

The integrated inline intrusion prevention capabilities of the Cisco PIX 535 Security Appliance can protect large enterprise and service provider networks from many popular forms of attacks, including denial-of-service (DoS) attacks and malformed packet attacks. Using a wealth of advanced intrusion-prevention features, including DNSGuard, FloodGuard, FragGuard, MailGuard, IPVerify, and TCP intercept, in addition to looking for more than 55 different attack "signatures," Cisco PIX Security Appliances keep a vigilant watch for attacks, can optionally block them, and can provide real-time notification to administrators.

AWARD-WINNING RESILIENCY PROVIDES MAXIMUM BUSINESS UPTIME

Select models of Cisco PIX 535 Security Appliances provide stateful failover capabilities that help to ensure resilient network protection for enterprise network environments. Employing a cost-effective, active-standby, high-availability architecture, Cisco PIX Security Appliances that are configured as a failover pair continuously synchronize their connection state and device configuration data. Synchronization can take place over a high-speed LAN connection, providing another layer of protection through the ability to geographically separate the failover pair. In the event of a system or network failure, network sessions are automatically transitioned between appliances, with complete transparency to users.

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RICH NETWORK INTEGRATION IMPROVES NETWORK RESILIENCY AND SIMPLIFIES DEPLOYMENT

Cisco PIX Security Appliances include a variety of advanced networking features for smooth integration into today's diverse enterprise network environments. Administrators can easily integrate Cisco PIX Security Appliances into switched network environments by taking advantage of native 802.1q-based VLAN support. Cisco IP phones can benefit from the "zero-touch provisioning" services provided by Cisco PIX Security Appliances, which help the phones automatically register with the appropriate Cisco CallManager and download any additional configuration information and software images. Companies can also improve their overall network resiliency by taking advantage of the robust Open Shortest Path First (OSPF) dynamic routing services provided by Cisco PIX Security Appliances, which can detect network outages within seconds and route around them.

ROBUST REMOTE-MANAGEMENT SOLUTIONS LOWER TOTAL COST OF OWNERSHIP

The Cisco PIX 535 Security Appliance is a reliable, easy-to-maintain platform that provides numerous configuration, monitoring, and troubleshooting methods. Management solutions range from centralized, policy-based management tools to integrated, Web-based management to support for remote monitoring standards such as Simple Network Management Protocol (SNMP) and syslog.

Administrators can easily manage large numbers of remote Cisco PIX Security Appliances using CiscoWorks VPN/Security Management Solution (VMS). This suite consists of several integrated software modules, including Management Center for Firewalls, Auto Update Server Software, and Security Monitor. This powerful combination provides a highly scalable, next-generation, three-tier management solution that includes the following features:

- Comprehensive configuration and software image management
- Device hierarchy with configuration inheritance based on "Smart Rules"
- Customizable administrative roles and access privileges
- Comprehensive enterprise change management and auditing
- "Touchless" software image management for remote Cisco PIX Security Appliances
- Support for dynamically addressed appliances

Additionally, Cisco offers the CiscoWorks Security Information Management Solution (SIMS), a highly scalable security event management solution that collects, analyzes, and correlates security event data from across the enterprise—enabling you to identify and respond to high-priority security events as they occur. The integrated Cisco PIX Device Manager provides an intuitive, Web-based management interface that greatly simplifies the deployment, ongoing configuration, and monitoring of a Cisco PIX 535 Security Appliance—without requiring any software (other than a standard Web browser) to be installed on an administrator's computer. Intelligent setup and VPN wizards provide easy integration into any network environment, while informative monitoring features, including a real-time dashboard, provide vital device and network health details at a glance.

Alternatively, administrators can remotely configure, monitor, and troubleshoot their Cisco PIX 535 Security Appliances using a command-line interface (CLI). Secure CLI access is available using several methods, including Secure Shell (SSH) Protocol, Telnet over IPSec, and out of band through a console port.

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Table 1. Product Features and Benefits

Feature	Benefit
Enterprise-Class Security	
Reliable, purpose-built security appliance	• Uses a proprietary, hardened operating system that eliminates the security risks associated with general-purpose operating systems • Combines Cisco product quality with no moving parts to provide a highly reliable security platform
Stateful inspection firewall	• Provides perimeter network security to prevent unauthorized network access • Uses state-of-the-art Cisco Adaptive Security Algorithm for robust stateful inspection firewall services • Provides flexible access-control capabilities for more than 100 predefined applications, services, and protocols, with the ability to define custom applications and services • Simplifies management of security policies by giving administrators the ability to create re-usable network and service object groups that can be referenced by multiple security policies, simplifying initial policy definition and ongoing policy maintenance
Advanced application and protocol inspection	• Integrates more than 24 specialized inspection engines for protocols such as Hypertext Transfer Protocol (HTTP), File Transfer Protocol (FTP), Simple Mail Transfer Protocol (SMTP), Domain Name System (DNS), Simple Network Management Protocol (SNMP), SQL*Net, Network File System (NFS), H.323 Versions 1–4, Session Initiation Protocol (SIP), Cisco Skinny Client Control Protocol (SCCP), Real-Time Streaming Protocol (RTSP), Internet Locator Service (ILS), and many more
Cisco Easy VPN Server	• Provides remote access VPN concentrator services for up to 2000 remote software- or hardware-based VPN clients • Pushes VPN policy dynamically to Cisco Easy VPN Remote-enabled solutions (such as the Cisco VPN Client) upon connection, helping to ensure that the latest corporate security policies are enforced • Extends VPN reach into environments using NAT or Port Address Translation (PAT), via support of Internet Engineering Task Force (IETF) UDP-based draft standard for NAT traversal
Cisco VPN Client	• Includes a free unlimited license for the highly acclaimed, industry-leading Cisco VPN Client • Available on wide-range of platforms including Microsoft Windows 98, ME, NT, 2000, XP; Sun Solaris; Intel-based Linux distributions; and Apple Macintosh OS X • Provides many innovative features inciuding dynamic security policy downloading from Cisco Easy VPN Server-enabled products, automatic failover to backup Easy VPN Servers, administrator customizable distributions, and more • Integrates with the award-winning Cisco Security Agent (CSA) for comprehensive endpoint security
Site-to-site VPN	• Supports IKE and IPSec VPN standards • Extends networks securely over the Internet by helping to ensure data privacy, data integrity, and strong authentication with remote networks and remote users • Supports 56-bit DES, 168-bit 3DES, and up to 256-bit AES data encryption
Intrusion prevention	• Provides protection from more than 55 different types of popular network-based attacks ranging from malformed packet attacks to DoS attacks • Integrates with Cisco Network Intrusion Detection System (IDS) sensors to identify and dynamically block or shun hostile network nodes
Authentication, authorization, and accounting (AAA) support	• Integrates with popular AAA services via TACACS+ and RADIUS • Provides tight integration with Cisco Secure Access Control Server (ACS) for user and administrator authentication, dynamic per-user/per-group policies, and administrator access privileges

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Feature	Benefit
X.509 certificate and CRL support	• Supports Simple Certificate Enrollment Protocol (SCEP)-based enrollment with leading X.509 solutions from Baltimore, Entrust, Microsoft, and VeriSign
Integration with leading third-party solutions	• Supports the broad range of Cisco AVVID (Architecture for Voice, Video and Integrated Data) partner solutions that provide URL filtering, content filtering, virus protection, scalable remote management, and more
Industry Certifications and Evaluations	• Earned numerous leading industry certifications and evaluations, including: – Common Criteria Evaluated Assurance Level 4 (EAL4) – ICSA Labs Firewall 4.0 Certification, Corporate RSSP Category
Robust Network Services and Network Integration	
VLAN-based virtual interfaces	• Provides increased flexibility when defining security policies and eases overall integration into switched network environments by supporting the creation of logical interfaces based on IEEE 802.1q VLAN tags, and the creation of security policies based on these virtual interfaces • Supports multiple virtual interfaces on a single physical interface through VLAN trunking, with support for multiple VLAN trunks per Cisco PIX Security Appliance • Supports up to 24 total VLANs on Cisco PIX 535 Security Appliances
OSPF dynamic routing	• Provides comprehensive OSPF dynamic routing services using technology based on world-renowned Cisco IOS Software • Offers improved network reliability through fast route convergence and secure, efficient route distribution • Delivers a secure routing solution in environments using NAT through tight integration with Cisco PIX Security Appliance NAT services • Supports MD5-based OSPF authentication, in addition to plaintext OSPF authentication, to prevent route spoofing and various routing-based DoS attacks • Provides route redistribution between OSPF processes, including OSPF, static, and connected routes • Supports load balancing across equal-cost multipath routes
Dynamic Host Control Protocol (DHCP) server	• Provides DHCP server services on one or more interfaces, allowing devices to obtain IP addresses dynamically • Includes extensions for support of Cisco IP phones and Cisco SoftPhone IP telephony solutions
DHCP relay	• Forwards DHCP requests from internal devices to an administrator-specified DHCP server, enabling centralized distribution, tracking, and maintenance of IP addresses
NAT/PAT support	• Provides rich dynamic, static, and policy-based NAT, and PAT services
Rich Management Capabilities	
CiscoWorks VMS	• Provides a comprehensive management suite for large scale Cisco security product deployments • Integrates policy management, software maintenance, and security monitoring in a single management console
Cisco PIX Device Manager (PDM)	• Intuitive, Web-based GUI enables simple, secure remote management of Cisco PIX Security Appliances • Provides a wide range of informative, real-time, and historical reports which give critical insight into usage trends, performance baselines, and security events

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Feature	Benefit
Auto Update	• Provides "touchless" secure remote management of Cisco PIX Security Appliance configuration and software images via a unique "push/pull" management model • Next-generation secure Extensible Markup Language (XML) over HTTPS management interface can be used by Cisco and third-party management applications for remote Cisco PIX Security Appliance configuration management, inventory, software image management/deployment, and monitoring • Integrates with CiscoWorks Management Center for Firewalls and Auto Update Server for robust, scalable remote management of up to 1000 Cisco PIX Security Appliances (per management server)
Cisco PIX CLI	• Allows customers to use existing Cisco IOS Software CLI knowledge for easy installation and management without additional training • Accessible through variety of methods including console port, Telnet, and SSH
Command-level authorization	• Gives businesses the ability to create up to 16 customizable administrative roles/profiles for managing a Cisco PIX Security Appliance (monitoring only, read-only access to configuration, VPN administrator, firewall/NAT administrator, etc.) • Uses either the internal administrator database or outside sources via TACACS+, such as Cisco Secure ACS
SNMP and syslog support	• Provide remote monitoring and logging capabilities, with integration into Cisco and third-party management applications
Highly Flexible Expansion Capabilities	
Fast Ethernet and Gigabit Ethernet expansion options	• Supports easy installation of additional network interfaces via 4 66-MHz/64-bit and 5 33-MHz/32-bit PCI expansion slots • Supports expansion cards including single-port Fast Ethernet, 4-port Fast Ethernet and single-port Gigabit Ethernet cards
Hardware VPN acceleration options	• Delivers high-speed VPN services through the addition of either a VPN Accelerator Card (VAC) or a VPN Accelerator Card+ (VAC+)

License Options

The Cisco PIX 535 Security Appliance is available in three primary models that provide different levels of interface density, failover capabilities, and VPN throughput. Optional encryption licenses are also available that enable various strengths of encryption technology within the Cisco PIX 535 Security Appliance.

Restricted Software License

The Cisco PIX 535 Restricted (PIX 535-R) model provides an excellent value for organizations looking for robust Cisco PIX Security Appliance services with gigabit firewall throughput, high interface density, maximum investment protection, and moderate VPN throughput requirements. It includes 512 MB of RAM, two 10/100 Fast Ethernet interfaces, and support for up to six additional 10/100 Fast Ethernet or eight Gigabit Ethernet interfaces.

Unrestricted Software License

The Cisco PIX 535 Unrestricted (PIX 535-UR) model extends the capabilities of the security appliance with support for stateful failover, additional LAN interfaces, and increased VPN throughput via integrated hardware-based VPN acceleration. It includes an integrated VAC or VAC+ hardware VPN accelerator, 1 GB of RAM, two 10/100 Fast Ethernet interfaces, and support for up to eight additional 10/100 Fast Ethernet or nine Gigabit Ethernet interfaces. The Cisco PIX 535-UR also adds the ability to share state information with a hot-standby Cisco PIX Security Appliance for resilient network protection.

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Failover Software License

The Cisco PIX 535 Failover (PIX 535-FO) model is designed for use in conjunction with a PIX 535-UR, providing a cost-effective, high-availability solution. It operates in hot-standby mode acting as a complete redundant system that maintains current session state information. With the same hardware configuration as the Cisco PIX 535-UR, it delivers the ultimate in high availability for a fraction of the price.

3DES/AES and DES Encryption Licenses

The Cisco PIX 535 Security Appliance has two optional encryption licenses—one license (PIX-VPN-3DES) enables 168-bit 3DES and up to 256-bit AES encryption, the other license (PIX-VPN-DES) enables 56-bit DES encryption. Both are available either at the time of ordering the Cisco PIX 535 Security Appliance, or can be obtained subsequently through Cisco.com. Note that an encryption license must be installed to activate encryption services which are required before using certain features including VPN and secure remote management.

Performance Summary

Cleartext throughput: Up to 1.7 Gbps

Concurrent connections: 500,000

168-bit 3DES IPSec VPN throughput: Up to 425 Mbps with VAC+ or 100 Mbps with VAC

128-bit AES IPSec VPN throughput: Up to 495 Mbps with VAC+

256-bit AES IPSec VPN throughput: Up to 425 Mbps with VAC+

Simultaneous VPN tunnels: 2000

Technical Specifications

Processor: 1-GHz Intel Pentium III Processor

RAM: 512 or 1 GB of SDRAM

Flash memory: 16 MB

Cache: 256 KB level 2 at 1-GHz

System buses: Two 64-bit, 66 MHz PCI, one 32-bit, 33-MHz PCI

Environmental Operating Ranges

Operating

Temperature: –25 to 131°F (–5 to 55°C)

Relative humidity: 5 to 95 percent noncondensing

Altitude: 0 to 9843 ft (3000 m)

Shock: 1.14 m/sec (45 in./sec) 1/2 sine input

Vibration: 0.41 Grms2 (3 to 500 Hz) random input

Acoustic noise: 65 dBa maximum

Nonoperating

Temperature: –13 to 158°F (–25 to 70°C)

Relative humidity: 5 to 95 percent noncondensing

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Altitude: 0 to 15000 ft (4570 m)

Shock: 30 G

Vibration: 0.41 Grms2 (3 to 500 Hz) random input

Power

Input (per power supply)

Range line voltage: 100V to 240V AC or 48V DC

Nominal line voltage: 100V to 240V AC or 48V DC

Current: 4-2 A

Frequency: 50 to 60 Hz, single phase

Power: 220W (dual hot swap power supply capable)

Output

Steady state: 135W

Maximum peak: 220W

Maximum heat dissipation: 750 BTU/hr, full power usage (220W)

Physical Specifications

Dimensions and Weight Specifications

Form factor: 3 RU, standard 19-in. rack mountable

Dimensions (H x W x D): 5.25 x 17.5 x 18.25 in. (13.33 x 44.45 x 46.36 cm)

Weight (with one power supply): 32 lb (14.5 kg)

Expansion

Four 64-bit/66-MHz PCI slots

Five 32-bit/33-MHz PCI slots

Six 168-pin DIMM RAM slots, supporting up to 6 GB PC133 DRAM maximum

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Interfaces

Console port: RS-232, 9600 bps, RJ-45

Failover port: RS-232, 115 Kbps, DB-15 (special Cisco PIX failover cable required)

Two integrated 10/100 Fast Ethernet interfaces, auto-negotiate (half/full duplex), RJ-45

Regulatory and Standards Compliance

Safety

UL 1950, CSA C22.2 No. 950, EN 60950, IEC 60950, AS/NZS3260, TS001, IEC60825, EN 60825, 21CFR1040

Electromagnetic Compatibility (EMC)

FCC Part 15 (CFR 47) Class A, ICES 003 Class A with UTP, EN55022 Class A with UTP, CISPR 22 Class A with UTP, AS/NZ 3548 Class A with UTP, VCCI Class A with UTP, EN55024, EN50082-1 (1997), CE marking, EN55022 Class B with FTP, Cispr 22 Class B with FTP, AS/NZ 3548 Class B with FTP, VCCI Class B with FTP

Product Ordering Information

Table 2 lists ordering information for the Cisco PIX 535 Security Appliances and related products.

Table 2. Ordering Information

Product Number	Product Description
PIX-535	Cisco PIX 535 Chassis (chassis, software, 2 10/100 interfaces)
PIX-535-DC	Cisco PIX 535 DC Chassis (chassis, software, 2 10/100 interfaces)
PIX-535-R-BUN	Cisco PIX 535 Restricted Bundle (chassis, restricted license, software, 2 10/100 interfaces, 512 MB RAM)
PIX-535-UR-BUN	Cisco PIX 535 Unrestricted Bundle (chassis, unrestricted license, software, 2 10/100 interfaces, 1 GB RAM, VAC or VAC+)
PIX-535-FO-BUN	Cisco PIX 535 Failover Bundle (chassis, failover license, software, two 10/100 interfaces, 1 GB RAM, VAC or VAC+)
PIX-535-HW=	Cisco PIX 535 rack mount kit, console cable, failover cable
PIX-FO=	Cisco PIX failover cable
PIX-1FE	Cisco PIX single-port 10/100 Fast Ethemet interface card, RJ-45
PIX-4FE-66	Cisco PIX 64-bit/66-MHz 4-port 10/100 Fast Ethernet interface card, RJ-45
PIX-1GE-66	Cisco PIX 64-bit/66-MHz single-port Gigabit Ethernet interface card, Multimode (SX) SC
PIX-VPN-ACCEL	Cisco PIX DES/3DES VPN Accelerator Card (VAC)
PIX-VAC-PLUS	Cisco PIX DES/3DES/AES VPN Accelerator Card+ (VAC+)
PIX-VPN-DES	Cisco PIX DES VPN/SSH/SSL encryption license
PIX-VPN-3DES	Cisco PIX 3DES/AES VPN/SSH/SSL encryption license

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SUPPORT SERVICES

Support services are available from Cisco and Cisco partners. Cisco SMARTnet® service augments customer support resources, providing anywhere, anytime access to technical resources (both online and by telephone), the ability to download updated system software, and hardware advance replacement.

SUPPORT ORDERING INFORMATION

Table 3 lists ordering information for Cisco SMARTnet support services.

Table 3. Cisco SMARTnet Ordering Information

Product Number	Product Description
CON-SNT-PIX535	Cisco SMARTnet 8x5xNBD service for Cisco PIX 535 chassis only
CON-SNT-PIX535R	Cisco SMARTnet 8x5xNBD service for Cisco PIX 535-R bundle
CON-SNT-PIX535UR	Cisco SMARTnet 8x5xNBD service for Cisco PIX 535-UR bundle
CON-SNT-PIX535FO	Cisco SMARTnet 8x5xNBD service for Cisco PIX 535-FO bundle
CON-SNTE-PIX535	Cisco SMARTnet 8x5x4 service for Cisco PIX 535 chassis only
CON-SNTE-PIX535R	Cisco SMARTnet 8x5x4 service for Cisco PIX 535-R bundle
CON-SNTE-PIX535UR	Cisco SMARTnet 8x5x4 service for Cisco PIX 535-UR bundle
CON-SNTE-PIX535FO	Cisco SMARTnet 8x5x4 service for Cisco PIX 535-FO bundle
CON-SNTP-PIX535	Cisco SMARTnet 24x7x4 service for Cisco PIX 535 chassis only
CON-SNTP-PIX535R	Cisco SMARTnet 24x7x4 service for Cisco PIX 535-R bundle
CON-SNTP-PIX535UR	Cisco SMARTnet 24x7x4 service for Cisco PIX 535-UR bundle
CON-SNTP-PIX535FO	Cisco SMARTnet 24x7x4 service for Cisco PIX 535-FO bundle
CON-S2P-PIX535	Cisco SMARTnet 24x7x2 service for Cisco PIX 535-R chassis only
CON-S2P-PIX535R	Cisco SMARTnet 24x7x2 service for Cisco PIX 535-R bundle
CON-S2P-PIX535UR	Cisco SMARTnet 24x7x2 service for Cisco PIX 535-UR bundle
CON-S2P-PIX535FO	Cisco SMARTnet 24x7x2 service for Cisco PIX 535-FO bundle
CON-OS-PIX535	Cisco SMARTnet On-Site 8x5xNBD service for Cisco PIX 535 chassis only
CON-OS-PIX535R	Cisco SMARTnet On-Site 8x5xNBD service for Cisco PIX 535-R bundle
CON-OS-PIX535UR	Cisco SMARTnet On-Site 8x5xNBD service for Cisco PIX 535-UR bundle
CON-OS-PIX535FO	Cisco SMARTnet On-Site 8x5xNBD service for Cisco PIX 535-FO bundle
CON-OSE-PIX535	Cisco SMARTnet On-Site 8x5x4 service for Cisco PIX 535 chassis only
CON-OSE-PIX535R	Cisco SMARTnet On-Site 8x5x4 service for Cisco PIX 535-R bundle
CON-OSE-PIX535UR	Cisco SMARTnet On-Site 8x5x4 service for Cisco PIX 535-UR bundle
CON-OSE-PIX535FO	Cisco SMARTnet On-Site 8x5x4 service for Cisco PIX 535-FO bundle
CON-OSP-PIX535	Cisco SMARTnet On-Site 24x7x4 service for Cisco PIX 535 chassis only
CON-OSP-PIX535R	Cisco SMARTnet On-Site 24x7x4 service for Cisco PIX 535-R bundle
CON-OSP-PIX535UR	Cisco SMARTnet On-Site 24x7x4 service for Cisco PIX 535-UR bundle
CON-OSP-PIX535FO	Cisco SMARTnet On-Site 24x7x4 service for Cisco PIX 535-FO bundle

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ADDITIONAL INFORMATION

For more information, please visit the following links.

Cisco PIX Security Appliance Series:
http://www.cisco.com/go/pix

Cisco PIX Device Manager:
http://www.cisco.com/warp/public/cc/pd/fw/sqfw500/prodlit/pixd3_ds.pdf

Current list of Cisco product security certifications:
http://www.cisco.com/go/securitycert

Cisco Secure ACS:
http://www.cisco.com/go/acs

CiscoWorks VMS, Management Center for Firewalls, Auto Update Server Software and Security Monitor:
http://www.cisco.com/go/vms

CiscoWorks SIMS:
http://www.cisco.com/go/sims

SAFE Blueprint from Cisco:
http://www.cisco.com/go/safe

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CISCO SYSTEMS

DATA SHEET

CISCO IDS/IPS 4200 SERIES SENSORS

Integrated network security solutions from Cisco Systems® enable organizations to protect critical network assets and reduce operating costs.

Cisco IDS/IPS 4200 Series sensors are critical components of Cisco Intrusion Protection System solutions. These sensors work with other IDS/IPS components to efficiently protect your data and information infrastructure. With the increased complexity of security threats, achieving efficient network intrusion security solutions is critical to maintaining a high level of protection. Vigilant protection helps to ensure business continuity and minimizes the effects of costly intrusions.

Businesses can minimize the total cost of ownership of their IDS/IPS deployments using Cisco's flexible IDS/IPS deployment options, which deliver:

- Unprecedented price/performance ratios
- The ability to simultaneously protect multiple network subnets through support for multiple sniffing interfaces, thereby delivering up to five sensors in one
- Numerous performance options
- Investment protection via modular, upgradable components
- Support for multi-VLAN traffic
- Embedded Web-based management solutions
- "Inline-ready" sensors

Table 1 lists characteristics of Cisco IDS/IPS 4200 Series sensors. For information on Cisco IDS/IPS solutions, visit: http://www.cisco.com/go/ids.

DEPLOYING CISCO IDS/IPS 4200 SERIES SENSORS

The Cisco IDS/IPS 4200 Series includes four products—Cisco IDS/IPS 4215, 4240, 4255, and 4250-XL sensors. The series delivers a broad range of solutions that allows easy integration into many different environments, including enterprise and service provider environments. Each sensor addresses bandwidth requirements at one of several speeds, from 80 Mbps to gigabits per second.

The Cisco IDS 4215 can monitor up to 80 Mbps of traffic and is suitable for T1/E1 and T3 environments. Multiple sniffing interfaces are supported on the Cisco IDS 4215, making it possible to simultaneously protect multiple subnets and thereby deliver five sensors in a single unit.

At 250 Mbps, the Cisco IPS 4240 can be deployed to provide protection in switched environments, on multiple T3 subnets, and with the support of 10/100/1000 interfaces. It can also be deployed on partially utilized gigabit links.

The Cisco IPS 4255 supports speeds of up to 600 Mbps and can be used to protect gigabit subnets and traffic traversing switches that are being used to aggregate traffic from numerous subnets.

At 1 Gbps, the Cisco IDS 4250-XL provides unprecedented performance by providing customized hardware acceleration to protect fully saturated gigabit links as well as multiple partially utilized gigabit subnets.

As shown in Figure 1, sensors can be placed on almost any segment of the enterprise wide network where security visibility is required.

Table 2 provides ordering information for Cisco IDS/IPS 4200 Series sensors.

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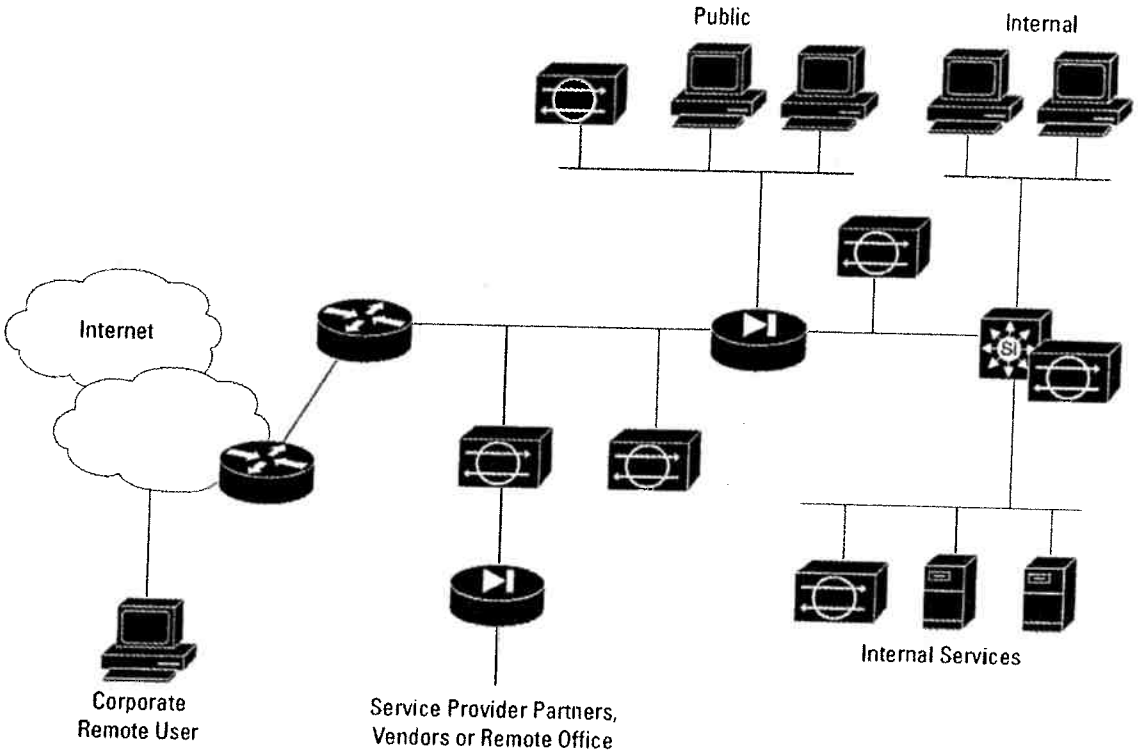
Figure 1. Deployment Scenarios for Cisco IDS/IPS 4200 Series Sensors



PRODUCT SPECIFICATIONS

Table 1. Characteristics of Cisco IDS/IPS 4215, 4240, 4255, and 4250-XL Sensors

	Cisco IDS 4215	Cisco IPS 4240	Cisco IPS 4255	Cisco IDS 4250-XL
Inline (IPS) ready	Yes	Yes	Yes	Yes
Performance	80 Mbps	250 Mbps	600 Mbps	1000 Mbps
Standard monitoring interface	10/100BASE-TX	Four 10/100/1000BASE-TX	Four 10/100/1000BASE-TX	Dual 1000BASE-SX interface with MT-RJ
Standard command and control interface	10/100BASE-TX	10/100BASE-TX	10/100BASE-TX	10/100/1000BASE-TX

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	Cisco IDS 4215	Cisco IPS 4240	Cisco IPS 4255	Cisco IDS 4250-XL
Optional interface	Four 10/100BASE-TX (4FE) sniffing interfaces (allowing a total of 5 sniffing interfaces)	Four 10/100/1000BASE-TX monitoring interfaces (allowing a total of 8 monitoring interfaces), or four 1000BASE-SX fiber (available soon)	Four 10/100/1000BASE-TX monitoring interfaces (allowing a total of 8 monitoring interfaces), or four 1000BASE-SX fiber (available soon)	1000BASE-SX (fiber)
Form factor	One rack unit	One rack unit	One rack unit	One rack unit
Advanced Protection Algorithms				
Stateful pattern recognition	Yes	Yes	Yes	Yes
Protocol parsing	Yes	Yes	Yes	Yes
Heuristic detection	Yes	Yes	Yes	Yes
Anomaly detection	Yes	Yes	Yes	Yes
Attack Protection				
Sweeps or floods	Yes	Yes	Yes	Yes
ıial-of-service oS) mitigation	Yes	Yes	Yes	Yes
Worms or viruses	Yes	Yes	Yes	Yes
Common gateway interface (CGI) or WWW attacks	Yes	Yes	Yes	Yes
Buffer overflow protection	Yes	Yes	Yes	Yes
Remote procedure call (RPC) attack detection	Yes	Yes	Yes	Yes
IP fragmentation attacks	Yes	Yes	Yes	Yes
Internet Control Message Protocol (ICMP) attacks	Yes	Yes	Yes	Yes
Simple Message Transfer Protocol (SMTP), Sendmail, Internet Message Access Protocol (IMAP), or Post Office Protocol (POP) attacks	Yes	Yes	Yes	Yes

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	Cisco IDS 4215	Cisco IPS 4240	Cisco IPS 4255	Cisco IDS 4250-XL
FTP, Secure Shell Protocol (SSH), Telnet, and rlogin attacks	Yes	Yes	Yes	Yes
Domain Name System (DNS) attacks	Yes	Yes	Yes	Yes
TCP hijacks	Yes	Yes	Yes	Yes
Windows or NetBios attacks	Yes	Yes	Yes	Yes
TCP application protection	Yes	Yes	Yes	Yes
BackOrifice attacks	Yes	Yes	Yes	Yes
Network Timing Protocol (NTP) attacks	Yes	Yes	Yes	Yes
Customizable signatures using Signature Micro-Engine technology	Yes	Yes	Yes	Yes
tomated signature updates	Yes	Yes	Yes	Yes
Alarm summarization	Yes	Yes	Yes	Yes
Support for 802.1q traffic	Yes	Yes	Yes	Yes
P2P/file sharing detection techniques	Yes	Yes	Yes	Yes
Secure Communications				
IP Security (IPSec) or Secure Sockets Layer (SSL) between sensor and management console	Yes	Yes	Yes	Yes
Encrypted signature packages	Yes	Yes	Yes	Yes
SSH for remote administration	Yes	Yes	Yes	Yes
Serial Control Protocol (SCP) support for secure file transfer	Yes	Yes	Yes	Yes

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	Cisco IDS 4215	Cisco IPS 4240	Cisco IPS 4255	Cisco IDS 4250-XL
IDS Evasion Protection				
IP fragmentation reassembly	Yes	Yes	Yes	Yes
TCP stream reassembly	Yes	Yes	Yes	Yes
Unicode deobfuscation	Yes	Yes	Yes	Yes
Active Response Actions				
Router access control list (ACL) modifications	Yes	Yes	Yes	Yes
Firewall policy modifications	Yes	Yes	Yes	Yes
Switch ACL modifications	Yes	Yes	Yes	Yes
Session termination via TCP resets	Yes	Yes	Yes	Yes
Multiple packet drop actions	Available soon	Available soon	Available soon	Available
session logging or ession replay	Yes	Yes	Yes	Yes
Active Notification Actions				
Alarm display	Yes	Yes	Yes	Yes
E-mail alerts	Yes	Yes	Yes	Yes
E-page alerts	Yes	Yes	Yes	Yes
Customizable script execution	Yes	Yes	Yes	Yes
Multiple alarm destinations	Yes	Yes	Yes	Yes
Third-party tool integration	Yes	Yes	Yes	Yes
IDS active update bulletins	Yes	Yes	Yes	Yes
Administration				
Web user interface (Secure HTTP [HTTPS])	Yes	Yes	Yes	Yes
Command-line interface (CLI) (console)	Yes	Yes	Yes	Yes
LI (Telnet or SSH)	Yes	Yes	Yes	Yes

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	Cisco IDS 4215	Cisco IPS 4240	Cisco IPS 4255	Cisco IDS 4250-XL
CiscoWorks VPN Security Management Solution (VMS) support	Yes	Yes	Yes	Yes
High Availability				
Redundant power supply	No	No	No	Yes
Failure Detection				
Monitoring link failure detection	Yes	Yes	Yes	Yes
Communications failure detection	Yes	Yes	Yes	Yes
Services failure detection	Yes	Yes	Yes	Yes
Device failure detection	Yes	Yes	Yes	Yes
Dimensions				
Height	1.72 in. (4.37 cm)	1.72 in. (4.37 cm)	1.72 in. (4.37 cm)	1.67 in. (4.24 cm)
Width	16.8 in. (42.72 cm)	17.25 in. (43.82 cm)	17.25 in. (43.82 cm)	17.6 in. (44.70 cm)
Depth	11.8 in. (29.97 cm)	14.5 in. (36.83 cm)	14.5 in. (36.83 cm)	27 in. (68.58 cm)
Weight	11.5 lb (4.11 kg)	20 lb (9.07 kg)	20 lb (9.07 kg)	35 lb (15.88 kg)
Rack-mountable	Yes	Yes	Yes	Yes
Power				
Autoswitching	100–240 VAC	100–240 VAC	100–240 VAC	110–220 VAC
Frequency	50–60 Hz	47–63 Hz, single-phase	47–63 Hz, single-phase	50–60 Hz
Operating current	1.5A	3A	3A	2.7A at 115V 1.3A at 220V
Operating Environment				
Operating temperature	5 to 40°C (41 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	10 to 35°C (50 to 95°F)
Nonoperating temperature	-25°C to +70°C (-13F to +158 °F)	–20 to 65°C (–4 to 149°F)	–20 to 65°C (–4 to 149°F)	–40 to 65°C (-40 to 149°F)
Operating relative humidity	5 to 95% (noncondensing)	10 to 85% (noncondensing)	10 to 85% (noncondensing)	8 to 80% (noncondensing)

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	Cisco IDS 4215	Cisco IPS 4240	Cisco IPS 4255	Cisco IDS 4250-XL
Nonoperating relative humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Heat dissipation (most severe case with full power usage)	410 Btu/hr, full power usage (65W)	614.2 BTU/hr, full power usage (180W)	614.2 BTU/hr, full power usage (180W)	983 Btu/hr (maximum)

Note:

- This 80-Mbps performance for the Cisco IDS 4215 is based on the following conditions:
  - 800 new TCP connections per second
  - 800 HTTP transactions per second
  - Average packet size of 445 bytes
  - Running Cisco IDS Sensor Software Version 4.1
- This 250-Mbps performance for the Cisco IPS 4240 is based on the following conditions:
  - 2500 new TCP connections per second
  - 2500 HTTP transactions per second
  - Average packet size of 445 bytes
  - Running Cisco IDS Sensor Software Version 4.1
- This 600-Mbps performance for the Cisco IPS 4255 is based on the following conditions:
  - 6000 new TCP connections per second
  - 6000 HTTP transactions per second
  - Average packet size of 445 bytes
  - Running Cisco IDS Sensor Software Version 4.1
- This 1000-Mbps performance for the Cisco IDS 4250-XL is based on the following conditions:
  - 5000 new TCP connections per second
  - 5000 HTTP transactions per second
  - Average packet size of 595 bytes
  - Running Cisco IDS Sensor Software Version 4.1

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REGULATORY COMPLIANCE

EMC

- FCC (CFR 47 Part 15) Class A
- CISPR 22 Class A
- EN 55022 Class A
- EN 55024
- EN 61000-3-2
- EN 61000-3-3
- VCCI Class A
- AS/NZS 3548 Class A
- CE marking
- ICES-003 Class A
- FCC Part 15 (CFR7 47) Class A
- EN 50082-1
- EN 61000-6-1

Safety

- UL 60950
- CSA 22.2 No.60950
- C 60950
- EN 60950
- AS/NZS 3260
- CE marking
- EN 60950
- IEC 60950

Table 2. Ordering Information for Cisco IDS/IPS 4200 Series Sensors

Product Number	Product Description
IDS-4215-K9	Cisco IDS 4215 Sensor (chassis, software, SSH, two onboard 10/100BASE-TX interfaces with RJ-45 connector), 80 Mbps
IDS-4215-4FE-K9	Cisco IDS 4215 Sensor (chassis, software, SSH, two onboard 10/100BASE-TX interfaces with RJ-45 connector plus 4FE interface card), 80 Mbps
IPS-4240-K9	Cisco IPS 4240 Sensor (chassis, software, SSH, four 10/100/1000BASE-TX with RJ-45 connector)
IPS-4255-K9	Cisco IPS 4255 Sensor (chassis, software, SSH, four 10/100/1000BASE-TX with RJ-45 connector)
IDS-4250-XL-K9	Cisco IDS 4250-XL Sensor (chassis, software, SSH, hardware accelerator, dual 1000BASE-SX and MT-RJ connectors)
IDS-XL-INT=	Cisco IDS Accelerator Card with dual 1000BASE-SX interfaces and MT-RJ connectors
-4FE-INT=	Spare 4FE (10/100 BASE-TX) sniffing interfaces for Cisco IDS 4215, 4235, and 4250-XL sensors

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Product Number	Product Description
IDS-PWR=	Spare power supply for Cisco IDS 4235 and 4250-XL sensors
IDS-SCSI=	Spare Small Computer System Interface (SCSI) hard disk drive for Cisco IDS 4250-XL sensors
IDS-RAIL-2=	Two-post rail kits for Cisco IDS 4235 and 4250-XL sensors
IDS-RAIL-4=	Four-post rail kits for Cisco IDS 4235 and 4250-XL sensors
CON-SNT-IDS4215XK	Cisco SMARTnet® support 8 x 5 x NBD (Cisco IDS 4215-K9)
CON-SNTE-IDS4215XK	Cisco SMARTnet support 8 x 5 x 4 (Cisco IDS 4215-K9)
CON-SNTP-IDS4215XK	Cisco SMARTnet support 24 x 7 x 4 (Cisco IDS 4215-K9)
CON-OS-IDS4215XK	Cisco SMARTnet Onsite support 8 x 5 x NBD (Cisco IDS 4215-K9)
CON-OSE-IDS4215XK	Cisco SMARTnet Onsite support 8 x 5 x 4 (Cisco IDS 4215-K9)
CON-OSP-IDS4215XK	Cisco SMARTnet Onsite support 24 x 7 x 4 (Cisco IDS 4215-K9)
CON-SNT-IDS4215-4FEXK	Cisco SMARTnet support 8 x 5 x NBD (Cisco IDS 4215-4FE-K9)
CON-SNTE-IDS4215-4FEXK	Cisco SMARTnet support 8 x 5 x 4 (Cisco IDS 4215-4FE-K9)
)N-SNTP-IDS4215-4FEXK	Cisco SMARTnet support 24 x 7 x 4 (Cisco IDS 4215-4FE-K9)
CON-OS-IDS4215-4FEXK	Cisco SMARTnet Onsite support 8 x 5 x NBD (Cisco IDS 4215-4FE-K9)
CON-OSE-IDS4215-4FEXK	Cisco SMARTnet Onsite support 8 x 5 x 4 (Cisco IDS 4215-4FE-K9)
CON-OSP-IDS4215-4FEXK	Cisco SMARTnet Onsite support 24 x 7 x 4 (Cisco IDS 4215-4FE-K9)
CON-SNT-IPS4240	Cisco SMARTnet support 8 x 5 x NBD (Cisco IPS 4240-K9)
CON-SNTE-IPS4240	Cisco SMARTnet support 8 x 5 x 4 (Cisco IPS 4240-K9-K9)
CON-SNTP-IPS4240	Cisco SMARTnet support 24 x 7 x 4 (Cisco IPS 4240-K9)
CON-OS-IPS4240	Cisco SMARTnet Onsite support 8 x 5 x NBD (Cisco IPS 4240-K9)
CON-OSE-IPS4240	Cisco SMARTnet Onsite support 8 x 5 x 4 (Cisco IPS 4240-K9)
CON-OSP-IPS4240	Cisco SMARTnet Onsite support 24 x 7 x 4 (Cisco IPS 4240-K9)
CON-SNT-IPS4255	Cisco SMARTnet support 8 x 5 x NBD (Cisco IPS 4255-K9)
CON-SNTE-IPS4255	Cisco SMARTnet support 8 x 5 x 4 (Cisco IPS 4255-K9)
CON-SNTP-IPS4255	Cisco SMARTnet support 24 x 7 x 4 (Cisco IPS 4255-K9)
CON-OS-IPS4255	Cisco SMARTnet Onsite support 8 x 5 x NBD (Cisco IPS 4255-K9)
CON-OSE-IPS4255	Cisco SMARTnet Onsite support 8 x 5 x 4 (Cisco IPS 4255-K9)
N-OSP-IPS4255	Cisco SMARTnet Onsite support 24 x 7 x 4 (Cisco IPS 4255-K9)

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Product Number	Product Description
CON-SNT-IDS4250XK	Cisco SMARTnet support 8 x 5 x NBD Cisco (IDS 4250-XL)
CON-SNTE-IDS4250XK	Cisco SMARTnet support 8 x 5 x 4 (Cisco IDS 4250-XL)
CON-SNTP-IDS4250XK	Cisco SMARTnet support 24 x 7 x 4 (Cisco IDS 4250-XL)
CON-OS-IDS4250XK	Cisco SMARTnet Onsite support 8 x 5 x NBD (Cisco IDS 4250-XL)
CON-OSE-IDS4250XK	Cisco SMARTnet Onsite support 8 x 5 x 4 (Cisco IDS 4250-XL)
CON-OSP-IDS4250XK	Cisco SMARTnet Onsite support 24 x 7 x 4 (Cisco IDS 4250-XL)
CON-SNT-IDS4FE	Cisco SMARTnet support 8 x 5 x NBD (IDS-4FE-INT=)
CON-SNTE-IDS4FE	Cisco SMARTnet support 8 x 5 x 4 (IDS-4FE-INT=)
CON-SNTP-IDS4FE	Cisco SMARTnet support 24 x 7 x 4 (IDS-4FE-INT=)
CON-OS-IDS4FE	Cisco SMARTnet Onsite support 8 x 5 x NBD (IDS-4FE-INT=)
CON-OSE-IDS4FE	Cisco SMARTnet Onsite support 8 x 5 x 4 (IDS-4FE-INT=)
CON-OSP-IDS4FE	Cisco SMARTnet Onsite support 24 x 7 x 4 (IDS-4FE-INT=)
CON-SNT-IDSXL	Cisco SMARTnet support 8 x 5 x NBD (IDS-XL-INT=)
CON-SNTE-IDSXL	Cisco SMARTnet support 8 x 5 x 4 (IDS-XL-INT=)
CON-SNTP-IDSXL	Cisco SMARTnet support 24 x 7 x 4 (IDS-XL-INT=)
CON-OS-IDSXL	Cisco SMARTnet Onsite support 8 x 5 x NBD (IDS-XL-INT=)
CON-OSE-IDSXL	Cisco SMARTnet Onsite support 8 x 5 x 4 (IDS-XL-INT=)
CON-OSP-IDSXL	Cisco SMARTnet Onsite support 24 x 7 x 4 (IDS-XL-INT=)

EXPORT CONSIDERATIONS

Cisco IDS/IPS 4200 Series sensors are subject to export controls. For guidance, refer to the Cisco export compliance Website at: http://www.cisco.com/wwl/export/crypto/.

For specific export questions, contact export@cisco.com.

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ADDITIONAL INFORMATION

For more information about Cisco IPS solutions, visit: http://www.cisco.com/go/ids.

For more information about CiscoWorks VMS solutions for IDS management, visit: http://www.cisco.com/go/vms.

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SYSTIMAX®
SOLUTIONS

SYSTIMAX Structured Connectivity Solutions 20-Year Extended Product Warranty and Application Assurance

"SYSTIMAX Solutions™" proudly offers the following limited 20-Year Extended Product Warranty and Application Assurance. This warranty applies exclusively to SYSTIMAX Structured Connectivity Solutions that are comprised only of SYSTIMAX Solutions certified end-to-end channel of products purchased from and installed by an authorized SYSTIMAX BusinessPartner®, used at the original site of installation, and registered with SYSTIMAX Solutions as evidenced by a numbered registration certificate issued by SYSTIMAX Solutions (such registered SYSTIMAX Structured Connectivity Solutions are hereinafter referred to as "Registered SYSTIMAX SCS"). SYSTIMAX Solutions offers to the customer of Registered SYSTIMAX SCS the following 20-Year Extended Product Warranty and Application Assurance.

What Is Covered?

The Extended Product Warranty:

The Extended Product Warranty covers all passive Registered SYSTIMAX SCS components (i.e., cable and connectivity components that make up the passive data and telecommunications signal transmission infrastructure). "Passive Components" are defined as SYSTIMAX SCS components that exhibit no gain or contribute no energy. SYSTIMAX Solutions warrants, from the original installation completion date, provided a registration certificate is issued by SYSTIMAX Solutions to the customer, the following:

1. that the Passive Components of Registered SYSTIMAX SCS will be free from manufacturing defects in material and workmanship under normal and proper use;
2. that all SYSTIMAX Solutions Passive Components in the Registered SYSTIMAX SCS meet or exceed the relevant Component specification of the TIA 568-B series and ISO/IEC 11801: 2002 standards;
3. that the Registered SYSTIMAX SCS compliant PowerSUM, GigaSPEED® X10D, GigaSPEED® XL7, GigaSPEED® XL8, OptiSPEED®, LazrSPEED®, and/or TeraSPEED™ links/channels will meet or exceed the applicable requirements of the TIA 568-B series, and ISO/IEC 11801: 2002 standards for cable links/channel configurations specified in these standards;
4. that the Registered SYSTIMAX SCS compliant PowerSUM, GigaSPEED X10D, GigaSPEED XL7, or GigaSPEED XL8 channels will additionally meet or exceed the Guaranteed Channel Performance in the SYSTIMAX SCS Performance Specifications Addendum in effect at the time of installation.

The Application Assurance

The Application Assurance covers the Registered SYSTIMAX SCS compliant PowerSUM, GigaSPEED X10D, GigaSPEED XL7, GigaSPEED XL8, OptiSPEED, LazrSPEED, and/or TeraSPEED to support operations of the application(s) that the system was designed to support, as well as additional application(s) defined below. SYSTIMAX Solutions warrants that the Registered SYSTIMAX SCS will be free from defects that prevent operation of the specific application(s) for which the Registered SYSTIMAX SCS was initially designed as long as the design is in compliance with the SYSTIMAX SCS Performance Specifications for said applications and is in compliance with all other terms and conditions of this warranty.

The Application Assurance also covers the following additional applications:

1. those as specified in the current (at the time of installation) SYSTIMAX SCS Performance Specifications and Addendums; and
2. in accordance with application standards specifications, any application introduced in the future by recognized standards or user forums that use the relevant TIA/EIA 568 B series or ISO/IEC 11801 2nd edition (September 2002) components and link/channel specifications for cabling, to the extent that such applications are defined to operate over the guaranteed channel performance and/or the installed channel topologies.

For How Long?

For twenty years from the date of issuance of the registration certificate or installation, whichever is earlier. Moves, additions, or changes are covered by the original registration certificate if performed by a SYSTIMAX BusinessPartner in compliance with the SYSTIMAX SCS design, installation and registration requirements. Administration of SYSTIMAX SCS cords by the end user is covered by the original registration certificate if performed in compliance with SYSTIMAX SCS guidelines.

What SYSTIMAX Solutions Will Do

Under the Extended Product Warranty, SYSTIMAX Solutions will (or will authorize a SYSTIMAX BusinessPartner to) either repair or replace the defective Registered SYSTIMAX SCS product at SYSTIMAX Solutions's cost. SYSTIMAX Solutions will pay a SYSTIMAX BusinessPartner for the cost of labor to repair or replace any such defective product on behalf of SYSTIMAX Solutions, provided, that such repair or replacement and associated labor costs receive the prior written approval of SYSTIMAX Solutions. If SYSTIMAX Solutions chooses to repair products, SYSTIMAX Solutions may use new or reconditioned replacement parts. If SYSTIMAX Solutions chooses to replace products, SYSTIMAX Solutions may replace such products with new or reconditioned products of the same or similar design. Any such repair or replacement will be warranted for either (a) 90 days or (b) the remainder of the original twenty-year warranty period, whichever is longer.

Under the Application Assurance, after the end customer has investigated all potential causes of an application failure that are not SYSTIMAX SCS related and has determined that none of these potential causes was responsible for the application failure, the end customer must then notify the original installer (a SYSTIMAX BusinessPartner) for action. If the SYSTIMAX BusinessPartner is unable to resolve any SYSTIMAX Solutions failure that caused an application failure, then the SYSTIMAX BusinessPartner will notify SYSTIMAX Solutions for investigation and resolution.

Who Is Covered?

This warranty is for the sole benefit of the person or entity to whom the SYSTIMAX Solutions's registration certificate is issued and any successor in interest to the site in which such Registered SYSTIMAX SCS was originally installed.

Disclaimer; Limitations; Exclusive Remedies

THIS IS THE ONLY WARRANTY ON REGISTERED SYSTIMAX SCS AND IT SETS FORTH ALL OF SYSTIMAX SOLUTIONS'S RESPONSIBILITIES REGARDING REGISTERED SYSTIMAX SCS. EXCEPT AS SPECIFICALLY SET FORTH HEREIN, SYSTIMAX SOLUTIONS AND ITS AFFILIATES, SUPPLIERS, AND AUTHORIZED BUSINESSPARTNERS MAKE NO WARRANTIES, EXPRESS OR IMPLIED, AND SPECIFICALLY DISCLAIM ANY AND ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE AND SPECIFICALLY EXCLUDES ALL WARRANTIES, CONDITIONS, REPRESENTATIONS, STATEMENTS, TERMS, AND PROVISIONS, EXPRESS OR IMPLIED BY STATUTE, COMMON LAW OR OTHERWISE, TO THE GREATEST EXTENT PERMITTED BY LAW. SYSTIMAX SOLUTIONS WILL NOT PAY FOR LOSS OF TIME, INCONVENIENCE, LOSS OF USE OF THE SYSTIMAX SOLUTIONS PRODUCT, OR PROPERTY DAMAGE CAUSED BY THE SYSTIMAX SOLUTIONS PRODUCT OR ITS FAILURE TO WORK, AND IN NO EVENT SHALL SYSTIMAX SOLUTIONS BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES, INCLUDING DAMAGES OR COSTS INCURRED AS A RESULT OF LOSS OF TIME, LOSS OF SAVINGS, LOSS OF DATA, OR LOSS OF PROFITS. REPAIR OR REPLACEMENT OF THE SYSTIMAX SOLUTIONS PRODUCT BY A SYSTIMAX BUSINESSPARTNER OR SYSTIMAX SOLUTIONS IS YOUR EXCLUSIVE REMEDY.

What This Warranty Does Not Cover

The warranty does not cover any defects in the design, installation of the cabling, or connectivity systems, which results from failure to comply with SYSTIMAX Solutions design guidelines and/or is caused by anything outside of the scope of SYSTIMAX Solutions's control. Except as explicitly provided otherwise in this warranty, SYSTIMAX Solutions shall not be responsible hereunder for either the de-installation, removal and/or disposal of defective products, or the installation of repaired or replacement products. Furthermore, in no event shall SYSTIMAX Solutions be responsible for the alteration, removal, replacement, repair, or relocation of SYSTIMAX SCS items not purchased from a SYSTIMAX BusinessPartner, nor any non-SYSTIMAX SCS items. This warranty does not cover defects resulting from (without limitation) any of the following events or causes: accidents, improper installation, mishandling, misuse, damage while in transit, unauthorized alteration, unauthorized repair, failure to follow instructions, misuse, fire, flood, acts of God, explosion, war or the engagement of hostilities, strike, embargo, labor dispute, government requirement, counterfeit, civil disturbances, acts of civil or military authority, acts of terrorism, or events outside SYSTIMAX Solutions's control. This warranty shall be automatically terminated and null and void upon alteration of or removal of the cabling system from the site of original installation.

This warranty gives you specific legal rights. To the fullest extent, this warranty shall be governed by the laws of the state of North Carolina, United States, without regard to the conflict of law rules thereof. The Parties hereto acknowledge that in order to receive the extended warranty, to the extent required by SYSTIMAX Solutions, any dispute must be governed by the laws of the state of North Carolina and the parties unconditionally submit to the jurisdiction of the North Carolina state and federal courts. If any portion of this warranty is not enforceable, due to local legal requirements, then such specific language shall be modified to meet local legal requirements consistent with SYSTIMAX Solutions's intent.

mScope Solutions, Inc. doing business as SYSTIMAX Solutions.
horized SYSTIMAX 'BusinessPartners' are part of the approved SYSTIMAX supply channel and have been certified to SYSTIMAX design and installation requirements. In order for Products to be egistered, the Products must be installed by Authorized BusinessPartner's personnel who have successfully completed the Engineering/Design Training Module and the Installation/Maintenance Training Module. Contact SYSTIMAX Solutions for a complete list.

4. Section IV

4.1. Account Team

4.1. Account Team

The Edgewood ISD account team is headed by your account manager, Mike Bain. Other account-team members may include an inside sales representative, a project manager, a solution consultant, an acquisition services consultant, and others as required.

The following individuals have tentatively been assigned to the project described in this proposal.

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4.2. Corporate Organization and Capabilities

Avnet Enterprise Solutions is a division of Avnet, Inc. Avnet, Inc.

Phoenix, Arizona-based Avnet, Inc. is a Fortune 500 company and employs 9,500 people serving customers in 68 countries. Incorporated in 1955, Avnet, Inc. has grown into an $10B+ industry leader as a premier technology and marketing services company. Now ranked number 223 on the Fortune 500, Avnet, Inc is one of the world's largest distributors of semiconductors, interconnect, passive and electromechanical components, embedded systems and computer products from leading manufacturers.

4.4.1 Operating Groups

Avnet, Inc. is organized into two major operating groups: Avnet Electronics Marketing (EM) and Avnet Technology Solutions (ATS), which includes Avnet Enterprise Solutions.

Representing $4.8B in revenues, Avnet Electronics Marketing is the number one global supplier of electronic components and supply chain solutions to Original Equipment Manufacturers (OEMs), contract manufacturers and subsystem manufacturers.

Avnet Technology Solutions is a $4.1B provider of enterprise computing solutions to VARs, commercial enterprises and government and educational institutions. Avnet Technology Solutions contains four major operating divisions:

- Avnet Enterprise Solutions, serving the US market place, is one of the industry's leading solutions integrators, specializing in enterprise network solutions for IP Communications, Security , Wireless and LAN/WAN. Avnet Enterprise Solutions represents about $300M in revenues
- Avnet Partner Solutions is a leading worldwide value-added distributor of computing products, software, storage and services primarily to the reseller channel.
- Avnet Computing Components focuses on vertical markets and applications deploying white box desktops, workstations and notebook solutions for system builders, value-added resellers (VARs) and independent software vendors (ISVs).
- Avnet Applied Computing is a $1.7B provider of board and subsystem computer technology products to contract manufacturers, OEMs and VARs.

4.4.2 Management Team

Chairman and CEO Roy Vallee presides over Avnet, Inc.'s 12-member board of directors. Vallee is the only director who is employed by Avnet. Each of the others brings value and experience to the board in areas such as international management, finance, operations, government, and academia.

4.4.3 Investor Information

Exchange:	New York Stock Exchange
Ticker Symbol:	AVT
Sector:	Technology
Industry:	Electronic Instruments & Controls, Electronics Wholesale
Auditors:	KPMG
SEC Reporting	http://www.avnet.com/corporate/investors/sec.html

4.4.4 Corporate Headquarters

Avnet, Inc. has its headquarters less than a mile from Sky Harbor International Airport in Phoenix, Arizona. More than 800 employees work at the corporate office. It is one of four office facilities Avnet has in the Phoenix area. Phoenix is also the location for one of Avnet's three global megawarehouses. The headquarters building is centrally located less than 15 minutes from downtown Tempe and downtown Phoenix:

Avnet, Inc.
2211 S. 47th Street
Phoenix, AZ 85034
Phone: (480) 643-2000
Web site: http://www.avnet.com

4.4.5 Avnet Enterprise Solutions

Avnet Enterprise Solutions specializes in Network Lifecycle Management solutions for IP Communications, Security, Wireless and LAN/WAN. The company leverages its unique suite of technical and financial professional services optimize a company's network performance and security posture. Avnet Enterprise Solutions integrates hardware, software and services from industry leaders including Cisco Systems, NetSolve, NetScout, Tandberg and Websense, utilizing its assess, design, implement and manage methodology. Headquartered in Tempe, Arizona, Avnet Enterprise Solutions (www.es.avnet.com) is a $4 billion division of Avnet Technology Solutions, an operating group of Avnet, Inc. (NYSE: AVT). Avnet generated more than $10 billion in revenue in fiscal 2004 (year ended July 3, 2004) through sales in 68 countries.

Cisco acknowledged Avnet Enterprise Solutions as its Partner of the Year for Customer Satisfaction in 2001, and we continue to achieve scores exceeding 4.5 (on a scale of 1 to 5) in the implementation of Cisco Advanced Technology solutions. Cisco ranks AES among its top 10 Gold Status direct VARs in the United States, including its 9th largest IP Communications and 13th largest Security partner.

4.4.6 Integrated Solutions

As an IT Solutions Integrator, Avnet Enterprise Solutions has over 15 years experience implementing complex data center and network infrastructures. Our national scope has provided us with the opportunity to work with a variety of companies including the Fortune 1000, medium-sized enterprises, state & local government agencies, and educational institutions.

Our unique position in the technology supply chain leverages our strong relationships with our suppliers and personal relationships with our customers. Our ability to provide value at all levels of the supply chain becomes a major differentiator for Avnet as well as our customers.

4.4.7 Major Areas of Expertise

Avnet Enterprise Solutions focuses its experience and expertise in integrated IT solutions in Enterprise Network: IP Telephony, VPN/Security, Wireless, and LAN/WAN Infrastructure.

Within each of these areas, Avnet Enterprise Solutions seeks to help Edgewood Independent School District minimize risk, maximize technical and financial flexibility, and optimize the use of capital as we improve your company's IT infrastructure. Our ability to offer comprehensive enterprise networking solutions has differentiated us within the industry.

4.4.8 Enterprise Network

Avnet Enterprise Solutions can assist you with local-area networks (LANs) and wide-area networks (WANs). Regardless of your business model, our end-to-end network solutions allow you to balance traffic loads across multiple servers and provide higher availability, better response time, and increased reliability. Through our network assessment service, you can address issues before they become problems that hurt your company.

As part of this effort, Avnet Enterprise Solutions designs and installs comprehensive, integrated data, voice and video solutions. Design services range from riser cable and premise distribution systems to multi-floor, campus-wide and multi-facility environments. Avnet Enterprise Solutions' comprehensive menu of services for this include:

- Cabling systems design
- Project management
- Cabling installation
- Telephony services
- Carrier services for Web hosting, wide-area networks, etc.
- Moves, adds and changes (MAC) services
- Testing and documentation
- Riser management
- Certified installations

4.4.9 Avnet's Value Proposition

For over 10 years, Avnet Enterprise Solutions has successfully completed IT projects across the country by consistently delivering on our value proposition. As an organization, we will minimize your technical and financial risk, maximize your technical and financial flexibility, and optimize every dollar you invest in information technology. Our biggest differentiator is our ability to consider both the technical and financial aspects of your project; and most importantly, how they inter-relate.

There are five pieces that come together to create and shape Avnet Enterprise Solutions' value proposition. Each of these components plays an individual role in minimizing your risk, maximizing your flexibility and optimizing your investment in IT.

- Account Management
- Solution Methodology
- Professional Services
- Acquisition Services
- Project & Risk Management

4.2.1.0. Account Management

An Avnet Enterprise Solutions account team consists of an account manager, an inside sales rep and a certified presales technical resource. This team may also include a solution consultant, an acquisition consultant, and/or orchestrate the entire team and any other appropriate resources to help you with your project. Their goal is to understand your business and bring the right people to the table. The assembled team will assist you with your complete IT environment — servers, storage, network and professional services to ensure there is harmony between them all.

The account team is also responsible for customer satisfaction. Customer Service is one of the Avnet "core values". Avnet Enterprise Solutions' parent group, Avnet Technology Solutions (ATS), monitors our ability to deliver on this core value at the divisional level. An ATS dedicated team is in place to survey, measure, report and most importantly, act on our customers' opinions. A closed-loop process has been established to over 60 customers per month to determine their level of satisfaction with Avnet Enterprise Solutions' customer service. Measured against a scale of 1 to 10, Avnet Enterprise Solutions consistently scores above an 8 overall.

4.2.1.1. Solution Methodology

Another key to ensuring our companies' mutual success is the Assess, Design, Implement, and Manage methodology used by Avnet Enterprise Solutions to implement all the projects we embark upon.

- **Assess:** Assessments are extremely important to the success of the project. Thorough technical and acquisition assessments will uncover all the environmental subtleties that influence the selection, design and implementation of the appropriate solution. This kind of preparation allows us to design a solution that not only meets your technical requirements but also takes into account the solution's Return on Investment.
- **Design:** Avnet Enterprise Solutions' certified technology resources and network engineers work to construct the solution's hardware and software architecture. They make sure that the technology fits your current business requirements as well as provide an appropriate roadmap to meet your needs in the future — maximizing your flexibility. They specify the components; stipulate the product configurations; document the build and implementation instructions; and identify the lifecycle management services required to meet your specific needs. An Avnet Enterprise Solutions Acquisition Consultant may also be involved at this step designing a financial solution appropriate for the chosen technology – optimizing your investment.
- **Implement:** The implementation of a project executes our plans and manages our professional services resources. Avnet Enterprise Solutions PMI-certified project management teams work together with our professional services to deliver the solution on time, on budget and to specification. In addition, Avnet Enterprise Solutions methodology provides processes for project change requests and regular customer communication.
- **Manage:** The life cycle management of a technology solution involves a number of components, that when project-managed as part of the ongoing solution, can add significant value to our customer's day-to-day operation and long-term satisfaction. These services include maintenance agreements, training; Day 2 managed services, and other lifecycle services. Avnet Enterprise Solutions also offers a number of acquisition services that can enhance the solution's life cycle or help our customers afford additional products.

4.3 Engineer and Technical Certifications

Solution Center

Employee Certifications

Select a View

All Items

Actions

- Add to My Links
- Alert me
- Export to spreadsheet
- Modify settings and columns

List of Certifications by Employee ID

New Item | Filter | Edit in Datasheet

Employee ID	Full Name	Certification
023409	Lopez, Steve	Cisco Aironet Wireless LAN
025440	Munoz, Javier	Ccore
023361	Allen, Brad	RCDD/OSP
025518	Loo, Francisco	Avaya Systimax Cat 5/Cat 6 Structured Cabling Systems
025606	Allen, Gary	CCDP (Cisco Certified Design Professional)
023380	Farmer, Ernie	MCP (Microsoft Certified Professional Systems Engineer)
025905	Venzor, Ricardo	MCSE (Microsoft Certified Systems Engineer)
024110	Villanueva, Ben	CCNP (Cisco Certified Network Professional)
023401	Ross, Mike	CCIE (Cisco Certified Internetwork Expert)
023389		CCIE (Cisco Certified Internetwork Expert)
024341	Le, Thomas	CCIE (Cisco Certified Internetwork Expert)
023685	Fischer, Timothy	Avaya
023882	Dedmon, Dennis	A+
023490	Fuchs, Doug	A+
011016	Ellis, Steve-Ray	HP OpenView - AIS & APC
023281	Barrows, Mark	A+
023305	Chaivre, Travis	A+
023181	Church, Brian	A+
024078	Guptill, Chris	A+
023365	Harding, Lynn	HP
025819	Schutt, Kenneth	HP
023689	Sinclair, Mike	Dell
025706	Wagner, Garrick	IBM
023532	Buchanan, Don	Lexmark
023462	Walker, Scott	Lexmark
023659	Crane, Doug	IBM
023046	Buettner, Brett	PMP
023723	Dominguez, Hector	Panasonic DBS Systems
023552	Guajardo, Edward	Leviton
023145	Mack, Kevin	Leviton
023621	Simpson, Carl	Ayaya Systimax
023543	Taylor, Doc	Avaya Design and Engineering
023426	Stone, John	Avaya Installer
(no title)		Avaya
023511	LeBlanc, Jayson	Leviton
022987	Rios, Jose	Cisco Wireless

023418	Chamrad, Craig	CCNP (Cisco Certified Network Professional)
(no title)		CCNA (Cisco Certified Network Associate)
023213	Jones, JD	CCNA (Cisco Certified Network Associate)
023257	Stotland, Cary	CCNA (Cisco Certified Network Associate)
023249	Trinkle, Scott	Websense
023666	Bryan, James	CCIE (Cisco Certified Internetwork Expert)
023815	Cortez, Pete	Microsoft Windows 2000 Network and Operating System Essentials.
000998	Fong, Henry	Tru64 UNIX 4.0F ASE certified
023630	Kyle, Sean	CCDP (Cisco Certified Design Professional)
018742	Nessen, Jeff	Brocade BCSD
024706	Prudhomme, Jim	CCNP (Cisco Certified Network Professional)
015591	Gonzalez, Adrian	IBM AIX 5.1
025849	Dunlap, Judd	CCNA (Cisco Certified Network Associate)
024682	Marsh, Chad	CCIE (Cisco Certified Internetwork Expert)
023717	Abrams, Jonathan	CCNP (Cisco Certified Network Professional)
025648	Fix, William	CCIE (Cisco Certified Internetwork Expert)
025537	Hennen, Clint	BS Communications
022977	Hynds, Matt	A+
023573	Mueller, Ernest	Avaya Systimax SCS Design & Engineer
023414	Riley, John	RCDD
023498	Summers, Tony	CCNA (Cisco Certified Network Associate)
023232	Wallace, Keith	NA
023169	Tew, William	RCDD LAN Specialist
023014	Motzer, Richard	CCNP (Cisco Certified Network Professional)
025443	Linscott, Philip	Lightspeed Systems Engineer
025341	Hartman, Terry	CCDA (Cisco Certified Design Associates)
003324	Collins, Steve	MASE (HP Master SAN Architect)
(no title)		CCNP (Cisco Certified Network Professional)
025329	Gertsch, Dana	CCIE (Cisco Certified Internetwork Expert)
015917	Hughes, James	MCSE (Microsoft Certified Systems Engineer)
025560	Lee, Ann Marie	MIT - IT Leadership; PMP; MPM
023368	Carpenter, Michael	PMP
023409	Lopez, Steve	Cisco Aironet Wireless Site Survey
025440	Munoz, Javier	JoHanson
023361	Allen, Brad	PMP
025606	Allen, Gary	CCNA (Cisco Certified Network Associate)
023380	Farmer, Ernie	Lightspeed Certified Engineer
025905	Venzor, Ricardo	2000
024110	Villanueva, Ben	CCDP (Cisco Certified Design Professional)
023685	Fischer, Timothy	Molex
011016	Ellis, Steve-Ray	HP StorageWorks™ XP Solutions - APP
023281	Barrows, Mark	HP
023305	Chaivre, Travis	HP
023181	Church, Brian	HP
024078	Guptill, Chris	HP

023365	Harding, Lynn	Dell
023689	Sinclair, Mike	HP
025706	Wagner, Garrick	Dell
023532	Buchanan, Don	HP
023462	Walker, Scott	HP
023659	Crane, Doug	Dell
023046	Buettner, Brett	CIPT (Cisco IP Telephony) - PM
023723	Dominguez, Hector	Avaya Partner and Legend
023552	Guajardo, Edward	Voilition Fiber Certified
023145	Mack, Kevin	Molex
023621	Simpson, Carl	Avaya Systimax Design
023543	Taylor, Doc	Siecor TR-07-S
023426	Stone, John	Cisco Wireless LAN
(no title)		Lucent
023511	LeBlanc, Jayson	Molex
023418	Chamrad, Craig	Panasonic DBS Systems
(no title)		FSO
023213	Jones, JD	IP Telephony Design/Specialist
023257	Stotland, Cary	CVOICE

(Items 1 to 100) Next ►

4.4 Cisco Gold Letter and Certifications

Cisco Gold Partner Certification

As a Cisco Gold Partner, Avnet Enterprise Solutions (AES) is a leading provider and partner in the implementation of Cisco's networking technologies. Since 1997, AES (then operating as Houston-based Kent Datacomm before Kent was acquired by Avnet in June of 2001) has been recognized as one of Cisco's leading U.S. network integrators, serving the LAN/WAN services needs for the commercial enterprise and government/education markets. In fact, Avnet Enterprise Solutions received Cisco's 2001 Customer Satisfaction "Partner of the Year" Award.

In addition, Cisco acknowledged Avnet Enterprise Solutions as its Partner of the Year for Customer Satisfaction in 2001, and we continue to achieve scores exceeding 4.5 (on a scale of 1 to 5) in the implementation of Cisco Advanced Technology solutions. Cisco ranks AES among its top 10 Gold Status direct VARs in the United States, including its 9th largest IP Communications and 13th largest Security partner.

A Cisco Pedigree

As Cisco's 7th largest direct value-added reseller, Avnet Enterprise Solutions boasts over 60 Cisco-certified engineers, including eleven (11) CCIEs. It has also achieved elite status by attaining Cisco specializations in the following technologies:

Storage Advanced Technology Partner – As a selected Cisco ATP partner, AES can deliver and support the Storage Router SN5420 that offers direct access to storage using the IP protocol, making storage universally accessible over the widely deployed IP infrastructure. Moreover, our extensive SAN experience makes Avnet a key partner for Cisco's new MDS 9000 series SAN switching solution.

IP Telephony - Avnet Enterprise Solutions has effectively implemented more than 30 IP Telephony solutions, deploying over 10,000 IP phones. Our expertise in delivering services surrounding Cisco IP Telephony hardware and software, Unified Messaging, PBX integration and PBX migration is underscored by Avnet's status as a Cisco IP Telephony services specialized partner.

VPN/Security –Avnet Enterprise Solutions maps its leading suite of network security services in the security market to Cisco's proven, detailed SAFE Blueprint to help customers foolproof their networks from the inherent risks of the connected economy. Avnet recently announced its new NetSafe™ suite of IT security assessment solutions.

Wireless LAN –Avnet Enterprise Solutions has the wireless LAN expertise needed to help extend the enterprise network. Our experts have assessed, designed and implemented wireless LANs that combine the mobility and flexibility of a wireless network with the throughput and security of a business LAN for some of the largest companies, government entities and educational institutions.

Optical Advanced Technology Partner - Avnet Enterprise Solutions' role as an Optical Advanced Technology Partner (ATP) can help you assess, design, implement, operate and manage Cisco's Optical Metro DWDM products as well as the SONET/SDH Cisco Optical Transport Solutions.

At a national level, Avnet Enterprise Solutions works at all levels within the Cisco organization, and is served by a Cisco dedicated account team:

- National Channel Account Manager: Tim Gordon
- National Channel Systems Engineer: Jack Nichols
- National Channel Services Manager: Mark Louderback
- Customer Service Manager: Maureen Jimenez

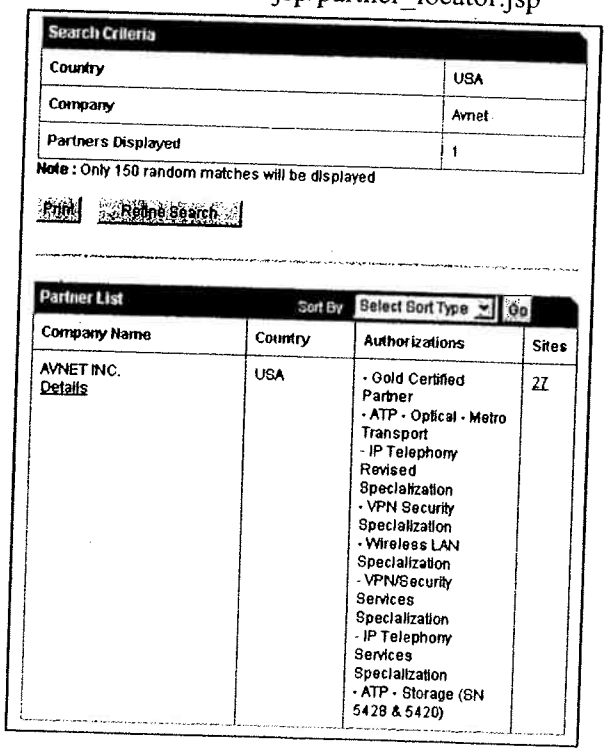
This account team gives us a great advantage to our customer because we do not have to go into a "customer service pool." Our quote-to-order system is tied directly into Cisco's configuration and ordering systems. This automation eliminates the manual entry of quotes or orders. This significantly reduces order processing time and creates direct electronic ordering right from our customer's PO. Also, it automatically provides electronic receipt confirmations, status, tracking and billing data.

In addition, Avnet Enterprise Solutions is a strategic national partner for helping Cisco stay abreast of reseller business issues. AES President Jim Teter is a participating member of the Cisco VAR Council, which helps shape Cisco channel programs and policies. AES Director for Network Solutions Jay O'Callaghan worked with Cisco to help pilot its Partner Enablement Program, which is designed to enhance partner capabilities in the Cisco emerging technologies space. Avnet Director for Strategic Business Development Peter Gitlin coordinates more than six executive briefings each year to ensure ongoing dialogue between the AES management and Cisco channels organization. On the technical front, AES Network Solutions Director, Jay O'Callaghan ensures AES is at the forefront of new Cisco technologies.

At a local level, the AES Sales and Professional Services teams work hand in glove with the local Cisco channels organization to assess, design, implement and manage Cisco-powered solutions for commercial, government and education customers. Additionally, AES attends local Cisco training events and co-sponsors informational technology seminars for IT professionals.

To verify our gold partner certification as well as the other Cisco certifications Avnet holds, please refer to the following web site:

http://tools.cisco.com/WWChannels/LOCATR/jsp/partner_locator.jsp



Search Criteria

Country	USA
Company	Avnet
Partners Displayed	1

Note : Only 150 random matches will be displayed

Print | Refine Search

Partner List Sort By Select Sort Type Go

Company Name	Country	Authorizations	Sites
AVNET INC. Details	USA	· Gold Certified Partner · ATP - Optical - Metro Transport - IP Telephony Revised Specialization · VPN Security Specialization · Wireless LAN Specialization - VPN/Security Services Specialization - IP Telephony Services Specialization · ATP - Storage (SN 5428 & 5420)	27

Cisco Technical Assistance Center (TAC)

As a Cisco service partner, Avnet can resell Cisco's SmartNet support program and escalate technical problems to Cisco on behalf of Avnet's SmartNet customers. A SmartNet contract entitles a customer or partner to use of the Cisco TAC (Technical Assistance Center) to report a problem. The Cisco TAC provides around-the-clock, seven days a week support to customers and partners worldwide. No matter when or where customers find problems with hardware they have under a SmartNet contract, they can call the Cisco TAC, staffed with Cisco Customer Support Engineers (CSEs), to help solve their problems.

The TAC works closely with customers to replicate and isolate problems. In critical network-down problems, TAC CSEs work with customers around the clock until their problems are resolved. In other instances, CSEs may replicate customer environments in the TAC laboratory or, when appropriate, travel to customer sites to isolate problems.

The Cisco Technical Assistance Center is staffed by more than 900 customer support engineers with over 5000 combined years of experience with the Cisco product line and all aspects of communications networking technology. Support is available in more than 144 languages. For SMARTnet Onsite customers, Cisco provides field engineers onsite to install Advance Replacement hardware parts. Over 11,000 field engineers are located throughout 110 countries to supply these services. Response times are based on the delivery option selected.

Cisco Certification

Cisco Systems
[redacted]

September 10, 2004

To Whom It May Concern:

This letter serves as notice that Avnet Enterprise Solutions is a Cisco Gold Certified Partner. Avnet has gained the technical expertise and product knowledge necessary to provide its customers with leading-edge sales and support of Cisco products and solutions.

Cisco Gold Certified Partners have achieved the highest level in the most respected channel certification program in the networking industry. Gold Partners have developed expertise in virtually every aspect of Cisco's business - including planning, network design, network management, support, and global networking - so they can serve you effectively at every stage of your network's development.

Gold Partner's provide the highest level of product knowledge, technical expertise, and service capabilities—along with industry-leading networking products and solutions. Their teams of highly trained experts include the largest number of Cisco Certified Internetwork Experts (CCIE's) of any Partner Certification Program. Specific services include complex network design and implementation, product testing facilities, remote diagnostics, and on-site troubleshooting. Gold Certified Partners are an extension of Cisco's support team - they provide customer support 24 hours a day, 365 days a year, giving you the assurance that technical assistance is only a phone call away.

Avnet's achievements, under the Gold Certification umbrella, include Cisco Specializations and Advanced Technology Program (ATP) designations in the following technologies:

- ATP - Optical - Metro Transport
- ATP - Storage (SN 5428 & 5420)
- VPN/Security Services Specialization
- VPN Security Specialization
- Wireless LAN Specialization
- IP Communications Specialization

Sincerely,

Eddie Locastro
Cisco Systems
Channel Account Manager
elocastr@cisco.com

4.5 Commitment to Education

AVNET computer marketing
Enterprise Solutions

Commitment to Education

Avnet Enterprise Solutions has extensive experience serving the K-12 environment. In fact, we have a nation wide consulting, sales, and service team dedicated to providing solutions to the issues facing educators today, including: integrating technology into the classroom and identifying state and federal funding sources to implement and maintain this technology.

As an AES partner, your school district would be able to leverage our experience and success with K-12 customers to provide you with a complete, scalable solution for today and the future. For example:

- 8 years of focus on education solutions,
- Expertise in E-Rate, grants, bonds, etc.,
- AES provides free E-Rate seminars and support to K-12 school districts on a nationwide basis
- Avnet personnel helped in creating the concept of a Community Networking grant as offered by the Texas Telecommunications Infrastructure Board
- Partnerships with training companies for certification of your staff,
- Advanced technology specialists in wireless, LAN and WAN Networking, IP Telephony, Video over IP.
- Avnet provides free seminars on wireless, IP telephony, and video over IP on a nationwide basis for business and educational customers
- Wireless connectivity campus-wide as a part of a complete solution.
- Avnet personnel routinely provide free E-Rate consulting services to Texas Regional Service Centers
- Avnet has completed projects totaling over $125 million in Texas since the inception of the E-Rate program.

AES is a nationwide company with 25 offices across the US. As part of Avnet, Inc, a $8.9 billion company, our customers include Fortune 500 companies as well as local and regional companies. A significant part of our education business involves wiring and cabling under the E-Rate program, and Avnet always subcontracts the majority of this business in all locations, indicating our commitment to work with local vendors. In addition, Avnet will subcontract with local contractors and business enterprises when it represents the best value to our customers.

4.6 E-Rate Expertise

E-Rate Expertise

Over the last several years Avnet Enterprise Solutions has emerged as a national leader in providing E-Rate guidance and expertise to applicants all across the country. Working through our 30 regional offices throughout the United States, Avnet Enterprise Solutions has conducted over 300 free E-Rate seminars to schools, libraries and other eligible organizations in an effort to increase participation in the E-Rate program. Avnet Enterprise Solutions provides quality turnkey network integration services, and is one of the largest network integrator in the country. Avnet Enterprise Solutions (ES) has been consistently ranked in the top 5 Service Providers for the E-Rate program in the Internal Connections category.

Our presentations have reached more than 3,000 attendees, and all seminar attendees are provided with a toll-free 800 number for continuing assistance concerning E-Rate issues. Mike Beeman, the Senior Education Account Manager for Avnet ES, is responsible for conducting all Avnet ES E-Rate seminars. Based in Austin, Texas, he has conducted seminars throughout the central portion of the United States, inclusive of Texas, Kansas, New Mexico, Illinois, and Nebraska. He has also conducted training seminars in many of the Avnet ES regional facilities across the country.

Over the past few years, Mike has worked collaboratively with the Telecommunications Infrastructure Fund, a Texas state agency authorized by the state legislature to provide $150 million per year in (competitive and non-competitive) grants to Texas schools and libraries, to create a unique Community Networking grant opportunity with a $10 million pool for applicants. This grant, the first of it's kind offered by a state agency throughout the country, provides up to $500,000 for a two year period to selected community consortia on a competitive basis. In August of 2000, the Telecommunications Infrastructure Fund awarded a total of $16 million in grants to 37 communities across Texas and intends to begin a second round of this grant based on the initial success and participation by Texas communities. In June 2001, the Telecommunications Infrastructure Fund announced the second round of the Community Networking Grant, with a $25 million pool for applicants.

Mike also works with the Kansas State Board of Education annually to sponsor free statewide E-Rate seminars for eligible schools and libraries throughout Kansas, combining these half-day seminars with a half-day review of Kansas technology opportunities provided by the Kansas State Board of Education. Mike was instrumental in coordinating a statewide E-Rate consortium application for all Kansas schools and libraries, and is also a regular speaker at the annual Kansas Technology Conference sponsored by the Kansas State Board of Education.

Working with eligible applicants, Avnet ES has provided E-Rate guidance and assistance resulting in the award of more than $165 million in E-Rate discount awards to eligible schools and libraries. We specialize in strategies that allow applicants to maximize their participation in the E-Rate program, and have extensive experience in leveraging funds generated via bond issues or other grant sources into E-Rate application opportunities.

AVNET ENTERPRISE SOLUTIONS' SPIN NUMBER: 143007906

4.7 CISV Detail

CISV contact information for Avnet Enterprise Solutions is listed below. Please visit the CMBL Information Page at http://www.tbpc.state.tx.us/cmbl/index.html for information on updates or contact TBPC by email at e.cmbl@tbpc.state.tx.us

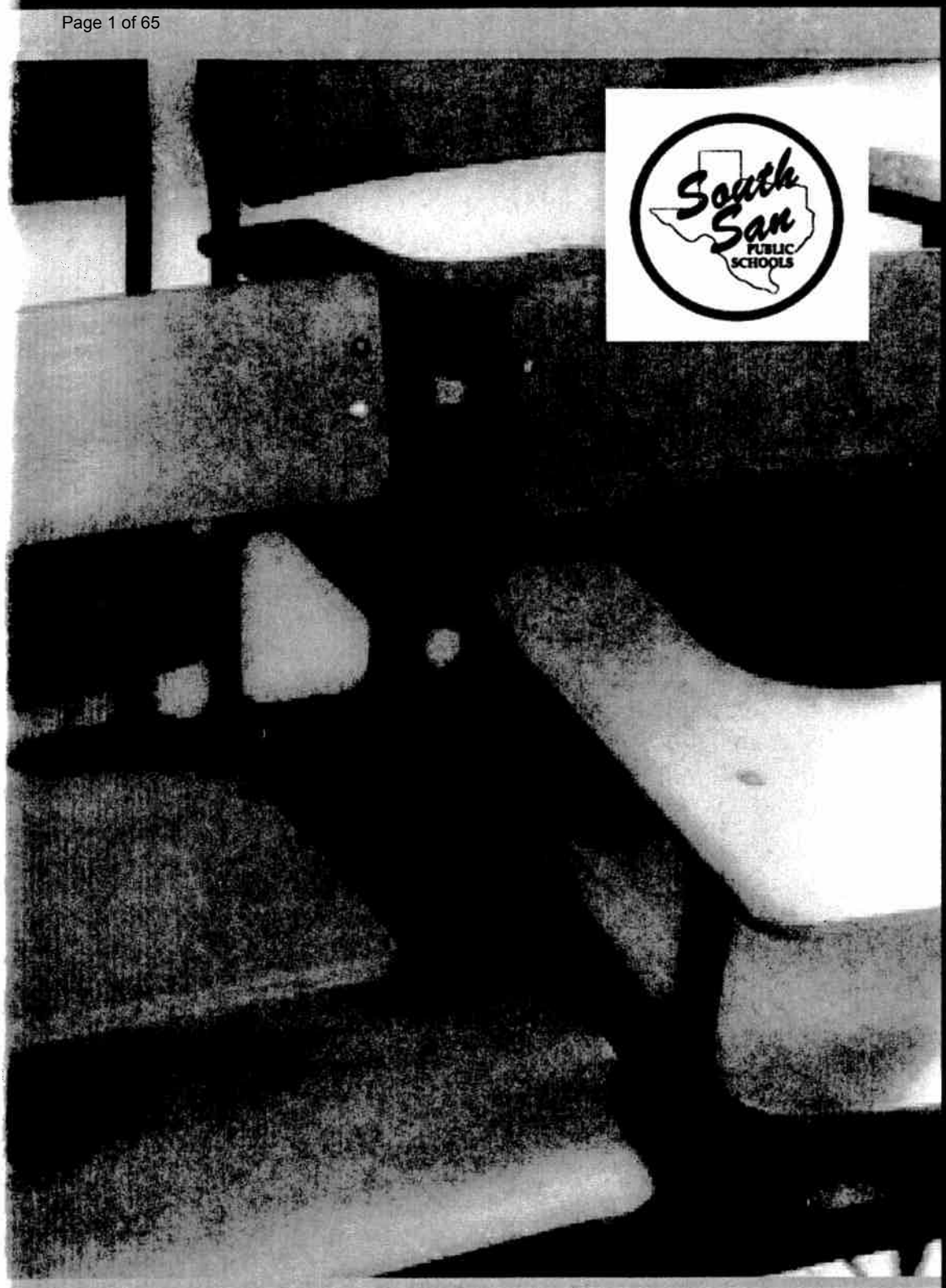
CMBL/HUB Vendor Contact Information	
Vendor ID / Number:	1111890605300 / 47365
HUB Status:	N (CMBL only)
Vendor Name:	AVNET ENTERPRISE SOLUTIONS
Vendor Address:	1130 RUTHERFORD LANE, BLDG. 2 SUITE 208 AUSTIN, TX 78753
County:	TRAVIS
Contact:	CATHI WHELAN
Phone / Fax:	512-835-1152 / 512-691-9480
Email Address:	cathi.whelan@avnet.com
Texas Office:	Y
CISV:	Catalog
Small Business:	Y
CMBL Expire Date:	08/08/2005

Note: CISV no longer issues approval letters but the information above, copied from the Texas Building and Procurement Commission web site, confirms our participation. For current catalog information please refer to the following Texas Building and Procurement Commission web site: http://www.tbpc.state.tx.us/cgi-bin/cmbl/vendor?vid=1111890605300

4.8 Avnet Annual Report 2004

Exhibit 3b

AT&T BID



South San Public Schools

Cisco Wireless Network Systems and Network Upgrades, RFP #05-48

Janna K. Kloss
Senior Account Manager

SBC Communications Inc.
4119 Broadway, Suite 46
San Antonio, TX 78209
Phone 210 633-5612
js6127@sbc.com

February 8, 2005

Mr. Patrick J. Skees
General Accountant/Interim Director of Purchasing
South San Antonio Independent School District
2515 Bobcat Lane
San Antonio, Texas 78224

Dear Mr. Skees:

Your request for Wireless Network Systems and Network Upgrades offers SBC a chance to showcase our overall experience and expertise, as well as to spotlight SBC DataComm, our data equipment and services affiliate.

SBC DataComm is the network integration unit of SBC Communications, Inc. SBC DataComm specializes in designing, delivering, and managing data, voice, and video networking systems using products from partners such as Cisco Systems, Nortel Networks, and other key industry manufacturers. It is one of the largest network integrators in the United States, with more than 550 engineers and 160 project managers. SBC DataComm's highly trained and experienced technical personnel have expertise in WAN and LAN network design, engineering, and installation, as well as maintenance of routing and switching equipment and network management services. SBC DataComm also offers a host of professional services, including certified project management and consulting services.

By selecting SBC, customers eliminate implementation problems they might encounter which could affect productivity. The SBC account team can coordinate the implementation of most services. Turnaround time on installation of equipment and services is minimal, without disruption to a customer's network.

SBC DataComm offers proven network solutions, multi-vendor integration expertise, and logistics capabilities to help you increase your competitive edge. From assessment and planning, to network support, we don't simply provide our clients with "off the shelf" services. Our more than 1000 skilled engineers deliver customized solutions to meet your specific business needs.

SBC DataComm knows your network is vital to your success. More than ever before, new applications offer you opportunity to differentiate yourself through technology. Enter SBC DataComm. The network integration experts at SBC DataComm design, deliver, and manage data, voice, and video networking systems using products from partners, such as Cisco Systems and Nortel Networks.

There are many reasons to select SBC as vendor of choice for your wireless E-Rate project, including cost-efficiency, quality, performance, service, support and future capabilities. Our response will outline how we will help you provide the customer service and satisfaction your staff , students and constituents deserve.

Unlike many in the telecommunications industry, SBC can serve as a local single point of contact for all telecommunications services. With SBC as its single telecommunications provider, South San Antonio can seamlessly integrate voice services, data services, network services, Internet access wireless and more. You will have a local single point of contact and enjoy the reliable service and support that has become a hallmark of SBC and its affiliate companies.

Should any questions arise regarding the content of our response, or if you need additional information, please contact me.

Sincerely,

Janna Kloss
Senior Account Manager

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Proposal Validity Period

The information contained in this proposal is valid for a period of ninety days (90 days) from the date written on the proposal cover page unless rescinded or extended in writing by SBC Global Services, Inc.

Terms and Conditions

The information described in the attached proposal is not intended to be the final expression of the Statement of Work and does not constitute an offer for acceptance; this proposal is intended for discussion purposes only. A definitive Statement of Work, including products to be delivered and services to be performed, and applicable terms and conditions, will be developed between SBC Global Services, Inc. (SBC) and South San Antonio ISD at time of contracting. The information contained in this document, or any part thereof, shall only be made a part of any resulting written contract between SBC and South San Antonio ISD if agreed to, and to the extent agreed to, by both organizations and specifically stated in the written contract.

Proposal Pricing

Pricing proposed herein is available to the recipient of this proposal and only to the extent products and/or services are provided as stated herein and SBC Global Services, Inc. standard terms and conditions apply. Proposed pricing herein is based on the specific product/service mix, and locations design included in this proposal. Any changes or variations in SBC Global Services, Inc. standard terms and conditions and the products, services, locations, and/or design described herein may result in different pricing.

CONFIDENTIAL INFORMATION
SOLELY FOR USE BY EMPLOYEES OF SBC GLOBAL SERVICES AND SOUTH SAN ANTONIO ISD WITH A NEED TO KNOW. NOT TO BE DISCLOSED TO OR USED BY ANY OTHER PERSON WITHOUT THE EXPRESS WRITTEN CONSENT OF SBC GLOBAL SERVICES.

Providers of Service

SBC Global Services, Inc. is the respondent to this RFP for itself and on behalf of its service-providing affiliates:

- Southwestern Bell Telephone, L.P. DBA SBC Southwest for local service in Arkansas, Kansas, Missouri, Oklahoma, and Texas
- SBC Long Distance, Inc. DBA SBC Long Distance (SBCLD) for InterLATA SBC PremierSERV Frame Relay.
- SBC Advanced Solutions, Inc. (SBC-ASI) for IntraLATA SBC PremierSERV Frame Relay throughout the SBC local service areas.
- SBC DataComm, Inc. for network design, equipment staging, installation, and maintenance for SBC PremierSERV Frame Relay. SBC DataComm, Inc. is a Delaware corporation. "SBC DataComm" is a DBA name registered to Southwestern Bell Telephone, L.P. in Kansas, Missouri, Oklahoma and Texas, and registered to Pacific Bell Telephone Company in California.

Collectively, SBC Global Services, Inc. and its affiliates are referred to in this RFP response as "SBC."

CONFIDENTIAL INFORMATION
SOLELY FOR USE BY EMPLOYEES OF SBC GLOBAL SERVICES AND SOUTH SAN ANTONIO ISD WITH A NEED TO KNOW. NOT TO BE DISCLOSED TO OR USED BY ANY OTHER PERSON WITHOUT THE EXPRESS WRITTEN CONSENT OF SBC GLOBAL SERVICES.

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224

January 24, 2005

Contractors:

The South San Antonio Independent School District is requesting sealed proposals on **CISCO Wireless Network Systems and Network Upgrades , RFP #05-48.**

Please submit **two (2) copies** of your proposal on the appropriate enclosed forms no later than **2:00 P.M., TUESDAY, FEBRUARY 8, 2005.**

Proposals received after the indicated date and time will not be accepted.

Mail or deliver your proposals to:

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
PURCHASING DEPARTMENT
2515 BOBCAT LANE
SAN ANTONIO, TEXAS 78224

Be sure to label each proposal on the face of the envelope with the appropriate RFP number.

If you elect not to respond, return the proposal marked **"NO RESPONSE"** and we will keep your company on the vendor's list for future solicitations.

For more details contact the Purchasing Department at (210) 977-7070.

Sincerely,

Patrick J. Skees
General Accountant/Interim Director of Purchasing

PJS/ev

CONFIDENTIAL INFORMATION
SOLELY FOR USE BY EMPLOYEES OF SBC GLOBAL SERVICES AND SOUTH SAN ANTONIO ISD WITH A NEED TO KNOW. NOT TO BE DISCLOSED TO OR USED BY ANY OTHER PERSON WITHOUT THE EXPRESS WRITTEN CONSENT OF SBC GLOBAL SERVICES.

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

Cisco Wireless Network Systems And Network Upgrades

RFP #05-48

SPECIFICATIONS AND CONDITIONS

The South San Antonio Independent School District seeks sealed bid proposals for Cisco Wireless Network Systems and Network Upgrades at several campuses. These items will be performed as listed in the category of Internal Connections as defined by the Schools and Libraries Division of the Universal Services Administrative Company (the E-Rate program).

1. SSAISD is requesting cost estimates to purchase, engineer, and install wireless network systems using the Cisco 1200 wireless access points. Complete wireless infrastructure will be installed at 18 schools. Network upgrades at all schools using requested parts for Cisco 6500 series and Cisco 3750 series. Pricing will include engineering and installation. Wireless networks systems will installed and configured by the vendor. The engineering and installation will consist of a preliminary site visit to mark AP locations and assess any installation or coverage issues on each of the campuses. The district will provide diagrams of the locations and will work with the vendor to determine location of APs. The project will include the submission of the following documents: a wireless site visit report, a system design that denotes access point placement and configuration parameters (i.e. channel number, SSID, required accessories, etc.), labels for access points, a detailed equipment list inventory, a final report including details of access point settings with a campus diagram showing access point locations, AP name, and radio coverage, and any other design documentation deemed appropriate by the vendor. Also note that each Access Point will require a new Category 5e cable (up to 300' in length) installed that will extend between the AP and the appropriate network closet based on existing wiring boundaries to connect the AP to the switch for network access and power.

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Network Upgrades will include replacing Supervisor Engines, Power Supplies, Fan Trays, and Ethernet modules for Cisco 6500 series. These upgrades will occur in existing 6500 chassis. Equipment that is replaced will be traded in. **School along with requested equipment, lists the equipment that will be traded in.** Some areas call for new Cisco 6500s which will include all parts specified. Other areas call for Cisco 3750 series, 24 and 48 port models are specified by location. The vendor will install and configure all equipment.

SBC Response: SBC has read and understands.

2. The vendor will be responsible for a "turnkey" solution to include all hardware, cabling, engineering services, installation and configuration of all equipment per SSAISD. **The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract.**

SBC Response: SBC has read, understands and takes exception to the term "turnkey." SBC has provided a response and pricing based on the equipment lists and other information provided by South San Antonio ISD. SBC cannot be responsible for changes, additions or deletions made beyond the solution outlined without the opportunity to make equitable adjustments in pricing.

3. The selected vendor will provide pricing on Cisco hardware, Cisco maintenance, and the Wireless installation. Important Note: The network installation will be performed outside of normal school hours. If you have special pricing for after normal business hours or weekends please bid and plan accordingly.

   Below is the current school start and end times:
   Elementary – 8:00 a.m. – 3:00 p.m.
   Middle and High School- 8:00 a.m. - 3:30 p.m.*

SBC Response: SBC has read and understands.

4. The vendor will be required to perform the "client walkabout" survey under the direction of SSAISD staff. This involves walking the campus with a laptop to verify wireless coverage.

SBC Response: SBC has read, understands and will comply.

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5. The vendor will be required to make site visits in preparation for installation, and may be required to assist in adjusting rack arrangements for the placement of new equipment.

SBC Response: SBC has read and understands.

6. There is no commitment by the District to purchase any given number of the Cisco items provided by the vendor. The number purchased will be determined based on unit price bid and funds availability. Vendor should include any price breaks for quantity purchases as requested.

SBC Response: SBC has read and understands. However, for products that are volume sensitive, if any, SBC reserves the right to equitably adjust pricing should the award be less than the scope provided.

7. Warranty service on this equipment shall include on-site repair and/or pick-up and delivery at no additional expense to the District. (Including "Depot Repair" components which must be returned to the manufacturer for repair.)

SBC Response: SBC has read and understands.

8. Bidder must be able to provide repair service during and beyond the warranty period. The bidder must maintain a repair facility within the greater San Antonio metropolitan area. Location of the repair facility may be considered during the bid evaluation. Bidder must be able to provide continuing support at no additional cost to the District for a minimum of twelve (12) months in the form of telephone advice and assistance to the South San Antonio ISD to answer questions and to resolve any issues which may arise. If the District selects extended warranty, the above-cited services must be provided during the extended warranty period.

SBC Response: SBC has read, understands and will comply. SBC has both local technicians and a repair facility in San Antonio.

9. If a vendor is located outside of the local San Antonio calling area a toll free number, i.e. "1-800", must be provided as part of their support for the District for the entire term of any contract.

SBC Response: SBC has read and understands. Not applicable.

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10. The District reserves the right to cancel this contract with written notice if the vendor fails to comply with the terms and conditions of this bid.

SBC Response: SBC has read and understands.

11. If the manufacturer discontinues a bid product, the vendor must provide evidence, and provide an acceptable product that meets or exceeds the bid specifications at no increase in cost.

SBC Response: SBC has read, understands and will comply.

SITE LOCATION for POINT OF CONTACT:

South San Antonio ISD
2515 Bobcat Lane,
San Antonio, Texas 78224

To be provided to the following schools:

1. Roy P. Benavidez Elementary School
   8340 South IH-35
   San Antonio, TX 78224

2. Kindred Elementary School
   7811 Kindred Road
   San Antonio, TX 78224

3. Palo Alto Elementary School
   1725 Palo Alto Road
   San Antonio, TX 78211

4. Price Elementary School
   245 Price Avenue
   San Antonio, TX 78211

5. Hutchins Elementary
   1919 W. Hutchins
   San Antonio, TX 78224-1699

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6. Athens Elementary
   2707 W. Gerald
   San Antonio, TX 78211-2345

7. Royalgate Elementary
   6100 Royalgate
   San Antonio, TX 78242

8. Armstrong Elementary
   7111 Apple Valley
   San Antonio, TX 78242

9. Carrillo Elementary
   500 Price
   San Antonio, TX 78211

10. Five Palms Elementary
    7138 Five Palms
    San Antonio, TX 78242

11. Abraham Kazen Middle School
    1520 Gillette
    San Antonio, TX 78224

12. Alan B. Shepard Middle School
    5558 Ray Ellison Drive
    San Antonio, TX 78242

13. Dwight Middle School
    2454 West Southcross
    San Antonio, TX 78211

14. West Campus High School
    5622 Ray Ellison Drive
    San Antonio, TX 78242

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15. South San Antonio High School
    2715 Navajo
    San Antonio, TX 78224

17. South San Antonio Alternative School
    1450 Gillette
    San Antonio, TX 78224

18. Robert C. Zamora Middle School
    2515 Bobcat Lane
    San Antonio, TX 78224

SBC Response: SBC has read and understands.

TERM AND PAYMENT:

A. The Term of the contract shall be from July 1, 2005 through June 30, 2006.

SBC Response: SBC has read and understands.

B. Unless otherwise stated, payment will be within the guidelines of the Universal Service Discount Program. The selected vendor will need to contact the South San Antonio ISD Technology Department to discuss the receipt of pre-discounted bills once the funding request has been approved.

SBC Response: SBC has read and understands.

C. The Universal Service Discount program, commonly known as the E-Rate, administered by the Universal Service Administrative Co. for the Federal Communications Commission, will fund this Request For Proposals. This proposal will be funded only if approved by the Schools and Library Division, and if the Universal Service Administrative Company appropriates the funds. Funding, if available, will not be expected until, or after, July 1, 2005.

SBC Response: SBC has read and understands.

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D. **The selected vendor agrees to abide by all applicable policies of the Universal Service Discount program. The vendor will include its Service Provider Information Number (SPIN) in its proposal. The vendor will include its State of Texas, Texas Building and Procurement Commission (TBPC) approved Catalog Information Systems Vendor (CISV) qualified and experienced in providing wireless network systems.**

SBC Response: **SBC has read, understands and will comply.**

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SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

Cisco Wireless Network Systems And Network Upgrades

RFP #05-48

PRODUCT SPECIFICATIONS

The following are detailed specifications for the equipment that is part of this bid. Mark Yes in the blank if **your** product meets the requirement, or No if it does not meet the requirement. **All blanks must be marked with a "yes" or a "no" response. An unmarked blank or any other mark besides "yes" or "no" will be considered to be a "no" (not meeting requirement).**

Example: Yes Meets the requirement.
No Does not meet the requirement.

Section A: Detailed Specifications

General Requirement for Bid Items.

Yes Cisco equipment must meet FCC Class B and UL Safety Certification requirements.

Yes All hardware must be new (not previously used).

Yes All Cisco equipment must be equipped with identical components. No substitution of Cisco components among other units concerning manufacturer and/or model number is permitted.

Yes All hardware must be currently (at the time of bid) in production. If a model is discontinued, the bidder must provide an acceptable substitute at no increase in cost. The bidder must notify the South San Antonio ISD Technology Department of the substitute before making any substitutions. FAXED notification must be sent to:

South San Antonio ISD
Department of Technology
2715 Bobcat Lane #4
San Antonio Texas 78224-1298
Phone 210-977-7375
Fax: 210-977-7378

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Yes Each Cisco equipment must have a unique serial number. The method used by the bidder to derive these serial numbers is immaterial to South San Antonio ISD Technology Department, a serial number must be displayed externally on the rear of the Cisco equipment. The serial number, if not provided by the original manufacturer, must be displayed on a printed label, may be of local fabrication, and must be affixed permanently to the component.

Yes A label must be affixed to the back of each Cisco Equipment that includes the following information:

1. Name of the Vendor
2. Area code and phone number of the Vendor
3. Date of warranty expiration.

Yes All Cisco Equipment must be able to accept and employ circuit boards designed to be inserted as expansion boards that meet industry standards. All expansion boards must not degrade performance of the Cisco Equipment.

Yes Testing and verification of functionality of the newly installed equipment by the vendor will be required.

Yes Vendor must notify the Technology Department in writing the serial numbers and location of installation of all Cisco Equipment. The location information must include the campus and room number. (Data on diskette is acceptable.)

Section B: DELIVERY

Delivery is included in the price of the Cisco Equipment, but the District has the option of having the vendor install and setup the Cisco Equipment. If the District purchased this option, the **vendor** must provide the following functions at the South San Antonio ISD **point of use** at a time on a date agreed upon:

1. Unbox all equipment and set it up at the location specified,
2. Connect the equipment,
3. Turn on the unit and verify that all components are functioning correctly.

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4. A series of diagnostic routines must be automatically executed upon start up of all computers. The diagnostics must verify the correct operation of all key components, which must include as a minimum the following examples: the CPU, system RAM, internal disk controllers, internal drives, sound cards, keyboard and mouse.
5. If applicable the Windows XP and Office XP and or Cisco Software **MUST** be activated prior to completion of installation.
6. **ALL** software is to be delivered to the Technology Department Office.

SBC Response: SBC has read, understands and will comply.

Section C: Environmental for Bid Items

Yes Each hardware component must be underwriters Laboratory (UL) Certified. The vendor to whom this bid is awarded must be prepared to show proof of **UL** listing.

Yes Each hardware component must operate continuously in a normal office environment without degradation within an ambient temperature range of 60 degrees Fahrenheit through at least 90 degrees Fahrenheit with the relative humidity between 20 percent and 80 percent (non-condensing).

Yes Each hardware component must operate using a power source within a range of 115 volts AC nominal +1-10%, 60 Hertz frequency +/- 1 Hertz, single phase, and supplied form the normal 3-wire grounded outlet.

Yes Each electrical component must be certified to comply with the limits for Class B computing devices pursuant to Part 15 of FCC rules.

Yes Each hardware component must possess internal power-overload protection (fuses, circuit breakers, etc.) that conforms to Underwriters Laboratory (UL) requirements for that specific component.

Section E: Maintenance Specifications for Bid Items

Yes Each Cisco Equipment must be covered by a minimum three (3) year full coverage parts and labor warranty including either on-site repair or pick-up and return maintenance. (*1st year eligible for funding the others not*)

Yes If the manufacturer does not offer a full three (3) year warranty, the bidder must provide the balance of the three (3) year warranty, with identical provisions for parts and labor.

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Yes Bidder must supply one copy of all warranties that apply to items bid. One copy of all such warranties should be included with each copy of the bid response.

Yes Response time for an item returned to the local service facility must normally be three (3) working days or less, i.e., the repair for an item returned for service under this bid must normally be completed within three (3) working days of receipt by the local service facility. If the vendor is unable to complete the repairs in three (3) working days, a "Loaner" of like or greater specifications and identical in operation to the unit brought in for repair must be made available to the South San Antonio ISD.

Yes Any replacement loaner equipment hardware item delivered to South San Antonio ISD must meet the same conditions and standards stated in this bid for original equipment.

Yes The bidder must agree that the use by South San Antonio ISD of after-sale added third party components will not void any of the warranty or maintenance provisions required as part of this bid. South San Antonio ISD agrees not to improperly use and/or otherwise configure the equipment in a manner that is not in accordance with the original manufacturer's warranty guidelines.

Yes All warranty and follow-on maintenance must be performed at a location in the greater San Antonio metropolitan area. This does not preclude depot level maintenance where certain items must be shipped back to the original manufacturer (at the bidders expense); however, the majority of the maintenance performed should be within the greater San Antonio Metropolitan Area.

Worker's Compensation: The Contractor shall provide and maintain worker's compensation based on statutory limits set by the Texas Workers Compensation Law. The contractor shall also provide Employer's Liability Insurance with a limit of not less than $500,000 for property damage liability with an aggregate of $1,000,000.

General Liability: The Contractor shall provide and maintain Comprehensive General Liability Insurance protection. Policy limits must be at least $500,000 for bodily injury liability and $500,000 for property damage liability with an aggregate of $1,000,000.

Automobile Liability: The Contractor shall provide and maintain during the life of this Contract, automobile public liability insurance in the amounts of not less than $250,000 and $500,000 for bodily injury, and $250,000 for property damage. Said insurance policy must provide protection for non-owned and hired vehicles, as well as vehicles owned by the Contractor.

SBC Response: SBC has read and understands. SBC affiliates are self-insured at or above levels required above. SBC will provide evidence of its self-insured status and coverage levels upon request.

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PROPOSALS:

1. Proposals must be made on the enclosed bid form.

SBC Response: SBC has read and understands.

2. Facsimile proposals will not be accepted.

SBC Response: SBC has read and understands.

3. Proposals received after the time and date indicated will not be accepted and will be returned to the contractor unopened.

SBC Response: SBC has read and understands.

4. Proposal prices shall be firm for a minimum period of sixty (60) days from the date of the bid opening. A thirty (30) day minimum is usually required for approval by the Board of Trustees.

SBC Response: SBC has read, understands and will comply.

5. Questions in regards to this RFP must be submitted to the Purchasing Department for clarification US Postal Mail.

SBC Response: SBC has read and understands.

6. Vendor must include with bid a **one-page** description of the vendor's format of warranty work, i.e. from first call for assistance through resolution of problem.

SBC Response: SBC has read, understands and will comply. Please see description provided as an attachment.

7. The vendor must be able to supply a four-hour response time to perform warranty work on computer systems.

SBC Response: SBC has read, understands and will comply.

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8. The vendor must have two certified computer repair technician employees at their business location. Both with CISCO Certifications that are valid. The vendor must provide a project manager who will be responsible for coordination of all activities of vendor's staff.

SBC Response: SBC has read, understands and will comply.

9. The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract.

SBC Response: SBC has read, understands and will comply.

10. **It is not the policy of the South San Antonio Independent School District to make awards on the basis of the lowest proposal alone, quality and suitability to purpose being the determining factors; it being understood that the District reserves the right to arrive at such a decision by whatever means it may determine.**

SBC Response: SBC has read and understands.

11. The District reserves the right to reject any and all proposals and to make awards on individual items, as they may appear to be most advantageous to the District and to waive all formalities in bidding.

SBC Response: SBC has read and understands.

12. During the performance of this contract, the contractor agrees not to discriminate against any employee or applicant for employment because of race, color, national origin, age, religion, gender, marital or veteran status or handicapping condition.

SBC Response: SBC has read, understands and will comply.

13. References: All vendors must submit a list of at least three (3) references from which vendor has provided like products or services. Educational & governmental agencies are preferred. This list may be placed in a separate envelope and labeled "Proprietary" and is not subject to public view. Failure to provide references may be cause for the proposal to be considered non-responsive.

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Company: **St. Mary's University**	Contact Person:	Phone:
Address: **1 Camino Santa Maria**	**Tony Lopez**	**210-431-5070**
City/State: **San Antonio, TX 78228**		
Company: **Northside ISD**	Contact Person:	Phone:
Address: **5616 Grissom Rd**	**Joe Delgadillo**	**210-397-7720**
City/State:) San Antonio, TX 78238		
Company: **San Antonio ISD**	Contact Person:	Phone:
Address: **1702 N. Main**	**Greg Lee**	**210-299-1110**
City/State:) **San Antonio, TX 78208**		

13. **FELONY CONVICTION NOTIFICATION:** The following Felony Conviction Notification must be completed by all vendors submitting bids and be considered in evaluation for award.

State of Texas Legislative Senate Bill No. 1, Section 44.034, Notification of Criminal History, Subsection (a), states "a person or business entity that enters into a contract with a school district must give advance notice to the district if the person or an owner or operator of the business entity has been convicted of a felony. The notice must include a general description of the conduct resulting in the conviction of a felony."

Subsection (b) states "a school district may terminate a contract with a person or business entity if the district determines that the person or business entity failed to give notice as required by Subsection (a) or misrepresented the conduct resulting in the conviction. The district must compensate the person or business entity for service performed before the termination of the contract."

THIS NOTICE IS NOT REQUIRED OF A PUBLICLY-HELD CORPORATION

I, the undersigned agent for the firm named below, certify that the information concerning felony convictions has been reviewed by me and the following information furnished is true to the best of my knowledge.

VENDORS NAME: **SBC DataComm, a d/b/a of Southwestern Bell Telephone, L.P.**

AUTHORIZED COMPANY OFFICIAL'S NAME (printed): **Teresa M. Goodwin**

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A. My firm is not owned nor operated by anyone who has been convicted of a felony.

Signature of Company Official:_____

B. My firm is a publicly-held corporation; therefore, this reporting requirement is not applicable.

Signature of Company Official: L. M. Ard

C. My firm is owned or operated by the following individual(s) who has/have been convicted of a felony.

Name of Felon(s):_____

Details of conviction(s):_____

_____

_____

Signature of Company Official:_____

14. **PAYMENT:** Unless otherwise stated, payment will be thirty (30) days after receipt of correct invoice. If a cash discount is allowed for prompt payment, please indicate it on the bid form.

SBC Response: SBC has read, understands and will comply.

15. Comments and/or deviations from the specifications and conditions:
None

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SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO, TEXAS 78224

Cisco Wireless Network Systems And Network Upgrades

RFP #05-48

Armstrong Elementary School

- 2 Sup 720 (Trade in 2 Sup 1A), 1 new fan kit (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules (Trade in 4 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 1 3750 48 port switch
- 1 6506 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 12 Access points

Athens Elementary School

- 4 Sup 720 (Trade in 2 Sup 2 and 2 Sup 1A), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 2 3750 48 port switch
- 1 3750 24 port switch
- 1 6506 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 10 Access points

Benavidez Elementary School

- 4 Sup 720 (Trade in 4 Sup 1A), 2 new fan kits (Trade in existing)
- 8 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 3 3750 48 port switch
- 1 6509 with 2 Sup 720, 5 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 16 Access points

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Carrillo Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 1 3750 48 port switch
- 12 Access points

Five Palms Elementary School

- 2 Sup 720 (Trade in 2 Sup 1A), 1 new fan kits (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules (Trade in 4 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 1 3750 24 port switch
- 1 6509 with 2 Sup 720, 6 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 12 Access points

Hutchins Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 14 Access points

Kindred Elementary School

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 9 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 1 3750 48 port switch
- 12 Access points

Palo Alto Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 6 10/100/1000 POE 48 port 6500 modules (Trade in 6 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 4 3750 48 port switch
- 16 Access points

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Price Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 6 10/100/1000 POE 48 port 6500 modules (Trade in 6 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 4 3750 48 port switch
- 12 Access points

Royalgate Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 5 10/100/1000 POE 48 port 6500 modules (Trade in 5 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 4 3750 48 port switch
- 16 Access points

Shepard Middle School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 8 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 6509 with 2 Sup 720, 5 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 15 Access points

Kazen Middle School

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 11 10/100/1000 POE 48 port 6500 modules (Trade in 10 10/100 48 port modules)
- 6 6000 Watt power supply (Trade in 2 1000 Watt and 4 1300 Watt)
- 2 6509 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 15 Access points

Dwight Middle School

- 8 Sup 720 (Trade in 4 Sup 1A and 4 Sup 2), 4 new fan kits (Trade in existing)
- 15 10/100/1000 POE 48 port 6500 modules (Trade in 13 10/100 48 port modules)
- 8 6000 Watt power supply (Trade in 4 1000 Watt and 4 1300 Watt)
- 3 3750 48 port switch
- 20 Access points

CONFIDENTIAL INFORMATION
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South San High School

- 12 Sup 720 (Trade in 8 Sup 1A and 4 Sup 2), 6 new fan kits (Trade in existing)
- 24 10/100/1000 POE 48 port 6500 modules (Trade in 20 10/100 48 port modules)
- 12 6000 Watt power supply (Trade in 12 1300 Watt)
- 6 3750 24 port switch
- 18 3750 48 port switch
- 30 Access points

West Campus High School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 13 10/100/1000 POE 48 port 6500 modules (Trade in 13 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 15 Access points

Alternative School

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 9 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 4 1300 Watt)
- 12 Access points

Robert C. Zamora Middle School

- 25 Access points

NOTES:

Cisco 6500 Upgrades will use the following:

1. Cisco Catalyst 6500 Supervisor Card Upgrade (Listed as Sup 720 on school list)
   - WS-Sup720-3B (Catalyst 6500 Supervisor 720 Fabric MSFC3 PFC3B)
   - MEM-C6K-CPTFL128M (Cat6500 Sup720 Compact Flash Mem 128MB)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each Sup720
   - 8x5xNBD Smarnet Service

2. Cisco Catalyst 6500 Power Supply Upgrade (Listed as 6000 Watt power supply on school list)
   - WS-CAC-6000W
   - CAB-AC-2500W-US1 (2 for each power supply)
   - 8x5xNBD Smartnet Service

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3. Cisco Catalyst 6500 Fan Tray Upgrade (Listed as new fan kit on school list)
   - WS-C6K-9SLOT-FAN2 (For 9 slot 6500 chassis)
   - WS-C6K-6SLOT-FAN2 (For 6 slot 6500 chassis)
   - 8x5xNBD Smartnet Service

4. Cisco 48 Port Card Upgrade (Listed as 10/100/1000 POE 48 port 6500 modules on school list)
   - WS-X6548-GE-45AF (Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card)
   - 8x5xNBD Smartnet Service

Notes: Vendor will remove all modules while installing upgraded modules.
Modules replaced will be returned to school district.
Modules that are being traded in will be give to the vendor once upgraded equipment is installed.
Vendor will use existing cables to connect new equipment to patch panel.
Vendor will be responsible for making sure all modules are installed and are working correctly.
Vendor will configure switch after communicating with school district.

Access points will include:

5. Cisco 1200 Series Access Point
   - AIR-AP1231G-A-K9 (802.11g IOS AP w/Avail CBus Slot, FCC Cnfg)
   - AIR-ANT4941 (2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC)
   - AIR-PWR-CORD-NA (AIR Line Cord North America)
   - S11W7K9-12215XR (Cisco 1100 Series IOS WIRELESS LAN)
   - 8x5xNBD Smarnet Service

Each new 3750 24/48 port switches will include the following

6. Cisco Catalyst 3750 24 Port Switch (Listed as 3750 24 port switch on school list)
   - WS-C3750G-24PS-E (24 Port 10/100/1000 with Power Over Ethernet)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each switch
   - 8x5xNBD Smarnet Service

7. Cisco Catalyst 34750 48 Port Switch (Listed as 3750 48 port switch on school list)
   - WS-C3750G-48PS-E (48 Port 10/100/1000 with Power Over Ethernet)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each switch
   - 8x5xNBD Smarnet Service

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Notes: Switches will be mounted and patch cables will be connected by vendor.
Vendor will remove any existing equipment and return to school district.
Vendor will use existing cables to connect new equipment to patch panel.
Vendor will be responsible for making sure all modules are installed and are working correctly.
Vendor will configure switch after communicating with school district.

New 6500s will include:

8. Cisco Catalyst 6500 Supervisor Card (2 in each new 6500)
   - WS-Sup720-3B (Catalyst 6500 Supervisor 720 Fabric MSFC3 PFC3B)
   - MEM-C6K-CPTFL128M (Cat6500 Sup720 Compact Flash Mem 128MB)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each Sup720
   - 8x5xNBD Smarnet Service

9. Cisco Catalyst 6500 Power Supply (2 in each new 6500)
   - WS-CAC-6000W
   - CAB-AC-2500W-US1 (2 for each power supply)
   - 8x5xNBD Smartnet Service

10. Cisco Catalyst 6500 Fan Tray (1 in each new 6500)
    - WS-C6K-9SLOT-FAN2 (For 9 slot 6500 chassis)
    - WS-C6K-6SLOT-FAN2 (For 6 slot 6500 chassis)
    - 8x5xNBD Smartnet Service

11. Cisco 48 Port Card (Quantity listed in school list)
    - WS-X6548-GE-45AF (Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card)
    - 8x5xNBD Smartnet Service

12. Cisco Catalyst 6500 (1 for each new 6500 listed)
    - WS-C6509-E (Enh C6509 Chassis, 9slot, No Pow Supply, No Fan Tray for 9 slot)
    - WS-C6506-E (Enh C6509 Chassis, 6slot, No Pow Supply, No Fan Tray for 6 slot)

Notes: 6500s will be mounted and patch cables will be connected by vendor.
Vendor will remove any existing equipment and return to school district.
Vendor will use existing cables to connect new equipment to patch panel.
Vendor will be responsible for making sure all modules are installed and are working correctly.
Vendor will configure switch after communicating with school district.

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The following are not erate eligible and are required on a separate listing from the above. The district will seek internal funding to complete these projects below.

Special Programs Building
- 1 3750 48 port switch
- 2 Access points

Student Appraisal Center
- 1 3750 24 port switch
- 1 3750 48 port switch
- 3 Access points

Parent Development Center
- 2 3750 48 port switch
- 3 Access points

Food Services
- 1 3750 24 port switch
- 1 Access point

Warehouse
- 1 3750 24 port switch
- 1 Access points

Central Office
- 8 Sup 720 (Trade in 4 Sup 1A and 4 Sup 2), 4 new fan kits (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules
- 8 6000 Watt power supply (Trade in 8 1300 Watt)
- 8 3750 24 port switch
- 4 Access points

Anna Marie Hernandez Community Learning Center
- 6 Access points

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Bidder hereby affirmatively states that it has not participated in any act of collusion, favoritism, gratuity or inside dealings with any member of the staff of the South San Antonio Independent School District or its Board of Trustees.

COMPANY NAME: **SBC DataComm, a d/b/a of Southwestern Bell Telephone, L.P.**

SIGNATURE OF PERSON: L M. Goodin

TITLE: **Regional Sales Manager**

ADDRESS: **4119 Broadway, Room 460**

CITY: **San Antonio** STATE: **Texas** ZIP: **78209**

PHONE #: **210 633-5610** FAX #: **210 804-7942**

DATE: **Februrary 8, 2005**

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SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

HOLD HARMLESS AGREEMENT

The contractor shall defend, indemnify, and save whole and harmless, South San Antonio Independent School District and all of its officers, agents and employees from and against all suits, actions or claims of any character, name and description brought for or on account of any injuries or damages (including death) received or sustained by any person or **tangible** property on account of, arising out of, or in contention with, any negligent act or omission **or willful conduct** of Contractor or any agent, employee, subcontractor or supplier of Contractor in the execution or performance of this contract.

The Contract shall also defend and indemnify the South San Antonio Independent School District against claims by any subcontractor, supplier, laborer, material-man or mechanic for payment for work or materials provided on behalf of the Contractor in the performance of the services and all such claimants shall look solely to Contractor and not South San Antonio Independent School District for satisfaction of such claims.

SBC Response: SBC has read, understands and will comply with the addition of language provided in red above.

This hold harmless agreement shall be binding upon the undersigned and his heirs and assigns.

Dated this **7th** day of **February**, 2005.

Teresa M. Goodwin
(Printed Name)

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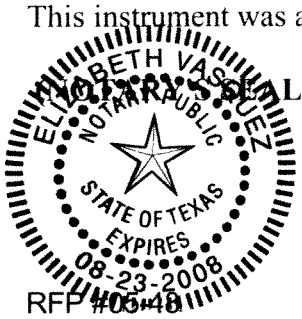
STATE OF TEXAS

COUNTY OF BEXAR

This instrument was acknowledged before me on the 8th day of February, 2005.



(NOTARY SEAL)

Notary Public, State of Texas

RFP #05-48

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Attachment 5 -- Equipment Scope of Work

Attachment 6 -- Equipment Statement of Work (Project Management)

Attachment 7 -- Warranty Pricing and Warranty Information

Attachment 8 -- Hourly Network Support

Attachment 9 -- Master Services Agreement w/Addenda

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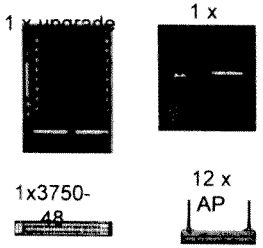
Armstrong Elem



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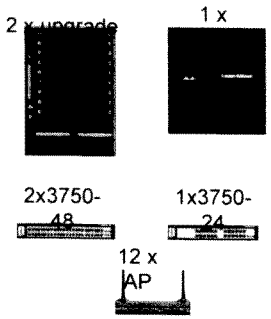

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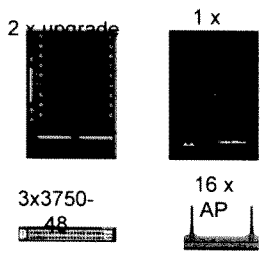

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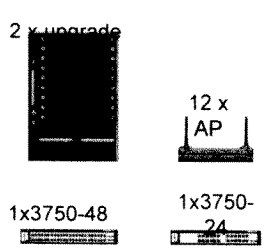
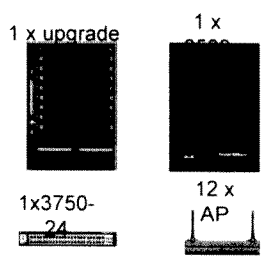


Five Palms Elem



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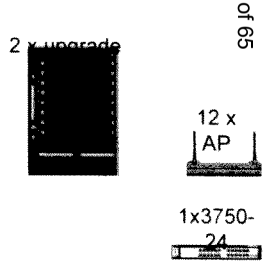

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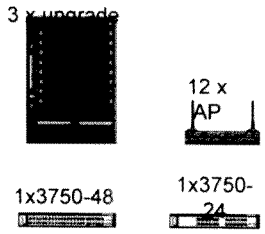

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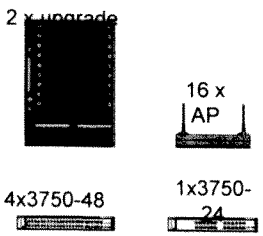

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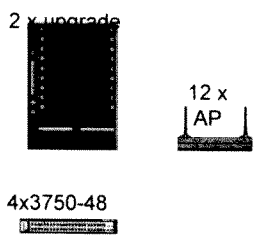

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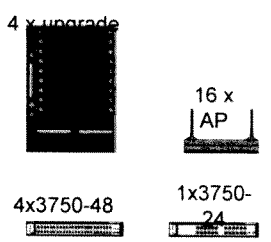

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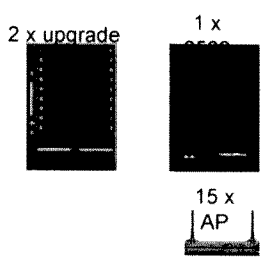
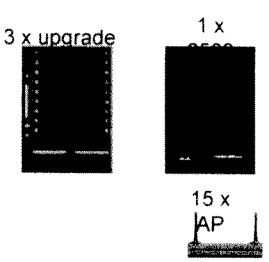
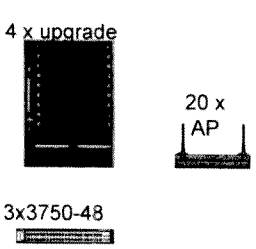


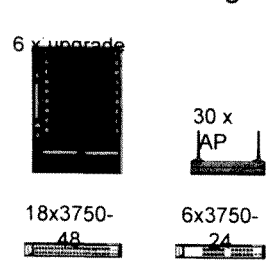
Kazen Middle



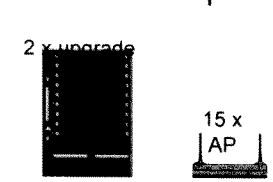
Dwight Middle



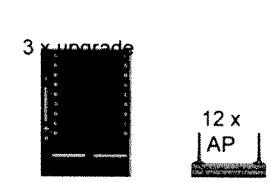
SouthSan High



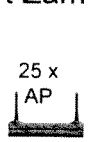
West Campus Hi



Alternative



Robert Zamora Middle



Erate Round 8 Erate Locations

Customer: South San Antonio ISD

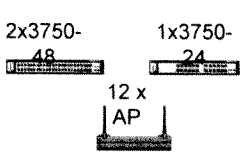
Drawn by: Edmundo Lopez III

Configuration Property of SBC

Last Modified: 01/27/2005

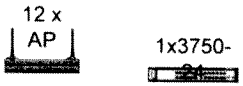
Special Programs

Student Appraisal



Parent Development

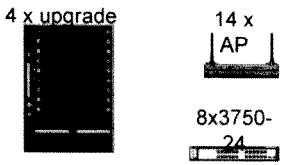
Food Services



Warehouse

Community Learning Cent

Central Office



Erate Round 8
Non-Erate Locations

Customer: South San Antonio ISD	**Drawn by:** Edmundo Lopez III
Configuration Property of SBC	**Last Modified:** 01/27/2005

Cisco Wireless Network Systems And Network Upgrades

RFP #05-48

School	Part Cost	Labor/Installation	Total
Athens Elementary	$ 242,342.10	$19,517.29	$261,859.39
Carrillo Elementary	$ 157,861.82	$18,385.63	$176,247.45
Armstrong Elementary	$ 162,380.57	$17,106.06	$179,486.63
Five Palms Elementary	$ 173,236.02	$16,330.05	$189,566.07
Royalgate Elementary	$ 185,797.86	$20,369.75	$206,167.61
Hutchins Elementary	$ 145,683.34	$18,697.16	$164,380.50
Benavidez Elementary	$ 270,457.46	$21,812.90	$292,270.36
Price Elementary	$ 183,674.02	$18,827.96	$202,501.98
Palo Alto Elementary	$ 193,497.86	$20,676.06	$214,173.92
Kindred Elementary	$ 199,643.27	$20,618.48	$220,261.75
Shepard Middle School	$ 229,161.60	$20,275.55	$249,437.15
Robert C. Zamora Middle School	$ 17,001.50	$13,366.08	$30,367.58
Kazen Middle School	$ 356,543.85	$27,170.02	$383,713.87
Dwight Middle School	$ 320,034.80	$28,792.79	$348,827.59
South San High School	$ 716,994.90	$46,692.57	$763,687.47

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West Campus High School	$ 179,860.80	$20,316.60	$200,177.40
South San Alternative School	$ 184,600.07	$20,046.68	$204,646.75
South San Antonio ISD	n/a	n/a	n/a
Grand Total	$ 3,918,771.84	$369,001.63	$4,287,773.47

Bidder Requirements

Yes Vendor must be listed as a State of Texas General Service Commission Qualified Information System Vendor for 2003-2004.

Yes **Vendor must include their current QISV number on the Bid Form page.**

Yes Vendor must include on their company letterhead an exact list of equipment in the computer configurations that are to be delivered to the District for this RFP.

Yes Vendor must include on their company letterhead their hourly rate for repairs not covered under warranty. i.e. – repairs caused by misuse or abuse of equipment or software/operator problems

Yes **Bidder must list USAC- Schools and Libraries Division Service Provider Information Number (SPIN) on Bid Form.**

Yes **Vendor must be a Cisco Gold Certified Partner.**

Name: **SBC DataComm, a d/b/a of Southwestern Bell Telephone, L.P.**

Address: **4119 Broadway, Room 460**

City/State/Zip **San Antonio, TX 78209**

QISV Number **143-529710400**

FCC SPIN Number **143004812**

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Cisco Wireless Network Systems And Network Upgrades

Non-Erate Hardware and Installation

RFP #05-48

School	Part Cost	Labor/Installation	Total
Special Programs Building	$ 28,470.52	$ 3,789.27	$32,259.79
Student Appraisal Center	$ 43,335.33	$ 3,720.30	$47,055.63
Parent Development Center	$ 55,974.63	$ 4,537.14	$60,511.77
Food Services	$ 14,864.81	$ 3,700.84	$18,565.65
Warehouse	$ 14,864.81	$ 3,700.84	$18,565.65
Central Office	$ 443,076.44	$ 6,896.58	$449,973.02
Anna Marie Hernandez Community Learning Center	$ 89,546.46	$ 6,692.32	$96,238.78
Grand Total	$ 690,133.00	$ 43,037.30	$ 723,170.29

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SBC DataComm

SBC DataComm
4119 Broadway Room 460
San Antonio, Texas 78209
Ph: 210-633-5595
Fax: 210-804-2942
Email: kr7296@txmail.sbc.com

Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost	
		Armstrong Elementary School					
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00	
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	2	$700.00	$ 385.00	$ 770.00	
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	1	$495.00	$ 272.25	$ 272.25	
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	2	$0.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	4	41.95	$ 34.55	$ 138.20	
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	4	$14,000.00	$ 7,700.00	$ 30,800.00	
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00	
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$45.00	$ 24.75	$ 99.00	
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	1	$23,490.00	$ 12,919.50	$ 12,919.50	
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -	
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -	
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00	
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	1	$1,564.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	2	41.95	$ 34.55	$ 69.10	
Cisco	WS-C6506-E	Enh C6506 Chassis, 6slot, 12RU, No Pow Supply, No an Tray	1	$5,500.00	$ 3,025.00	$ 3,025.00	
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	1	$0.00	$ -	$ -	
Cisco	WS-SUP720-3B	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00	
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	2	$700.00	$ 385.00	$ 770.00	
Cisco	GLC-SX-MM	GE SFP, LC connector SX transceiver	4	$500.00	$ 275.00	$ 1,100.00	
Cisco	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	4	$14,000.00	$ 7,700.00	$ 30,800.00	
Cisco	WS-C6506-E-FAN	Catalyst 6506-E Chassis Fan Tray	1	$495.00	$ 272.25	$ 272.25	
Cisco	WS-CAC-6000W	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00	
Cisco	CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$0.00	$ -	$ -	
Cisco	CON-SNT-WS-C6506	8x5xNBD Service,Catalyst 6506	1	$5,250.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 6500 switches)	1	41.95	$ 34.55	$ 34.55	
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	12	$899.00	$ 494.45	$ 5,933.40	
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	12	$0.00	$ -	$ -	
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	12	$0.00	$ -	$ -	
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	24	$19.00	$ 10.45	$ 250.80	
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	12	$72.00	$ -	$ -	
							Campus Total
							$ 160,404.05
		Athens Elementary School					
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00	
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00	

SBC DataComm

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Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	7	$14,000.00	$ 7,700.00	$ 53,900.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	2	$23,490.00	$ 12,919.50	$ 25,839.00
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	2	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	2	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	4	$500.00	$ 275.00	$ 1,100.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	2	$1,564.00	$ -	$ -
	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	4	41.95	$ 34.55	$ 138.20
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	2	41.95	$ 34.55	$ 69.10
Cisco	WS-C6506-E	Enh C6506 Chassis, 6slot, 12RU, No Pow Supply, No an Tray	1	$5,500.00	$ 3,025.00	$ 3,025.00
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	1	$0.00	$ -	$ -
Cisco	WS-SUP720-3B	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	2	$700.00	$ 385.00	$ 770.00
Cisco	GLC-SX-MM	GE SFP, LC connector SX transceiver	4	$500.00	$ 275.00	$ 1,100.00
Cisco	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	4	$14,000.00	$ 7,700.00	$ 30,800.00
Cisco	WS-C6506-E-FAN	Catalyst 6506-E Chassis Fan Tray	1	$495.00	$ 272.25	$ 272.25
Cisco	WS-CAC-6000W	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00
Cisco	CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$0.00	$ -	$ -
Cisco	CON-SNT-WS-C6506	8x5xNBD Service,Catalyst 6506	1	$5,250.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 6500 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	10	$899.00	$ 494.45	$ 4,944.50
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	10	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	10	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	20	$19.00	$ 10.45	$ 209.00
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	10	$72.00	$ -	$ -

Campus Total
$ 240,695.00

SBC DataComm

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Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
		Benavidez Elementary School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	8	$14,000.00	$ 7,700.00	$ 61,600.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	3	$23,490.00	$ 12,919.50	$ 38,758.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	3	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	3	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	6	$500.00	$ 275.00	$ 1,650.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	3	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	6	41.95	$ 34.55	$ 207.30
Cisco	WS-C6509-E	Enh C6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tray	1	$9,500.00	$ 5,225.00	$ 5,225.00
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	1	$0.00	$ -	$ -
Cisco	WS-SUP720-3B	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	2	$700.00	$ 385.00	$ 770.00
Cisco	GLC-SX-MM	GE SFP, LC connector SX transceiver	4	$500.00	$ 275.00	$ 1,100.00
Cisco	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	5	$14,000.00	$ 7,700.00	$ 38,500.00
Cisco	WS-C6509-E-FAN	Catalyst 6509-E Chassis Fan Tray	1	$495.00	$ 272.25	$ 272.25
Cisco	WS-CAC-6000W	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00
Cisco	CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$0.00	$ -	$ -
Cisco	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	1	$6,500.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 6500 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	16	$899.00	$ 494.45	$ 7,911.20
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	16	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	16	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	32	$19.00	$ 10.45	$ 334.40
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	16	$72.00	$ -	$ -
						Campus Total
						$ 267,822.10
		Carillo Elementary School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50

SBC DataComm

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Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost	
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40	
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	7	$14,000.00	$ 7,700.00	$ 53,900.00	
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00	
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00	
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	1	$23,490.00	$ 12,919.50	$ 12,919.50	
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -	
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -	
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00	
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	1	$1,564.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	2	41.95	$ 34.55	$ 69.10	
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50	
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -	
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -	
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00	
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	2	41.95	$ 34.55	$ 69.10	
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	12	$899.00	$ 494.45	$ 5,933.40	
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	12	$0.00	$ -	$ -	
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	12	$0.00	$ -	$ -	
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	24	$19.00	$ 10.45	$ 250.80	
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	12	$72.00	$ -	$ -	
							Campus Total
							$ 155,885.30
		Five Palms Elementary School					
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00	
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	2	$700.00	$ 385.00	$ 770.00	
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	1	$495.00	$ 272.25	$ 272.25	
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	2	$0.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	4	41.95	$ 34.55	$ 138.20	
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	4	$14,000.00	$ 7,700.00	$ 30,800.00	
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00	
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$45.00	$ 24.75	$ 99.00	
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50	

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Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost	
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -	
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -	
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	1	$500.00	$ 275.00	$ 275.00	
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	1	41.95	$ 34.55	$ 34.55	
Cisco	WS-C6509-E	Enh C6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tray	1	$9,500.00	$ 5,225.00	$ 5,225.00	
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	1	$0.00	$ -	$ -	
Cisco	WS-SUP720-3B	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00	
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	2	$700.00	$ 385.00	$ 770.00	
Cisco	GLC-SX-MM	GE SFP, LC connector SX transceiver	4	$500.00	$ 275.00	$ 1,100.00	
Cisco	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	6	$14,000.00	$ 7,700.00	$ 46,200.00	
Cisco	WS-C6509-E-FAN	Catalyst 6509-E Chassis Fan Tray	1	$495.00	$ 272.25	$ 272.25	
Cisco	WS-CAC-6000W	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00	
Cisco	CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$0.00	$ -	$ -	
Cisco	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	1	$6,500.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 6500 switches)	1	41.95	$ 34.55	$ 34.55	
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	12	$899.00	$ 494.45	$ 5,933.40	
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	12	$0.00	$ -	$ -	
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	12	$0.00	$ -	$ -	
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	24	$19.00	$ 10.45	$ 250.80	
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	12	$72.00	$ -	$ -	
						Campus Total	**$ 171,259.50**
		Hutchins Elementary School					
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00	
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00	
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50	
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40	
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	7	$14,000.00	$ 7,700.00	$ 53,900.00	
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00	
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00	
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50	
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -	
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -	
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00	
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -	

SBC DataComm

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Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	2	41.95	$ 34.55	$ 69.10	
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	14	$899.00	$ 494.45	$ 6,922.30	
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	14	$0.00	$ -	$ -	
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	14	$0.00	$ -	$ -	
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	28	$19.00	$ 10.45	$ 292.60	
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	14	$72.00	$ -	$ -	
							Campus Total
							$ 143,377.40
		Kindred Elementary School					
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	6	$28,000.00	$ 15,400.00	$ 92,400.00	
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	6	$700.00	$ 385.00	$ 2,310.00	
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	3	$495.00	$ 272.25	$ 816.75	
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	6	$0.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	12	41.95	$ 34.55	$ 414.60	
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	9	$14,000.00	$ 7,700.00	$ 69,300.00	
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00	
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$45.00	$ 24.75	$ 99.00	
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	1	$23,490.00	$ 12,919.50	$ 12,919.50	
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -	
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -	
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00	
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	1	$1,564.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	2	41.95	$ 34.55	$ 69.10	
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50	
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -	
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -	
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00	
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	2	41.95	$ 34.55	$ 69.10	
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	12	$899.00	$ 494.45	$ 5,933.40	
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	12	$0.00	$ -	$ -	
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	12	$0.00	$ -	$ -	
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	24	$19.00	$ 10.45	$ 250.80	
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	12	$72.00	$ -	$ -	
							Campus Total
							$ 197,666.75

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Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
		Palo Alto Elementary School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	6	$14,000.00	$ 7,700.00	$ 46,200.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	4	$23,490.00	$ 12,919.50	$ 51,678.00
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	4	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	4	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	8	$500.00	$ 275.00	$ 2,200.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	4	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	2	41.95	$ 34.55	$ 69.10
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	16	$899.00	$ 494.45	$ 7,911.20
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	16	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	16	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	32	$19.00	$ 10.45	$ 334.40
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	16	$72.00	$ -	$ -

Campus Total **$ 190,862.50**

		Price Elementary School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	6	$14,000.00	$ 7,700.00	$ 46,200.00

SBC DataComm

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Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	4	$23,490.00	$ 12,919.50	$ 51,678.00
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	4	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	4	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	8	$500.00	$ 275.00	$ 2,200.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	4	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	8	41.95	$ 34.55	$ 276.40
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	12	$899.00	$ 494.45	$ 5,933.40
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	12	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	12	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	24	$19.00	$ 10.45	$ 250.80
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	12	$72.00	$ -	$ -

Campus Total **$ 181,697.50**

Royalgate Elementary School

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	5	$14,000.00	$ 7,700.00	$ 38,500.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	4	$23,490.00	$ 12,919.50	$ 51,678.00
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	4	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	4	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	8	$500.00	$ 275.00	$ 2,200.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	4	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	2	41.95	$ 34.55	$ 69.10

SBC DataComm

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Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost	
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	16	$899.00	$ 494.45	$ 7,911.20	
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	16	$0.00	$ -	$ -	
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	16	$0.00	$ -	$ -	
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	32	$19.00	$ 10.45	$ 334.40	
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	16	$72.00	$ -	$ -	
							Campus Total
							$ 183,162.50
		Shepard Middle School					
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00	
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00	
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50	
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40	
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	8	$14,000.00	$ 7,700.00	$ 61,600.00	
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00	
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00	
Cisco	WS-C6509-E	Enh C6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tray	1	$9,500.00	$ 5,225.00	$ 5,225.00	
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	1	$0.00	$ -	$ -	
Cisco	WS-SUP720-3B	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00	
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	2	$700.00	$ 385.00	$ 770.00	
Cisco	GLC-SX-MM	GE SFP, LC connector SX transceiver	4	$500.00	$ 275.00	$ 1,100.00	
Cisco	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	5	$14,000.00	$ 7,700.00	$ 38,500.00	
Cisco	WS-C6509-E-FAN	Catalyst 6509-E Chassis Fan Tray	1	$495.00	$ 272.25	$ 272.25	
Cisco	WS-CAC-6000W	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00	
Cisco	CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$0.00	$ -	$ -	
Cisco	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	1	$6,500.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 6500 switches)	1	41.95	$ 34.55	$ 34.55	
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	15	$899.00	$ 494.45	$ 7,416.75	
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	15	$0.00	$ -	$ -	
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	15	$0.00	$ -	$ -	
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	30	$19.00	$ 10.45	$ 313.50	
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	15	$72.00	$ -	$ -	
							Campus Total
							$ 226,690.95
		Kazen Middle School					
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	6	$28,000.00	$ 15,400.00	$ 92,400.00	
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	6	$700.00	$ 385.00	$ 2,310.00	

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Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	3	$495.00	$ 272.25	$ 816.75
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	6	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	12	41.95	$ 34.55	$ 414.60
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	11	$14,000.00	$ 7,700.00	$ 84,700.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	6	$5,000.00	$ 2,750.00	$ 16,500.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C6509-E	Enh C6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tray	2	$9,500.00	$ 5,225.00	$ 10,450.00
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	2	$0.00	$ -	$ -
Cisco	WS-SUP720-3B	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	GLC-SX-MM	GE SFP, LC connector SX transceiver	8	$500.00	$ 275.00	$ 2,200.00
Cisco	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	8	$14,000.00	$ 7,700.00	$ 61,600.00
Cisco	WS-C6509-E-FAN	Catalyst 6509-E Chassis Fan Tray	2	$495.00	$ 272.25	$ 544.50
Cisco	WS-CAC-6000W	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$0.00	$ -	$ -
Cisco	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	2	$6,500.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 6500 switches)	2	41.95	$ 34.55	$ 69.10
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	15	$899.00	$ 494.45	$ 7,416.75
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	15	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	15	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	30	$19.00	$ 10.45	$ 313.50
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	15	$72.00	$ -	$ -

Campus Total **$ 354,073.20**

Dwight Middle School

Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	8	$28,000.00	$ 15,400.00	$ 123,200.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	8	$700.00	$ 385.00	$ 3,080.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	4	$495.00	$ 272.25	$ 1,089.00
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	8	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	16	41.95	$ 34.55	$ 552.80
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	15	$14,000.00	$ 7,700.00	$ 115,500.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	8	$5,000.00	$ 2,750.00	$ 22,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	16	$45.00	$ 24.75	$ 396.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	3	$23,490.00	$ 12,919.50	$ 38,758.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	3	$0.00	$ -	$ -

SBC DataComm

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Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	3	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	6	$500.00	$ 275.00	$ 1,650.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	3	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	6	41.95	$ 34.55	$ 207.30
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	20	$899.00	$ 494.45	$ 9,889.00
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	20	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	20	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	40	$19.00	$ 10.45	$ 418.00
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	20	$72.00	$ -	$ -

Campus Total **$ 316,740.60**

South San High School

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	12	$28,000.00	$ 15,400.00	$ 184,800.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	12	$700.00	$ 385.00	$ 4,620.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	6	$495.00	$ 272.25	$ 1,633.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	12	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	24	41.95	$ 34.55	$ 829.20
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	24	$14,000.00	$ 7,700.00	$ 184,800.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	12	$5,000.00	$ 2,750.00	$ 33,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	24	$45.00	$ 24.75	$ 594.00
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	6	$11,790.00	$ 6,484.50	$ 38,907.00
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	6	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	6	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	12	$500.00	$ 275.00	$ 3,300.00
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	6	$832.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	12	41.95	$ 34.55	$ 414.60
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	18	$23,490.00	$ 12,919.50	$ 232,551.00
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	18	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	18	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	36	$500.00	$ 275.00	$ 9,900.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	18	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	36	41.95	$ 34.55	$ 1,243.80
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	30	$899.00	$ 494.45	$ 14,833.50
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	30	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	30	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	60	$19.00	$ 10.45	$ 627.00

SBC DataComm

Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

SBC DataComm
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Ph: 210-633-5595
Fax: 210-804-2942
Email: kr7296@txmail.sbc.com

Bill of Materials **Date:**

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost	
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	30	$72.00	$ -	$ -	
		West Campus High School					**Campus Total** $ 712,053.60
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00	
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00	
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50	
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40	
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	13	$14,000.00	$ 7,700.00	$ 100,100.00	
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00	
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$45.00	$ 24.75	$ 99.00	
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	15	$899.00	$ 494.45	$ 7,416.75	
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	15	$0.00	$ -	$ -	
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	15	$0.00	$ -	$ -	
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	30	$19.00	$ 10.45	$ 313.50	
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	15	$72.00	$ -	$ -	
		Alternative School					**Campus Total** $ 177,390.15
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	6	$28,000.00	$ 15,400.00	$ 92,400.00	
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	6	$700.00	$ 385.00	$ 2,310.00	
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	3	$495.00	$ 272.25	$ 816.75	
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	6	$0.00	$ -	$ -	
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	12	41.95	$ 34.55	$ 414.60	
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	9	$14,000.00	$ 7,700.00	$ 69,300.00	
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00	
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00	
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	12	$899.00	$ 494.45	$ 5,933.40	
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	12	$0.00	$ -	$ -	
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	12	$0.00	$ -	$ -	
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	24	$19.00	$ 10.45	$ 250.80	
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	12	$72.00	$ -	$ -	
		Robert C. Zamora Middle School					**Campus Total** $ 182,623.55

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Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	25	$899.00	$ 494.45	$ 12,361.25
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	25	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	25	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	50	$19.00	$ 10.45	$ 522.50
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	25	$72.00	$ -	$ -

Campus Total
$ 12,883.75

Total **$ 3,875,288.40**

FOB Point: Origin
Ship Date:
Quote Valid : 60 Days

Payment Terms: Net 30
Installation: Available on Request and Billable
Warranty: 90 days

Notes:

Signed:

Ken Ross

SBC DataComm
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Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
	Special Programs Building				
WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	1	$23,490.00	$ 13,389.30	$ 23,490.00
CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 285.00	$ 1,000.00
CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	1	$1,564.00	$ 1,047.88	$ 1,564.00
AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	2	$899.00	$ 512.43	$ 1,798.00
AIR-PWR-CORD-NA	AIR Line Cord North America	2	$0.00	$ -	$ -
S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	2	$0.00	$ -	$ -
AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	4	$19.00	$ 10.83	$ 76.00
CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	2	$72.00	$ 48.24	$ 144.00
	Student Appraisal Center				
WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,720.30	$ 11,790.00
CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 285.00	$ 1,000.00
CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ 557.44	$ 832.00
WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	1	$23,490.00	$ 13,389.30	$ 23,490.00
CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 500.00	$ 1,000.00
CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	1	$1,564.00	$ 1,047.88	$ 1,564.00
AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	3	$899.00	$ 512.43	$ 2,697.00
AIR-PWR-CORD-NA	AIR Line Cord North America	3	$0.00	$ -	$ -
S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	3	$0.00	$ -	$ -
AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	6	$19.00	$ 10.83	$ 114.00
CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	3	$72.00	$ 48.24	$ 216.00
	Parent Development Center				
WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	2	$23,490.00	$ 13,389.30	$ 46,980.00
CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	2	$0.00	$ -	$ -
CAB-16AWG-AC	AC Power cord, 16AWG	2	$0.00	$ -	$ -

SBC DataComm

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Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
	GLC-SX-MM=	GE SFP, LC connector SX transceiver	4	$500.00	$ 285.00	$ 2,000.00
	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	2	$1,564.00	$ 1,047.88	$ 3,128.00
	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	3	$899.00	$ 512.43	$ 2,697.00
	AIR-PWR-CORD-NA	AIR Line Cord North America	3	$0.00	$ -	$ -
	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	3	$0.00	$ -	$ -
	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	6	$19.00	$ 10.83	$ 114.00
	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	3	$72.00	$ 48.24	$ 216.00
		Food Services				
	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,720.30	$ 11,790.00
	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 285.00	$ 1,000.00
	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ 557.44	$ 832.00
	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	1	$899.00	$ 512.43	$ 899.00
	AIR-PWR-CORD-NA	AIR Line Cord North America	1	$0.00	$ -	$ -
	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	1	$0.00	$ -	$ -
	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	2	$19.00	$ 10.83	$ 38.00
	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	1	$72.00	$ 48.24	$ 72.00
		Warehouse				
	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,720.30	$ 11,790.00
	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 285.00	$ 1,000.00
	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ 557.44	$ 832.00
	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	1	$899.00	$ 512.43	$ 899.00
	AIR-PWR-CORD-NA	AIR Line Cord North America	1	$0.00	$ -	$ -
	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	1	$0.00	$ -	$ -
	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	2	$19.00	$ 10.83	$ 38.00
	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	1	$72.00	$ 48.24	$ 72.00
		Central Office				
	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	8	$28,000.00	$ 15,960.00	$ 224,000.00

SBC DataComm

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Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	8	$700.00	$ 399.00	$ 5,600.00
	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	4	$495.00	$ 282.15	$ 1,980.00
	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	8	$0.00	$ -	$ -
	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	4	$14,000.00	$ 7,980.00	$ 56,000.00
	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	8	$5,000.00	$ 2,850.00	$ 40,000.00
	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	16	$45.00	$ 25.65	$ 720.00
	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	8	$11,790.00	$ 6,720.30	$ 94,320.00
	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	8	$0.00	$ -	$ -
	CAB-16AWG-AC	AC Power cord, 16AWG	8	$0.00	$ -	$ -
	GLC-SX-MM=	GE SFP, LC connector SX transceiver	16	$500.00	$ 285.00	$ 8,000.00
	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	8	$832.00	$ 557.44	$ 6,656.00
	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	4	$899.00	$ 512.43	$ 3,596.00
	AIR-PWR-CORD-NA	AIR Line Cord North America	4	$0.00	$ -	$ -
	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	4	$0.00	$ -	$ -
	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	8	$19.00	$ 10.83	$ 152.00
	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	4	$72.00	$ 48.24	$ 288.00
		Anna Marie Hernandez Community Learning Center				
	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	6	$899.00	$ 512.43	$ 5,394.00
	AIR-PWR-CORD-NA	AIR Line Cord North America	6	$0.00	$ -	$ -
	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	6	$0.00	$ -	$ -
	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	12	$19.00	$ 10.83	$ 228.00
	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	6	$72.00	$ 48.24	$ 432.00
	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,720.30	$ 11,790.00
	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
	GLC-SX-MM=	GE SFP, LC connector SX transceiver	1	$500.00	$ 285.00	$ 500.00
	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ 557.44	$ 832.00
	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	1	$23,490.00	$ 13,389.30	$ 23,490.00
	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -

SBC DataComm
4119 Broadway Room 460
San Antonio, Texas 78209
Ph: 210-633-5595
Fax: 210-804-2942
Email: kr7296@txmail.sbc.com

Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
	GLC-SX-MM=	GE SFP, LC connector SX transceiver	1	$500.00	$ 285.00	$ 500.00
	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	1	$1,564.00	$ 1,047.88	$ 1,564.00
	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	1	$28,000.00	$ 15,960.00	$ 28,000.00
	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	1	$700.00	$ 399.00	$ 700.00
	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	1	$495.00	$ 282.15	$ 495.00
	WS-C6K-9SLOT-FAN2=	Catalyst 6509 High Speed Fan Tray, Spare	1	$495.00	$ 282.15	$ 495.00
	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	1	$14,000.00	$ 7,980.00	$ 14,000.00
	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	1	$0.00	$ -	$ -
		Cables for Non-Erate Eligible Sites				
	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	16	41.95	$ 34.55	$ 552.80
	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	30	41.95	$ 34.55	$ 1,036.50
	EVNSL21-0010 (quoting EVNSL21E-0010)	CAT5 100-MHz Patch Cables with Molded Boots, T568B Straight-Pi	14	$ 6.95	$ 5.73	$ 140.00
		Total				**$ 686,633.30**

FOB Point: Origin
Ship Date:
Quote Valid : 60 Days

Payment Terms: Net 30
Installation: Available on Request and Billable
Warranty: 90 days

Notes:

Signed:

Ken Ross

ATT RFP #05-48

Quote #: 215760-01

Quote Date: 02/04/2005

SBC Point of Contact:

Ken Ross
Phone: (210) 633-5595 Fax: 210-804-2942
email: KR7296@txmail.sbc.com

Quotation Prepared for:

Patrick J. Skees
South San Antonio Independent School District
2515 Bobcat Lane
San Antonio, Texas 78224

E-rate Eligible Wireless Access Point Cabling RFP #05-48

Refer to attached Scope of Work Sheet(s) - Attachment A

Refer to attached Assumptions Sheet(s) - Attachment B

This quote is valid until 4/31/2005. After that date, this proposal is subject to price verification/adjustment.

Installation on an expedited basis will require a separate charge to cover short interval shipping and/or premium labor charges that are not reflected in this quotation.

Billing Policy shall be as mutually agreed upon between SBC DataComm and South San Antonio Independent School District at Contract signing.

TOTAL MATERIAL =	$43,483.44
TOTAL INSTALLATION (Labor) =	$69,883.44
GRAND TOTAL (not including shipping or taxes) =	**$113,366.88**

CUSTOMER APPROVAL / SBC AUTHORIZATION

South San Antonio Independent School District

Signed: _____

Printed Name: _____

Title: _____

Date: _____

SBC DataComm

Signed: _____

Printed Name: _____

Title: _____

Date: _____

-- Proprietary Information --
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Attachment C - Bill of Materials / Project Report

Description	Manufacturer	Manufacturer Part Number	Qty	Units	Unit Price	Extended Price
rate Eligible Wireless Access Point Cabling RFP #05-48						
Athens Elementary School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			10	ea	$ 164.71	$ 1,647.10
						$1,647.10
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			10	ea	$ 264.71	$ 2,647.10
						$2,647.10
Athens Elementary School Sub Total						
						$4,294.20
Carrillo Elementary School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			12	ea	$ 164.71	$ 1,976.52
						$1,976.52
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			12	ea	$ 264.71	$ 3,176.52
						$3,176.52
Carrillo Elementary School Sub Total						
						$5,153.04
Armstrong Elementary School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			12	ea	$ 164.71	$ 1,976.52
						$1,976.52
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			12	ea	$ 264.71	$ 3,176.52
						$3,176.52
Armstrong Elementary School Sub Total						
						$5,153.04
Five Palms Elementary School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			12	ea	$ 164.71	$ 1,976.52
						$1,976.52
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			12	ea	$ 264.71	$ 3,176.52
						$3,176.52
Five Palms Elementary School Sub Total						
						$5,153.04
Royalgate Elementary School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			16	ea	$ 164.71	$ 2,635.36
						$2,635.36
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			16	ea	$ 264.71	$ 4,235.36
						$4,235.36

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Description	Manufacturer	Manufacturer Part Number	Qty	Units	Unit Price	Extended Price
Royalgate Elementary School Sub Total						
						$6,870.72
Hutchins Elementary School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			14	ea	$ 164.71	$ 2,305.94
						$2,305.94
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			14	ea	$ 264.71	$ 3,705.94
						$3,705.94
Hutchins Elementary School Sub Total						
						$6,011.88
Benavidez Elementary School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			16	ea	$ 164.71	$ 2,635.36
						$2,635.36
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			16	ea	$ 264.71	$ 4,235.36
						$4,235.36
Benavidez Elementary School Sub Total						
						$6,870.72
Price Elementary School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			12	ea	$ 164.71	$ 1,976.52
						$1,976.52
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			12	ea	$ 264.71	$ 3,176.52
						$3,176.52
Price Elementary School Sub Total						
						$5,153.04
Palo Alto Elementary School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			16	ea	$ 164.71	$ 2,635.36
						$2,635.36
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			16	ea	$ 264.71	$ 4,235.36
						$4,235.36
Palo Alto Elementary School Sub Total						
						$6,870.72
Kindred Elementary School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			12	ea	$ 164.71	$ 1,976.52
						$1,976.52
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			12	ea	$ 264.71	$ 3,176.52
						$3,176.52

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Attachment C - Bill of Materials / Project Report

Description	Manufacturer	Manufacturer Part Number	Qty	Units	Unit Price	Extended Price
Kindred Elementary School Sub Total						
						$5,153.04
Shepard Middle School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			15	ea	$ 164.71	$ 2,470.65
						$2,470.65
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			15	ea	$ 264.71	$ 3,970.65
						$3,970.65
Shepard Middle School Sub Total						
						$6,441.30
Kazen Middle School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			15	ea	$ 164.71	$ 2,470.65
						$2,470.65
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			15	ea	$ 264.71	$ 3,970.65
						$3,970.65
Kazen Middle School Sub Total						
						$6,441.30
Robert C. Zamora Middle School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			25	ea	$ 164.71	$ 4,117.75
						$4,117.75
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			25	ea	$ 264.71	$ 6,617.75
						$6,617.75
Robert C. Zamora Middle School Sub Total						
						$10,735.50
Dwight Middle School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			20	ea	$ 164.71	$ 3,294.20
						$3,294.20
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			20	ea	$ 264.71	$ 5,294.20
						$5,294.20
Dwight Middle School Sub Total						
						$8,588.40
South San High School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			30	ea	$ 164.71	$ 4,941.30
						$4,941.30
Labor						
Access Point Cable Installation Labor			30	ea	$ 264.71	$ 7,941.30

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Attachment C - Bill of Materials / Project Report

Description	Manufacturer	Manufacturer Part Number	Qty	Units	Unit Price	Extended Price
Labor Sub-total						
						$7,941.30
South San High School Sub Total						
						$12,882.60
West Campus High School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			15	ea	$ 164.71	$ 2,470.65
						$2,470.65
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			15	ea	$ 264.71	$ 3,970.65
						$3,970.65
West Campus High School Sub Total						
						$6,441.30
South San Alternative School						
Materials						
Access Point Cable Installation Material						
Materials Sub-total			12	ea	$ 164.71	$ 1,976.52
						$1,976.52
Labor						
Access Point Cable Installation Labor						
Labor Sub-total			12	ea	$ 264.71	$ 3,176.52
						$3,176.52
South San Alternative School Sub Total						
						$5,153.04
roject Summary						
Materials Total						**$43,483.44**
Labor Total						**$69,883.44**
Grand Total						**$113,366.88**
Prices above do not reflect Shipping or Taxes.						

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1.0 General / Project Overview

1.01 SBC shall furnish and install labor and materials to provide connectivity for 264 wireless access point units at 17 South San Antonio ISD Schools. This installation will be per the floor plans and directions provided by SSAISD including discussions with Customer and as further described below.

1.02 There are no LAN Electronics included in this scope of work. Please refer to additional SBC proposals for details regarding the Wireless Access Point units.

1.03 All horizontal runs will be supported via the use of J-hooks. All cable supports will be installed independent of ceiling grid wiring or via existing cable trays for floor pulls. Where available, SBC shall make use of existing, accessible cable-tray for the installation and support of data cabling.

1.04 SBC shall properly firestop all fire wall penetrations and label with name, company and date. SBC shall fill with putty/caulk/bricks as required by the solution/product used and the prevailing standard.

2.0 Horizontal Cabling

2.01 SBC shall utilize existing space in telecomm rooms patch panels for the termination of all horizontal cabling associated with the Wireless Access Points (WAP).

2.02 SBC shall coordinate cabling placement within available ports with SSAISD representatives; in general, the WAP cabling shall be terminated at the 'end' of existing patch panels so as to physically and logically separate it from the other data cabling.

2.03 SBC shall utilize customer-provided cable labels in the telecomm room for consistency. The cables will be labeled on each end using the customer-provided labeling scheme.

2.04 A typical WAP cable drop shall consist of a 9' telecomm room Cat 5e patch cord, a Cat 5e jack, a Cat 5e green plenum cable routed above an accessible ceiling via existing cable tray to the WAP location within 295 cable-feet of the telecomm room, at the WAP end, a Cat 5e jack in a surface box above the ceiling and a 3' workstation Cat 5e patch cord.

3.0 Project Management

3.01 SBC shall provide project management/coordination to monitor and control all technical and administrative support activities related to this SOW.

3.02 SBC shall provide qualified on-site installation supervision.

4.0 Quality of Work

4.01 SBC's installation practices will be governed by EIA/TIA Telecommunications Building Wiring Standards, the BICSI Telecommunication Distribution Methods Manual and local building codes.

4.02 The cabling shall conform to EIA/TIA Category 5e channel performance.

4.03 All work shall be done in accordance with the respective drawings, written specifications, supplemental information, industry standards, trade practice, and applicable regulatory agencies.

4.04 All work shall be performed by competent personnel and executed in a neat and workmanlike manner providing a thorough and complete installation.

4.05 Any work deemed inferior shall be reported to SBC for immediate corrective action.

5.0 Warranty

5.01 SBC's proposal includes a 90-day labor warranty and a 20 year manufacturer's application warranty.

5.02 SBC warrants that: (i) For a period of ninety (90) days following completion of the Project, Services provided will have been performed in a workmanlike manner and (ii) Any material provided will be free from defects for a period of ninety (90) days following completion of the project.

5.03 If SBC responds to a Client's request for repairs during the warranty period and determines that the problem(s) is not covered by the contracted warranties, SBC will invoice and Client agrees to pay SBC a minimum two (2)-hour service charge (at SBC's then current hourly rates).

5.04 All manufacturers' warranties that extend past the SBC standard warranty period will be passed through to Client. Warranty issues outside the SBC standard warranty period must be negotiated direct between Client and the Manufacturer.

6.0 Facility Damage

6.01 SBC shall take necessary steps to protect all received materials from dents, scratches, dust, temperature, weather, cutting and other hazardous conditions.

6.02 SBC Risk Management Services is responsible for handling any damage claims occurring as a result of performing work, i.e. damaged voice and/or data hardware, broken ceiling tiles, damaged walls, scratched furniture, etc.

6.03 SBC reserves the right to replace required items with suitable substitutes of the removed items. This will not preclude acceptance and payment of the project if substantial completion and operation of the network has been achieved.

7.0 Labeling Specifications

7.01 SBC shall label all installed cables, jacks, and patch panels in accordance with the requirements of South San Antonio Independent School District.

8.0 Changes to the Scope of Work

8.01 After the project begins SBC will not perform any verbally-requested change orders. Any work not specifically outlined within this Scope of Work is deemed to be Out of Scope and subject to the Change Order process. SBC has endeavored to provide accurate counts of equipment, cabling, etc. based on the information provided within the RFP.

8.02 If Client requests additional connections SBC can provide these connections on a "Change Order" basis.

8.03 All Change Orders will be accepted in written form and approved by Client and SBC prior to commencement of work on Change Order Requests.

9.0 Milestones

9.01 Payment terms shall be determined at the time of final contract negotiations. SBC prefers milestone billing based on completed tasks and overall project completion. A typical arrangement, for review, is 25% due at contract signing, another 50% when the installation is 50% complete and the remaining 25% upon client acceptance.

10.0 Schedule

10.01 The project duration is estimated at 40 work days once construction begins. A shorter project duration may be available at additional cost.

10.02 SBC's normal work schedule for this project shall be done during non-instructional hours/days., 8:00am - 5:00pm. Work beyond this schedule requires the approval of SBC or overtime rates will be charged to the Customer via a Change Order.

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10.03 Refer to the attached 'Assumptions' list for additional schedule information.

11.0 Project 'As-Built' Documentation

11.01 SBC shall provide the Client with labeling convention and numbering scheme for authorization prior to start of work.

11.02 SBC shall keep a complete set of drawings at all times and will record the progress of installation and markup as they occur.

11.03 Within 30 days of project completion, SBC shall provide 'as-built' drawings that accurately reflect the installation, termination and labeling of all wiring and installed cable plant associated with this installation.

11.04 SBC will provide drawings in VISIO/AutoCAD format when provided the source documents (backgrounds) in electronic format. If electronic format drawings are not available, SBC shall furnish 'marked-up' hardcopy 'as-built' drawings only.

11.05 SBC will provide one hard copy and one soft copy (when applicable).

12.0 Cable Testing and Verification

12.01 SBC will test all drops using a hand-held, standards compliant test set. The test results will be provided to the Customer via hard-copy and electronic version upon request.

12.02 Testing shall verify that the final termination of all cabling is operational at the level which is the current standard and meets the operational specifications for each type of wiring.

Customer Acknowledgement

I have read, understand and agree the above Scope of Work accurately represents my expectations regarding this Structured Cabling System quotation

Patrick J. Skees _____ Date

Attachment B - Assumptions

1.0 General

1.01 For reference in this proposal only, SBC Communications, Inc. shall be identified as SBC and South San Antonio Independent School District shall be identified as Client.

1.02 This proposal is valid only if Client signs a contract which incorporates the SBC terms and conditions.

1.03 Sales tax is not included in this proposal. Actual sales tax applied at time of billing will be Client's responsibility.

1.04 If Client declares exemption from State and Local sales tax, Proof of Tax Exemption must be provided prior to contract signing. If Tax Exemption Certificate is not on file at contract signing all taxes (State and Local) will apply.

1.05 This proposal is for a single site installation. Additional sites can be install by SBC for the proposal price, for a period of 90 days following installation start at the original site.

1.06 This proposal assumes there is no requirement for the payment of prevailing Wages, Davis Bacon Wages, Walsh-Healy wages, Contract Service Act Wages or any other predetermined or prevailing Wages or fringe benefits. In the event there is a requirement for the payment of specific wages and/or fringe benefits, the difference between such specific wages and / or benefits and the actual wages and / or benefits paid, plus SBC's normal mark-up for overhead and profit shall be an extra to this proposal.

1.07 This proposal is based on the completion of the entire scope of work. A reduction in the amount of work to be completed may increase the price of individual work functions.

1.08 This proposal includes horizontal cabling installation based on a plenum environment.

1.09 SBC DataComm liability arising out of or relating to the work described in this quote is limited to the amount paid to SBC DataComm for this work.

2.0 Exclusions

2.01 This proposal does not include any costs associated with third party/independent quality assurance or testing.

2.02 This proposal does not include assembly/reassembly of modular furniture.

2.03 This proposal does not include conduit or power for the alarm system.

2.04 This proposal does not include grounding and bonding of existing equipment, manholes or cabling.

2.05 This proposal does not include any power strips.

2.06 This proposal does not include bringing the existing facilities up to code.

3.0 Schedule

3.01 SBC's requires a minimum of 10 working days notice before the start of work.

3.02 SBC installation charges indicated in this proposal are based on a construction interval as noted on the quotation sheet and/or Scope of Work. Client may be responsible for increased charges if additional labor or premium wages are required to achieve a shorter installation interval at Client's request. Client may be responsible for increased charges if additional labor or premium wages are required to maintain the contracted installation interval following Client delays.

3.03 Alterations or deviations, if any, from the above scope of work, or any delays or postponements of the work by the Client or it's agents which result in additional materials or labor costs, will become an extra charge which will be billed as an addition to this proposal amount. Any extra move on or off the job site due to circumstances beyond SBC's control will be billed as an extra at hourly labor and equipment rates in effect at the time.

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3.04 SBC will perform this job in its entirety only and all work will be performed within SBC's normal work schedules, unless Client contracts for premium work scheduling.

3.05 Completion date for this project will be negotiated pending contract signing and/or Client Purchase Order receipt by SBC, and may depend on the manufacturer's ability to ship the necessary products.

3.06 This proposal assumes all material and /or equipment will be transported standard ground fashion. No air freight or expedite costs are included.

3.07 Any delays caused by outside parties (i.e., the Client, general contractor, electricians or contract vendors other than SBC) will be documented and presented to the Point of Contact for resolution.

4.0 Existing Conditions

4.01 SBC assumes there are no abnormal environmental or hazardous conditions on the customer's premise which would require extraordinary safety and/or regulatory functions, activities, permits or certifications for SBC to perform the required work.

4.02 SBC assumes the client will provide free and clear cable pathways for the installation of the proposed cable system. Additional time, labor, and material required by SBC to make pathways free and clear shall be at Client's expense.

4.03 Unless specifically described otherwise in the Scope of Work, no provision has been made in this proposal for the removal, evacuation or disposal of Client-owned, obsolete cabling facilities or components. Compliance with local, state, and federal codes beyond the installation of the cabling system mentioned in this proposal, is the responsibility of Client.

4.04 SBC assumes an existing TIA-607 compliant Building Ground System meeting local, state, and national electrical codes within each telecommunications room. Where bonding to this ground system is required, SBC shall install a telecommunications grounding bus bar and #6 AWG ground conductor for bonding to the existing building grounding system. Where a building ground system is not installed, code or standards compliant, Client will be notified and given an opportunity to make appropriate corrections. Additional work performed by SBC to provide code or standard compliance shall be at Client's expense.

4.05 SBC does not guarantee customer's existing cable facilities.

4.06 Existing conduit must be usable, undamaged, and have room to place additional cable/s. If existing conduit is not usable the Client will incur additional costs.

4.07 Client provided conduit will be installed per industry standards, will be sized to accommodate proposed cable placements, must be usable and will have pull lines in place. If rodding or placing a pull string is required, the Client will be responsible for the additional cost.

4.08 All existing cable is color-coded and requires no tagging for identification.

4.09 Custom pricing will be required if lift-out ceilings are not available along the entire cable path, or metallic conduit or raceway is required to be installed by SBC.

5.0 Client Responsibilities

5.01 Client is responsible for furnishing floor plans with desired outlet locations prior to contract signing.

5.02 Client is responsible for providing adequate power and power access in locations where equipment is to be placed. If additional power is required it will be responsibility of Client.

-- Proprietary Information --
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Attachment B - Assumptions

5.03 Client is responsible for providing access to any buildings, equipment rooms, etc., necessary for SBC to complete the required work. Customer will provide adequate parking for SBC DataComm equipment and employees at no additional cost to SBC DataComm or it's sub-contractors, for the duration of this project.

5.04 Client is responsible for providing a safe, secure and lockable location for the storage of equipment and materials during the installation interval.

5.05 SBC assumes that the regulated network circuit or circuits will be installed and tested, by the regulated utility company, prior to any service installation provided by SBC.

5.06 Client will provide power poles, if required.

5.07 Client will provide access to all work areas during normal and after duty hours if required.

5.08 Client will provide backboards and clear space for working areas.

5.09 Client will provide access and clear pathways for all proposed installations.

5.10 Client will provide a point of contact to interface with SBC point of contact.

5.11 Client will provide acceptable ground within twenty-five feet of all terminals.

5.12 Client will provide all building entrances, core drills and/or openings that are required to place facilities on the premise. SBC DataComm can provide these services at an additional cost, if Client desires.

5.13 Client will be responsible for identifying all areas containing asbestos, lead paint, and /or other hazardous materials. Client will also be responsible for the removal and /or abatement of all hazardous materials and any associated costs.

5.14 Client will be responsible for identifying and additional costs associated with any Historical or environmental (endangered species, archeological sites/digs, etc.) issues.

5.15 Client is responsible for all costs associated with permits, easements and / or right-of-ways.

5.16 Client will provide cable trays, raceways, sleeves, floor penetrations, and junction boxes.

5.17 Client-provided quantities and footages are less than or equal to the actual requirements.

5.18 Client is responsible for providing the latest construction schedule from the General Contractor in order to coordinate with the ceiling tile contractor and the furniture contractor schedule prior to the commencement of telecommunications cabling work.

5.19 The client will be responsible for providing patch panels.

Customer Acknowledgement

I have read, understand and agree the above Assumptions accurately represent my expectations regarding this Structured Cabling System quotation

Patrick J. Skees _____ Date _____

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Quote #: 215760-02

Quote Date: 02/04/2005

SBC Point of Contact:

Ken Ross
Phone: (210) 633-5595 Fax: 210-804-2942
email: KR7296@txmail.sbc.com

Quotation Prepared for:

Patrick J. Skees
South San Antonio Independent School District
2515 Bobcat Lane
San Antonio, Texas 78224

Non E-rate Eligible Wireless Access Point Cabling RFP #05-48

Refer to attached Scope of Work Sheet(s) - Attachment A

Refer to attached Assumptions Sheet(s) - Attachment B

This quote is valid until 4/31/2005. After that date, this proposal is subject to price verification/adjustment.

Installation on an expedited basis will require a separate charge to cover short interval shipping and/or premium labor charges that are not reflected in this quotation.

Billing Policy shall be as mutually agreed upon between SBC DataComm and South San Antonio Independent School District at Contract signing.

TOTAL MATERIAL =	$3,294.20
TOTAL INSTALLATION (Labor) =	$5,823.60
GRAND TOTAL (not including shipping or taxes) =	**$9,117.80**

CUSTOMER APPROVAL / SBC AUTHORIZATION

South San Antonio Independent School District	SBC DataComm
Signed: _____	Signed: _____
Printed Name: _____	Printed Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

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Attachment C - Bill of Materials / Project Report

Description	Manufacturer	Manufacturer Part Number	Qty	Units	Unit Price	Extended Price
on E-rate Eligible Wireless Access Point Cabling RFP #05-48						
Non Eligible Sites						
Special Programs Building						
Materials						
Access Point Cable Installation Material			2	ea	$ 164.71	$ 329.42
Materials Sub-total						**$329.42**
Labor						
Access Point Cable Installation Labor			2	ea	$ 264.71	$ 529.42
Labor Sub-total						**$529.42**
Special Programs Building Sub Total						**$858.84**
Student Appraisal Center						
Materials						
Access Point Cable Installation Material			3	ea	$ 164.71	$ 494.13
Materials Sub-total						**$494.13**
Labor						
Access Point Cable Installation Labor			3	ea	$ 264.71	$ 794.13
Labor Sub-total						**$794.13**
Student Appraisal Center Sub Total						**$1,288.26**
Parent Development Center						
Materials						
Access Point Cable Installation Material			3	ea	$ 164.71	$ 494.13
Materials Sub-total						**$494.13**
Labor						
Access Point Cable Installation Labor			3	ea	$ 264.71	$ 794.13
Labor Sub-total						**$794.13**
Parent Development Center Sub Total						**$1,288.26**
Food Services						
Materials						
Access Point Cable Installation Material			1	ea	$ 164.71	$ 164.71
Materials Sub-total						**$164.71**
Labor						
Access Point Cable Installation Labor			1	ea	$ 529.41	$ 529.41
Labor Sub-total						**$529.41**
Food Services Sub Total						**$694.12**
Warehouse						
Materials						
Access Point Cable Installation Material			1	ea	$ 164.71	$ 164.71
Materials Sub-total						**$164.71**
Labor						
Access Point Cable Installation Labor			1	ea	$ 529.41	$ 529.41
Labor Sub-total						**$529.41**

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Attachment C - Bill of Materials / Project Report

Description	Manufacturer	Manufacturer Part Number	Qty	Units	Unit Price	Extended Price
Warehouse Sub Total						
						$694.12
Central Office						
Materials						
Access Point Cable Installation Material			4	ea	$ 164.71	$ 658.84
Materials Sub-total						**$658.84**
Labor						
Access Point Cable Installation Labor			4	ea	$ 264.71	$ 1,058.84
Labor Sub-total						**$1,058.84**
Central Office Sub Total						**$1,717.68**
Anna Marie Hernandez Community Learning Center						
Materials						
Access Point Cable Installation Material			6	ea	$ 164.71	$ 988.26
Materials Sub-total						**$988.26**
Labor						
Access Point Cable Installation Labor			6	ea	$ 264.71	$ 1,588.26
Labor Sub-total						**$1,588.26**
Anna Marie Hernandez Community Learning Center Sub Total						**$2,576.52**
Project Summary						
Materials Total						**$3,294.20**
Labor Total						**$5,823.60**
Grand Total						**$9,117.80**
Prices above do not reflect Shipping or Taxes.						

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Attachment A - Scope of Work

1.0 General / Project Overview

1.01 SBC shall furnish and install labor and materials to provide connectivity for 20 wireless access point units at South San Antonio ISD 7 non erate eligible SSAISD buildings. This installation will be per the floor plans and directions provided by SSAISD including discussions with Customer and as further described below.

1.02 There are no LAN Electronics included in this scope of work. Please refer to additional SBC proposals for details regarding the Wireless Access Point units.

1.03 All horizontal runs will be supported via the use of J-hooks. All cable supports will be installed independent of ceiling grid wiring or via existing cable trays for floor pulls. Where available, SBC shall make use of existing, accessible cable-tray for the installation and support of data cabling.

1.04 SBC shall properly firestop all fire wall penetrations and label with name, company and date. SBC shall fill with putty/caulk/bricks as required by the solution/product used and the prevailing standard.

2.0 Horizontal Cabling

2.01 SBC shall utilize existing space in telecomm rooms patch panels for the termination of all horizontal cabling associated with the Wireless Access Points (WAP).

2.02 SBC shall coordinate cabling placement within available ports with SSAISD representatives; in general, the WAP cabling shall be terminated at the 'end' of existing patch panels so as to physically and logically separate it from the other data cabling.

2.03 SBC shall utilize customer-provided cable labels in the telecomm room for consistency. The cables will be labeled on each end using the customer-provided labeling scheme.

2.04 A typical WAP cable drop shall consist of a 9' telecomm room Cat 5e patch cord, a Cat 5e jack, a Cat 5e green plenum cable routed above an accessible ceiling via existing cable tray to the WAP location within 295 cable-feet of the telecomm room, at the WAP end, a Cat 5e jack in a surface box above the ceiling and a 3' workstation Cat 5e patch cord.

3.0 Project Management

3.01 SBC shall provide project management/coordination to monitor and control all technical and administrative support activities related to this SOW.

3.02 SBC shall provide qualified on-site installation supervision.

4.0 Quality of Work

4.01 SBC's installation practices will be governed by EIA/TIA Telecommunications Building Wiring Standards, the BICSI Telecommunication Distribution Methods Manual and local building codes.

4.02 The cabling shall conform to EIA/TIA Category 5e channel performance.

4.03 All work shall be done in accordance with the respective drawings, written specifications, supplemental information, industry standards, trade practice, and applicable regulatory agencies.

4.04 All work shall be performed by competent personnel and executed in a neat and workmanlike manner providing a thorough and complete installation.

4.05 Any work deemed inferior shall be reported to SBC for immediate corrective action.

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5.0 Warranty

5.01 SBC's proposal includes a 90-day labor warranty and a 20 year manufacturer's application warranty.

5.02 SBC warrants that: (i) For a period of ninety (90) days following completion of the Project, Services provided will have been performed in a workmanlike manner and (ii) Any material provided will be free from defects for a period of ninety (90) days following completion of the project.

5.03 If SBC responds to a Client's request for repairs during the warranty period and determines that the problem(s) is not covered by the contracted warranties, SBC will invoice and Client agrees to pay SBC a minimum two (2)-hour service charge (at SBC's then current hourly rates).

5.04 All manufacturers' warranties that extend past the SBC standard warranty period will be passed through to Client. Warranty issues outside the SBC standard warranty period must be negotiated direct between Client and the Manufacturer.

6.0 Facility Damage

6.01 SBC shall take necessary steps to protect all received materials from dents, scratches, dust, temperature, weather, cutting and other hazardous conditions.

6.02 SBC Risk Management Services is responsible for handling any damage claims occurring as a result of performing work, i.e. damaged voice and/or data hardware, broken ceiling tiles, damaged walls, scratched furniture, etc.

6.03 SBC reserves the right to replace required items with suitable substitutes of the removed items. This will not preclude acceptance and payment of the project if substantial completion and operation of the network has been achieved.

7.0 Labeling Specifications

7.01 SBC shall label all installed cables, jacks, and patch panels in accordance with the requirements of South San Antonio Independent School District.

8.0 Changes to the Scope of Work

8.01 After the project begins SBC will not perform any verbally-requested change orders. Any work not specifically outlined within this Scope of Work is deemed to be Out of Scope and subject to the Change Order process. SBC has endeavored to provide accurate counts of equipment, cabling, etc. based on the information provided within the RFP.

8.02 If Client requests additional connections SBC can provide these connections on a "Change Order" basis.

8.03 All Change Orders will be accepted in written form and approved by Client and SBC prior to commencement of work on Change Order Requests.

9.0 Milestones

9.01 Payment terms shall be determined at the time of final contract negotiations. SBC prefers one-time billing upon client acceptance.

10.0 Schedule

10.01 The project duration is estimated at 15 work days once construction begins. A shorter project duration may be available at additional cost.

10.02 SBC's normal work schedule for this project shall be done during non-instructional hours/days., 8:00am - 5:00pm. Work beyond this schedule requires the approval of SBC or overtime rates will be charged to the Customer via a Change Order.

10.03 Refer to the attached 'Assumptions' list for additional schedule information.

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11.0 Project 'As-Built' Documentation

11.01 SBC shall provide the Client with labeling convention and numbering scheme for authorization prior to start of work.

11.02 SBC shall keep a complete set of drawings at all times and will record the progress of installation and markup as they occur.

11.03 Within 30 days of project completion, SBC shall provide 'as-built' drawings that accurately reflect the installation, termination and labeling of all wiring and installed cable plant associated with this installation.

11.04 SBC will provide drawings in VISIO/AutoCAD format when provided the source documents (backgrounds) in electronic format. If electronic format drawings are not available, SBC shall furnish 'marked-up' hardcopy 'as-built' drawings only.

11.05 SBC will provide one hard copy and one soft copy (when applicable).

12.0 Cable Testing and Verification

12.01 SBC will test all drops using a hand-held, standards compliant test set. The test results will be provided to the Customer via hard-copy and electronic version upon request.

12.02 Testing shall verify that the final termination of all cabling is operational at the level which is the current standard and meets the operational specifications for each type of wiring.

Customer Acknowledgement

I have read, understand and agree the above Scope of Work accurately represents my expectations regarding this Structured Cabling System quotation

Patrick J. Skees _____ Date

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Attachment B - Assumptions

1.0 General

1.01 For reference in this proposal only, SBC Communications, Inc. shall be identified as SBC and South San Antonio Independent School District shall be identified as Client.

1.02 This proposal is valid only if Client signs a contract which incorporates the SBC terms and conditions.

1.03 Sales tax is not included in this proposal. Actual sales tax applied at time of billing will be Client's responsibility.

1.04 If Client declares exemption from State and Local sales tax, Proof of Tax Exemption must be provided prior to contract signing. If Tax Exemption Certificate is not on file at contract signing all taxes (State and Local) will apply.

1.05 This proposal is for a single site installation. Additional sites can be install by SBC for the proposal price, for a period of 90 days following installation start at the original site.

1.06 This proposal assumes there is no requirement for the payment of prevailing Wages, Davis Bacon Wages, Walsh-Healy wages, Contract Service Act Wages or any other predetermined or prevailing Wages or fringe benefits. In the event there is a requirement for the payment of specific wages and/or fringe benefits, the difference between such specific wages and / or benefits and the actual wages and / or benefits paid, plus SBC's normal mark-up for overhead and profit shall be an extra to this proposal.

1.07 This proposal is based on the completion of the entire scope of work. A reduction in the amount of work to be completed may increase the price of individual work functions.

1.08 This proposal includes horizontal cabling installation based on a plenum environment.

1.09 SBC DataComm liability arising out of or relating to the work described in this quote is limited to the amount paid to SBC DataComm for this work.

2.0 Exclusions

2.01 This proposal does not include any costs associated with third party/independent quality assurance or testing.

2.02 This proposal does not include assembly/reassembly of modular furniture.

2.03 This proposal does not include conduit or power for the alarm system.

2.04 This proposal does not include grounding and bonding of existing equipment, manholes or cabling.

2.05 This proposal does not include any power strips.

2.06 This proposal does not include bringing the existing facilities up to code.

3.0 Schedule

3.01 SBC's requires a minimum of 10 working days notice before the start of work.

3.02 SBC installation charges indicated in this proposal are based on a construction interval as noted on the quotation sheet and/or Scope of Work. Client may be responsible for increased charges if additional labor or premium wages are required to achieve a shorter installation interval at Client's request. Client may be responsible for increased charges if additional labor or premium wages are required to maintain the contracted installation interval following Client delays.

3.03 Alterations or deviations, if any, from the above scope of work, or any delays or postponements of the work by the Client or it's agents which result in additional materials or labor costs, will become an extra charge which will be billed as an addition to this proposal amount. Any extra move on or off the job site due to circumstances beyond SBC's control will be billed as an extra at hourly labor and equipment rates in effect at the time.

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Attachment B - Assumptions

3.04 SBC will perform this job in its entirety only and all work will be performed within SBC's normal work schedules, unless Client contracts for premium work scheduling.

3.05 Completion date for this project will be negotiated pending contract signing and/or Client Purchase Order receipt by SBC, and may depend on the manufacturer's ability to ship the necessary products.

3.06 This proposal assumes all material and /or equipment will be transported standard ground fashion. No air freight or expedite costs are included.

3.07 Any delays caused by outside parties (i.e., the Client, general contractor, electricians or contract vendors other than SBC) will be documented and presented to the Point of Contact for resolution.

4.0 Existing Conditions

4.01 SBC assumes there are no abnormal environmental or hazardous conditions on the customer's premise which would require extraordinary safety and/or regulatory functions, activities, permits or certifications for SBC to perform the required work.

4.02 SBC assumes the client will provide free and clear cable pathways for the installation of the proposed cable system. Additional time, labor, and material required by SBC to make pathways free and clear shall be at Client's expense.

4.03 Unless specifically described otherwise in the Scope of Work, no provision has been made in this proposal for the removal, evacuation or disposal of Client-owned, obsolete cabling facilities or components. Compliance with local, state, and federal codes beyond the installation of the cabling system mentioned in this proposal, is the responsibility of Client.

4.04 SBC assumes an existing TIA-607 compliant Building Ground System meeting local, state, and national electrical codes within each telecommunications room. Where bonding to this ground system is required, SBC shall install a telecommunications grounding bus bar and #6 AWG ground conductor for bonding to the existing building grounding system. Where a building ground system is not installed, code or standards compliant, Client will be notified and given an opportunity to make appropriate corrections. Additional work performed by SBC to provide code or standard compliance shall be at Client's expense.

4.05 SBC does not guarantee customer's existing cable facilities.

4.06 Existing conduit must be usable, undamaged, and have room to place additional cable/s. If existing conduit is not usable the Client will incur additional costs.

4.07 Client provided conduit will be installed per industry standards, will be sized to accommodate proposed cable placements, must be usable and will have pull lines in place. If rodding or placing a pull string is required, the Client will be responsible for the additional cost.

4.08 All existing cable is color-coded and requires no tagging for identification.

4.09 Custom pricing will be required if lift-out ceilings are not available along the entire cable path, or metallic conduit or raceway is required to be installed by SBC.

5.0 Client Responsibilities

5.01 Client is responsible for furnishing floor plans with desired outlet locations prior to contract signing.

5.02 Client is responsible for providing adequate power and power access in locations where equipment is to be placed. If additional power is required it will be responsibility of Client.

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Attachment B - Assumptions

5.03 Client is responsible for providing access to any buildings, equipment rooms, etc., necessary for SBC to complete the required work. Customer will provide adequate parking for SBC DataComm equipment and employees at no additional cost to SBC DataComm or it's sub-contractors, for the duration of this project.

5.04 Client is responsible for providing a safe, secure and lockable location for the storage of equipment and materials during the installation interval.

5.05 SBC assumes that the regulated network circuit or circuits will be installed and tested, by the regulated utility company, prior to any service installation provided by SBC.

5.06 Client will provide power poles, if required.

5.07 Client will provide access to all work areas during normal and after duty hours if required.

5.08 Client will provide backboards and clear space for working areas.

5.09 Client will provide access and clear pathways for all proposed installations.

5.10 Client will provide a point of contact to interface with SBC point of contact.

5.11 Client will provide acceptable ground within twenty-five feet of all terminals.

5.12 Client will provide all building entrances, core drills and/or openings that are required to place facilities on the premise. SBC DataComm can provide these services at an additional cost, if Client desires.

5.13 Client will be responsible for identifying all areas containing asbestos, lead paint, and /or other hazardous materials. Client will also be responsible for the removal and /or abatement of all hazardous materials and any associated costs.

5.14 Client will be responsible for identifying and additional costs associated with any Historical or environmental (endangered species, archeological sites/digs, etc.) issues.

5.15 Client is responsible for all costs associated with permits, easements and / or right-of-ways.

5.16 Client will provide cable trays, raceways, sleeves, floor penetrations, and junction boxes.

5.17 Client-provided quantities and footages are less than or equal to the actual requirements.

5.18 Client is responsible for providing the latest construction schedule from the General Contractor in order to coordinate with the ceiling tile contractor and the furniture contractor schedule prior to the commencement of telecommunications cabling work.

5.19 The client will be responsible for providing patch panels.

Customer Acknowledgement

I have read, understand and agree the above Assumptions accurately represent my expectations regarding this Structured Cabling System quotation

Patrick J. Skees _____ Date _____

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Addendum No._____ Master Agreement No._____

Customer Information

Customer Information			
Customer Name	SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT		
Customer Address	2515 BOBCAT LANE SAN ANTONIO TEXAS 78224		
Customer Email			
Contact Position	Contact Name	Contact Number	Pager Number
Purchasing Department		(210) 977-7070	

Please note that this information is required for **all** locations on a project. This information may be provided as a separate spreadsheet.

SBC DataComm Information

Position	Name	Contact Number	Pager Number
Outside Sales	Ken Ross	210-633-5595	
Inside Sales	Wes Bryant		
Systems Engineer	Edmundo Lopez III	210-633-5694	
Core Account Manager	Janna Kloss	210-633-5612	
Sales Manager			
Provisioning Contact			

Maintenance Information

Please check ☒ on the Maintenance Type that was sold to the customer.

SBC PremierSERV℠ Data CPE Support Services	SBC PremierSERV℠ Network Management	External Maintenance	Video Maintenance
☐ **Basic** 24x7x365 Phone Support ☐ **Essential** Three support service options: ☐ 8x5 ☐ 8x5 Plus ☐ 24x7 Hardware and software replacement 24x7x365 phone support Fault isolation and resolution Web-based trouble ticketing reports ☒ **Complete** Three support service options: ☐ 8x5 ☐ 8x5 Plus ☒ 24x7 On-site support Hardware and software replacement 24x7x365 phone support Fault isolation and resolution Web-based trouble ticketing reports **SBC PremierSERV℠ Optional Offerings** ☐ Premier Technical Phone Support ☐ Carrier Coordination	☐ **Basic** 24x7x365 network monitoring on contracted Devices Customer notification of an alarm within 15 minutes ☐ **Essential** ***Basic Service plus...*** Fault Isolation & Resolution Technical assistance Ability to open & view web based trouble ticketing Router configuration support and reports (archiving only) Software Support Hardware Dispatch (when SBC PremierSERV Data Support is purchased) Vendor Coordination Carrier Coordination ☐ **Complete** ***Basic & Essential Service plus...*** Web based comprehensive performance reports Monthly performance review with DCSC engineer Performance SLA's (when SBC PremierSERV Data Support is purchased)	☐ Cisco SmartNet ☒ Vendor Maintenance ☐ Other – Please Specify _____	☐ Internal ☐ External ☐ Other – Please Specify _____

Scope of Work

This Scope of Work is in response to South San Antonio Independent School District (hereafter the "customer") RFP #05-48 "Cisco Wireless Network Systems and Network Upgrades".

The customer request installation and configuration for Erate eligible locations in the following quantities: 264 Access Points, 2 catalyst 6506E switches with line cards, 5 catalyst 6509E switches with line cards, 13 catalyst 3750-24 switches, 41 catalyst 3750-48 switches, 143 10/100/1000 POE line cards to replace an equal number of older model line cards, 42 6000W power supplies to replace an equal number of 1300Watt power supplies, 39 fan kits version 2 to replace an equal number of older fan kits for catalyst 6506 and catalyst 6509 switches, and 78 SUP720 supervisor engines to replace an equal number of SUP1A supervisor engines.

The customer request installation and configuration for Non-Erate eligible locations in the following quantities: 20 Access Points, 11 catalyst 3750-24 switches, 4 catalyst 3750-48 switches, 4 10/100/1000 POE line cards to replace an equal number of older model line cards, 8 6000W power supplies to replace an equal number of 1300Watt power supplies, 4 fan kits version 2 to replace an equal number of older fan kits for catalyst 6506 and catalyst 6509 switches, and 8 SUP720 supervisor engines to replace an equal number of SUP1A supervisor engines.

This scope of work is based solely upon a bill of materials provided in RFP #05-48 by the Customer. SBC has not performed any design work on the configuration of the network system being quoted, and has not been asked to provide recommendations or engineering designs for this project prior to Awarding of the project. This document is therefore written with the understanding that SBC believes the provided bill of materials to be complete and accurate, and that the design meets all the requirements specified by the Customer. SBC cannot warrant that the installation of the specified equipment will constitute a complete and workable solution, since the information provided does not possess sufficient data to ascertain the adequacy or completeness of the proposed solution.

Equipment that is being replaced may be utilized for vendor trade-in credit. If any of these items were purchased under Erate in the last three years, then those items may be ineligible for trade-in.

The RFP specifies that all existing patch cables be reutilized for the newly installed equipment. The existing fiber patch cables may no longer be usable on the new Catalyst Supervisor Engines. The Bill of Materials reflects two new fiber patch cables per Supervisor Engine connecting to a Fiber Patch panel with ST connectors. The customer is responsible for any additional patch cablings should any existing cables be unusable.

All work will be performed on the customer district at the following Erate eligible locations:

Erate Locations and Materials:
South San Antonio ISD
2515 Bobcat Lane, San Antonio, Texas 78224

1. Roy P. Benavidez Elementary School
   8340 South IH-35
   San Antonio, TX 78224

- 4 Sup 720 (Trade in 4 Sup 1A), 2 new fan kits (Trade in existing)
- 8 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 3 3750 48 port switch
- 1 6509 with 2 Sup 720, 5 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 16 Access points

2. Kindred Elementary School
   7811 Kindred Road
   San Antonio, TX 78224

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 9 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 1 3750 48 port switch
- 12 Access points

3. Palo Alto Elementary School
   1725 Palo Alto Road
   San Antonio, TX 78211

This Agreement is for use by authorized employees of the Parties and is not for general distribution in or outside the respective companies.

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 6 10/100/1000 POE 48 port 6500 modules (Trade in 6 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 4 3750 48 port switch
- 16 Access points

4. Price Elementary School
   245 Price Avenue
   San Antonio, TX 78211

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 6 10/100/1000 POE 48 port 6500 modules (Trade in 6 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 4 3750 48 port switch
- 12 Access points

5. Hutchins Elementary
   1919 W. Hutchins
   San Antonio, TX 78224-1699

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 14 Access points

6. Athens Elementary
   2707 W. Gerald
   San Antonio, TX 78211-2345

- 4 Sup 720 (Trade in 2 Sup 2 and 2 Sup 1A), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 2 3750 48 port switch
- 1 3750 24 port switch
- 1 6506 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 10 Access points

7. Royalgate Elementary
   6100 Royalgate
   San Antonio, TX 78242

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 5 10/100/1000 POE 48 port 6500 modules (Trade in 5 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 4 3750 48 port switch
- 16 Access points

8. Armstrong Elementary
   7111 Apple Valley
   San Antonio, TX 78242

- 2 Sup 720 (Trade in 2 Sup 1A), 1 new fan kit (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules (Trade in 4 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 1 3750 48 port switch
- 1 6506 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 12 Access points

9. Carrillo Elementary
   500 Price
   San Antonio, TX 78211

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)

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- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 1 3750 48 port switch
- 12 Access points

10. Five Palms Elementary
7138 Five Palms
San Antonio, TX 78242

- 2 Sup 720 (Trade in 2 Sup 1A), 1 new fan kits (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules (Trade in 4 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 1 3750 24 port switch
- 1 6509 with 2 Sup 720, 6 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 12 Access points

11. Abraham Kazen Middle School
1520 Gillette
San Antonio, TX 78224

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 11 10/100/1000 POE 48 port 6500 modules (Trade in 10 10/100 48 port modules)
- 6 6000 Watt power supply (Trade in 2 1000 Watt and 4 1300 Watt)
- 2 6509 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 15 Access points

12. Alan B. Shepard Middle School
5558 Ray Ellison Drive
San Antonio, TX 78242

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 8 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 6509 with 2 Sup 720, 5 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 15 Access points

13. Dwight Middle School
2454 West Southcross
San Antonio, TX 78211

- 8 Sup 720 (Trade in 4 Sup 1A and 4 Sup 2), 4 new fan kits (Trade in existing)
- 15 10/100/1000 POE 48 port 6500 modules (Trade in 13 10/100 48 port modules)
- 8 6000 Watt power supply (Trade in 4 1000 Watt and 4 1300 Watt)
- 3 3750 48 port switch
- 20 Access points

14. West Campus High School
5622 Ray Ellison Drive
San Antonio, TX 78242

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 13 10/100/1000 POE 48 port 6500 modules (Trade in 13 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 15 Access points

15. South San Antonio High School
2715 Navajo
San Antonio, TX 78224

- 12 Sup 720 (Trade in 8 Sup 1A and 4 Sup 2), 6 new fan kits (Trade in existing)
- 24 10/100/1000 POE 48 port 6500 modules (Trade in 20 10/100 48 port modules)
- 12 6000 Watt power supply (Trade in 12 1300 Watt)
- 6 3750 24 port switch
- 18 3750 48 port switch
- 30 Access points

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17. South San Antonio Alternative School
    1450 Gillette
    San Antonio, TX 78224

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 9 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 4 1300 Watt)
- 12 Access points

18. Robert C. Zamora Middle School
    2515 Bobcat Lane
    San Antonio, TX 78224

- 25 Access points

All work will be performed on the customer district at the following Non-Erate eligible locations:

Non-Erate Locations and Materials:
South San Antonio ISD
2515 Bobcat Lane, San Antonio, Texas 78224

1. Special Programs Building
   - 1 3750 48 port switch
   - 2 Access points

2. Student Appraisal Center
   - 1 3750 24 port switch
   - 1 3750 48 port switch
   - 3 Access points

3. Parent Development Center
   - 2 3750 48 port switch
   - 3 Access points

4. Food Services
   - 1 3750 24 port switch
   - 1 Access point

5. Warehouse
   - 1 3750 24 port switch
   - 1 Access points

6. Central Office
   - 8 Sup 720 (Trade in 4 Sup 1A and 4 Sup 2), 4 new fan kits (Trade in existing)
   - 4 10/100/1000 POE 48 port 6500 modules
   - 8 6000 Watt power supply (Trade in 8 1300 Watt)
   - 8 3750 24 port switch
   - 4 Access points

7. Anna Marie Hernandez Community Learning Center
   - 6 Access points

The customer is responsible for providing adequate equipment rack space and facility power for all installed equipment under this project. SBC recommends that all LAN equipment be supplied power from an Uninterruptible Power Supply (UPS). The RFP request "115V normal outlets". The power supply cables listed in the Bill of Materials specify a NEMA L5-20 plug. The customer is responsible for providing the necessary electrical outlets for the Power Supply cables. There will be two outlets required per 6000Watt Power Supply. The 6000Watt Power Supplies listed in the RFP will not run at full output capacity on 115Volts.

Installation of the Cat5 cabling for the Access Points is addressed in a separate Structured Cabling Scope of Work. All Access Points must be located within 300 feet of the nearest In-Line power Ethernet switch.

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Reference the attached Bill of Material for a detailed equipment list.

Reference the attached Network Diagrams for an overview of the Network topology.

Wireless Site Survey:

SBC will conduct a Wireless Site Survey during site installation (per customer), and configuration to ensure quality control. SBC will survey possible AP locations within each listed campus. The customer has pre-determined the number of access points per campus, SBC will coordinate to find the most efficient location for each access point with a focus on "coverage area". SBC will coordinate with the customer in the "walk-about" process of the site survey. SBC will provide documentation that will include: AP/Bridge locations, AP/Bridge role in network and logical information.

CONFIGURATIONS

1. SYSTEM NAME (which will reflect link and or portable depending on design.)
2. SSID
3. RADIO ROLE (root or non-root)
4. CHANNEL (AP and Bridge)
5. IP10.0.0.0-? /255.0 SUBNET for test purpose only
6. POWER
7. TURN BROADCAST OFF
8. SET BRIDGE SPACING

SBC is willing to configure more parameters as an option:

- TIME SERVER
- ROUTING
- DNS
- MANAGEMENT PROFILES
    1. User name and password
    2. SNMP
- SECURITY
    1. WEP
    2. ACS
    3. WLSE

CAVEATS

SBC was not able to conduct a formal site assessment prior to submitting this proposal. Therefore, pricing is considered budgetary and based on the following deliverables:

1. Wireless Site Survey
2. Equipment Install
3. Radio Configurations (for test purposes only)
4. Quality of Service walk through and testing
5. Pricing is based on installation per AP/Bridge (per SBC)

SBC addresses the installation of CAT5 cable for the Access Point in a separate Scope of Work. The customer is responsible for any required electrical infrastructure.

SBC will use industry best practices to install all equipment. Any cable or ground wire needing to be placed in conduit will need to be addressed during a walk through with SBC/SSAISD facilities. Any special requirements from the SBC/SSAISD/facilities department will require a meeting, and change orders before adds, moves or changes take effect.

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Any adds, moves, or changes to the portables and main campus after the site survey has been conducted, will affect the timeline and equipment quantities shown on the bill of materials. All changes will need to be adjusted with a change order. Any equipment needed in addition to that which is listed on the 470, will need to be procured by the customer.

During the post installation walk through SBC is responsible for the following:

1. All Radio(s) are operational
2. Minimal radios configuration (for test purposes only)
3. SBC staff will ensure all extra material and debris related to the wireless install will be disposed of.
4. Verify SSAISD sign off per campus location.
5. Pricing does not include any physical hardware outside of any equipment listed in the Bill of Materials.

Site Installations (Erate Eligible):

Armstrong Elementary School

SBC will upgrade one existing Cisco Catalyst 6500 switch. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Four (4) existing 10/100 modules will be replaced with four (4) 10/100/1000 POE modules. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

SBC will install and configure one (1) Cisco 6506 switch. This device will also be configured with dual Supervisor 720 modules (also configured using RPR+). Additionally, this switch will be configured with four RJ45 10/100/1000 POE modules. Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core. This configuration will include creation of up to 5 VLANs, configuration of Layer 3 interfaces (physical and virtual), dynamic routing (e.g. EIGRP), multicast, and Quality of Service (QoS). Note that configuration of Customer LAN devices not included in the attached BOM will be the sole responsibility of the Customer.

SBC will install and configure one (1) Cisco 3750 POE switch will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Twelve (12) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Athens Elementary School

SBC will upgrade two existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with seven (7) 10/100/1000 POE modules among the two switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies in each switch. All

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existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

SBC will install and configure one (1) Cisco 6506 switch. This device will also be configured with dual Supervisor 720 modules (also configured using RPR+). Additionally, this switch will be configured with four RJ45 10/100/1000 POE modules. Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core. This configuration will include creation of up to 5 VLANs, configuration of Layer 3 interfaces (physical and virtual), dynamic routing (e.g. EIGRP), multicast, and Quality of Service (QoS). Note that configuration of Customer LAN devices not included in the attached BOM will be the sole responsibility of the Customer.

SBC will install and configure three (3) Cisco 3750 POE switch will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Ten (10) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Benavidez Elementary School

SBC will upgrade two existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with eight (8) 10/100/1000 POE modules among the two switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies in each switch. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

SBC will install and configure one (1) Cisco 6509 switch. This device will also be configured with dual Supervisor 720 modules (also configured using RPR+). Additionally, this switch will be configured with four RJ45 10/100/1000 POE modules. Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core. This configuration will include creation of up to 5 VLANs, configuration of Layer 3 interfaces (physical and virtual), dynamic routing (e.g. EIGRP), multicast, and Quality of Service (QoS). Note that configuration of Customer LAN devices not included in the attached BOM will be the sole responsibility of the Customer.

SBC will install and configure three (3) Cisco 3750 POE switches will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Sixteen (16) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Carillo Elementary School

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SBC will upgrade two existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with seven (7) 10/100/1000 POE modules among the two switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies in each switch. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

SBC will install and configure two (2) Cisco 3750 POE switches will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Twelve (12) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Five Palms Elementary School

SBC will upgrade one existing Cisco Catalyst 6500 switch. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Four (4) existing 10/100 modules will be replaced with four (4) 10/100/1000 POE modules. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

SBC will install and configure one (1) Cisco 6509 switch. This device will also be configured with dual Supervisor 720 modules (also configured using RPR+). Additionally, this switch will be configured with four RJ45 10/100/1000 POE modules. Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core. This configuration will include creation of up to 5 VLANs, configuration of Layer 3 interfaces (physical and virtual), dynamic routing (e.g. EIGRP), multicast, and Quality of Service (QoS). Note that configuration of Customer LAN devices not included in the attached BOM will be the sole responsibility of the Customer.

SBC will install and configure one (1) Cisco 3750 POE switch will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Twelve (12) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Hutchins Elementary School

SBC will upgrade two existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will

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be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with seven (7) 10/100/1000 POE modules among the two switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies in each switch. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

SBC will install and configure one (1) Cisco 3750 POE switch will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Fourteen (14) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Kindred Elementary School

SBC will upgrade three existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with nine (9) 10/100/1000 POE modules among the three switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies on one switch. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

SBC will install and configure two (2) Cisco 3750 POE switches will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Twelve (12) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Palo Alto Elementary School

SBC will upgrade two existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with six (6) 10/100/1000 POE modules among the two switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies in each switch. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

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SBC will install and configure five (5) Cisco 3750 POE switches will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Sixteen (16) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Price Elementary School

SBC will upgrade two existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with six (6) 10/100/1000 POE modules among the two switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies in each switch. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

SBC will install and configure one (1) Cisco 6506 switch. This device will also be configured with dual Supervisor 720 modules (also configured using RPR+). Additionally, this switch will be configured with four RJ45 10/100/1000 POE modules. Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core. This configuration will include creation of up to 5 VLANs, configuration of Layer 3 interfaces (physical and virtual), dynamic routing (e.g. EIGRP), multicast, and Quality of Service (QoS). Note that configuration of Customer LAN devices not included in the attached BOM will be the sole responsibility of the Customer.

SBC will install and configure four (4) Cisco 3750 POE switches will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Twelve (12) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Royalgate Elementary School

SBC will upgrade two existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with five (5) 10/100/1000 POE modules among the two switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies in each switch. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

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SBC will install and configure five (5) Cisco 3750 POE switches will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Sixteen (16) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Shepard Middle School

SBC will upgrade two existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with eight (8) 10/100/1000 POE modules among the two switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies in each switch. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

SBC will install and configure one (1) Cisco 6509 switch. This device will also be configured with dual Supervisor 720 modules (also configured using RPR+). Additionally, this switch will be configured with four RJ45 10/100/1000 POE modules. Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core. This configuration will include creation of up to 5 VLANs, configuration of Layer 3 interfaces (physical and virtual), dynamic routing (e.g. EIGRP), multicast, and Quality of Service (QoS). Note that configuration of Customer LAN devices not included in the attached BOM will be the sole responsibility of the Customer.

Fifteen (15) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Kazen Middle School

SBC will upgrade three existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with eleven (11) 10/100/1000 POE modules among the three switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies in each switch. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

SBC will install and configure two (2) Cisco 6509 switches. This device will also be configured with dual Supervisor 720 modules (also configured using RPR+). Additionally, this switch will be configured with four RJ45 10/100/1000 POE modules. Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core. This configuration will

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include creation of up to 5 VLANs, configuration of Layer 3 interfaces (physical and virtual), dynamic routing (e.g. EIGRP), multicast, and Quality of Service (QoS). Note that configuration of Customer LAN devices not included in the attached BOM will be the sole responsibility of the Customer.

Fifteen (15) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Dwight Middlle School

SBC will upgrade four existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with fifteen (15) 10/100/1000 POE modules among the four switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies in each switch. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

SBC will install and configure three (3) Cisco 3750 POE switches will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Twenty (20) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

South San High School

SBC will upgrade six existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with twenty-four (24) 10/100/1000 POE modules among the six switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies in each switch. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

SBC will install and configure twenty-four (24) Cisco 3750 POE switches will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Thirty (30) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

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West Campus High School

SBC will upgrade two existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with thirteen (13) 10/100/1000 POE modules among the two switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies in each switch. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

Fifteen (15) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Alternative School

SBC will upgrade three existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Seven (4) existing 10/100 modules will be replaced with nine (9) 10/100/1000 POE modules among the three switches. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies in each switch. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

Twelve (12) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Robert C. Zamora Middle School

Twenty-Five (25) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Site Installations (Non-Erate Eligible):

Special Programs Building

SBC will install and configure one (1) Cisco 3750 POE switch will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Two (2) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be

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included in the installation. The customer may request additional features through the SBC Change Order process.

Student Appraisal Center

SBC will install and configure two (2) Cisco 3750 POE switches will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Three (3) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Parent Development Center

SBC will install and configure two (2) Cisco 3750 POE switches will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Three (3) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Food Services

SBC will install and configure one (1) Cisco 3750 POE switch will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

One (1) Cisco 1231G Access Point will be distributed at a location determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Warehouse

SBC will install and configure one (1) Cisco 3750 POE switch will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

One (1) Cisco 1231G Access Point will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Central Office

SBC will upgrade four existing Cisco Catalyst 6500 switches. The existing SUP-1A supervisor modules and fan kit will be replaced with two (2) SUP-720 supervisor modules and a new fan kit. The supervisor modules will

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be configured for redundancy using RPR+. The existing chassis modules will be rearrange to accommodate the new locations for the SUP-720 modules. Fiber Uplink cables will transition from the old SUP Modules to the new SUP Modules. SBC assumes that the existing Fiber Patch Panel provides ST terminated connections. Four (4) existing 10/100 modules will be replaced with four (4) 10/100/1000 POE modules. Existing Ethernet patch cabling will transition from the old line cards to the new line cards. The existing 1300Watt power supplies will be replaced with two (2) 6000Watt power supplies. All existing configuration will be migrated from the existing configuration. Custom parameters for specific features can be priced as a change order to this SCOW.

SBC will install and configure eight (1) Cisco 3750 POE switches will be installed and configured in the Customer identified IDF. These devices will be configured for basic connectivity, with up to 5 VLANs configured and up to 10 Layer 3 interfaces (physical or virtual). Should SBC be awarded this project, SBC engineers will work with the Customer to configure this device for integration into the Customer's network core.

Four (4) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Anna Marie Hernandez Community Learning Center

Six (6) Cisco 1231G Access Points will be distributed at locations determined by the Wireless Site Survey. No access Points will be mounted above the ceiling. Basic system parameter such as IP Address, SSID, and RF Channel will be configured. No security features such as WEP or WPA or any other wireless features will be included in the installation. The customer may request additional features through the SBC Change Order process.

Testing & Acceptance Procedures :

Wireless

SBC will utilize an 802.11b/g client to verify an association to each individual installed Access Point.
SBC will verify IP communications through each Access Point by pinging an specific device on the customer Internal LAN. SBC and the customer will coordinate which device on each campus to utilize as the PING test point. The Test Device must be accessible prior to the PING test.

Switches

SBC will utilize a wired IP client to connect to each installed switch.
SBC will verify IP communications through each switch by pinging an specific device on the customer Internal LAN. SBC and the customer will coordinate which device on each campus to utilize as the PING test point. The Test Device must be accessible prior to the PING test.

Project Details

Please ensure all relevant details (such as those listed below) and other information that you feel is important is included in the Scope of Work.

- Bill of Materials (if applicable, it may be provided as an electronic attachment). **Attached**
- Network drawings or diagrams that exist as an electronic attachment or paste them into this document. **Attached**
- How many sites? 17 **Erate sites, 7 non-Erate sites**
- Where are the sites located (City, State)? **San Antonio, TX**
- How many closets per site? **one**
- Which equipment at which site (if multiple sites)? **Reference BOM**
- What applications is the customer using? **IP data**
- What existing equipment will the new equipment be integrating with? **Cisco 6500 switches**
- Is the customer having network problems we should know about?
  - If YES, explain: No
- What time of day will the job take place? Normal Business Hours (8 AM-5 PM, Mon-Fri) **Evening or Night Hours (5 PM-8 AM, Mon-Thur)**
- Is weekend or holiday work required? **No**
- How many phases (if more than one) and the target dates? **negotiable**
- What are the customer's expectations surrounding this project? **Full network upgrade**
- What is the customer's testing criteria for project completion (if not provided, a standard ping test will be performed)?
- What else do we need to know to be successful?

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- What protocols will we be working with? Check ☒ each selected protocol.

Network Protocols	Bridge Routing Protocols	Local Area Network Protocols	Wide Area Network Protocols
☒ TCP/IP	☐ Source Route Bridging	☒ 10/100 Base-T	☐ ATM
☐ IPX	☐ Transparent Bridging	☒ Gigabit Ethernet	☐ Frame Relay
☐ Apple Talk	☐ Translational Bridging	☐ ATM	☐ ISDN
☐ NetBEUI	☐ Source Route Transparent Bridging	☐ FDDI	☐ SMDS
☐ DECnet	☐ Spanning Tree	☐ Token Ring	☐ PPP/SLIP
☐ SNA	☐ Other:	☐ LocalTalk	☐ X.25
☐ Vines IP		☐ Other:	☐ HDLC
☐ Arcnet			☐ APPN
☐ Other:			☐ SDLC
			☐ Other:

Pricing Summary

Travel and expense will be additional costs.
Engineer scheduling will be solidified upon receipt of a purchase order.

Assumptions

- SBC DataComm typically requires a minimum two (2) week installation lead time after receipt of SBC DataComm's **Project Installation Guide (PIG)** network configuration information. Less than two (2) weeks lead-time is considered an emergency implementation and will be assessed a premium charge.
- All installations will be performed during normal business hours: Monday through Friday, 8:00AM to 5:00PM.
- Any projects that are performed during non-business hours or weekends at the customer's request, will be billed at SBC DataComm's standard overtime, weekend, or holiday rates.
- All work will be performed over a consecutive time frame, unless otherwise specified.
- If necessary, SBC DataComm will add to the order via SBC DataComm's standard change order process any network or wiring components required to complete the installation.
- If any equipment supplied by SBC DataComm is found to be defective during the installation, SBC DataComm will replace the equipment at no extra charge and complete the installation as specified.
- Any delays experienced while an SBC DataComm engineer is on-site due to customer infrastructure or wide area network provider problems will be billable at SBC DataComm's applicable hourly rate schedule.
- SBC DataComm reserves the right to charge customers for the full amount of the installation in the event that the customer cancels or reschedules any installation without 3 days prior written notice. Cancellation or rescheduling with less than 3 days notice will result in a cancellation charge.

Customer Responsibilities

The customer will be responsible for providing all site preparation including:

- Installation of all site wiring (power and signal, path and lengths).
- Installation of necessary power distribution boxes, conduits, groundings, lightning protection, connectors, and associated hardware.
- Installation of power outlets located within five feet of the equipment to be installed.
- Any building alterations necessary to meet wiring and other site requirements.
- Environmental modifications as required for the hardware.
- Installation and verification of operation for all equipment not supplied by SBC DataComm, but required for installation (e.g. workstation, transceiver, and so on).
- Configuration parameters for each protocol (IP, IPX, and so on) to be configured on each network hardware component or module, including all necessary addressing requirements. **This information is required prior to the on-site arrival of the SBC DataComm Field Engineer.**
- A proper rack or desktop in/on which the hardware will be installed.
- Preparing site according to the site preparation guide provided by SBC DataComm and completing the Project Installation Guide (PIG).
- All cable plant, Network Operating System (e.g. Novell, NT, Unix), network drivers, application software, and testing for systems not supplied by SBC DataComm.
- **Any delays due to the above items are billable at SBC DataComm's hourly rate for engineer time plus travel and expenses.**
- **If the information provided by customer is incorrect or incomplete, SBC DataComm shall have the right to charge customer for any increase in costs incurred or time expended by SBC DataComm due to such error or omission.**

SBC Responsibilities

SBC DataComm will provide a trained engineer to install the network hardware at the customer location. Installation includes the following:

- Perform a technical assessment (verbal or physical) of the premises prior to installation.
- Unpack and inventory all appropriate hardware and documentation.
- Mount hardware in appropriate rack or on appropriate surface.
- Install hardware module cards (modular chassis only).
- Connect hardware together (stackable units only).
- Connect hardware to network (1 test workstation only).
- Power on hardware.
- Configure necessary parameters for all protocols being used, as supplied by customer. This includes addressing information, subnet mask, SNMP configuration, and so on.
- Provide verbal overview to customer's designated systems administrator of basic network hardware unit setup.
- SBC DataComm will be responsible for physical layer connectivity testing of networking hardware only. All other cable plant, Network Operating System (e.g. Novell, NT), and application software testing will be the responsibility of the customer.
- SBC DataComm is not responsible for any loss of customer's data or network system security.

Any additional work to be performed outside of this Statement of Work will require additional charges.

Completion Criteria

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SBC DataComm will have satisfied its obligations to the customer under this Scope of Work when the tasks listed under SBC DataComm Responsibilities are completed.

Financial Responsibility

Payment subject to the initial and continuing credit approval, terms of payment are net 30 days of SBC DataComm's invoice date. Invoices for Service may be issued in advance of the actual performance of the Service. All payments are to be made in U.S. dollars. In the event payments are overdue and such delinquencies are not remedied within ten (10) days after receipt of written notice from SBC DataComm, SBC DataComm may terminate this agreement. SBC DataComm reserves the right to charge the Customer interest on overdue accounts. The interest rate will be based on the lessor of 1.5% per month or the maximum rate allowed by applicable laws applied to the unpaid purchase price.

Customer Signature

The customer, by signing below, indicates that the Statement of Work has been read and the terms outlined within have been accepted. This Statement of Work is part of SBC DataComm's Product and Services Agreement. Pricing for the installation of the products for this Statement of Work is provided in SBC DataComm's attached quote. The customer also is aware that any delays incurred because of any of the reasons listed in the Customer Responsibilities section is considered billable time. Any questions concerning SBC DataComm's responsibilities and the work to be done should be directed to the SBC DataComm representative.

Customer's Name:

Name: _____

Company: _____

Date : _____

SBC DataComm Representative:

Name: _____

Location: _____

Date: _____

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SBC DataComm Project Management Services – Statement of Work

Customer Information

Customer Information			
Customer Name	South San Antonio ISD		
Customer Address	2515 Bobcat Lane		
Customer Email			
Contact Position	Contact Name	Contact Number	Pager Number
Purchasing Dept.		210-977-7070	

Please note that this information is required for **all** locations on a project. This information may be provided as a separate spreadsheet.

SBC DataComm Information

Position	Name	Contact Number	Pager Number
Outside Sales	Ken Ross	210-633-5595	
Inside Sales	Wes Bryant		
Systems Engineer	Edmundo Lopez III	210-633-5694	
Core Account Manager	Janna Kloss	210-633-5612	
Sales Manager			
Provisioning Contact			

Contract Documentation

Work to be completed by SBC DataComm will be governed by the Terms & Conditions set forth via the following ***required*** documents:

- ☐ Current version of **SBC Master Agreement** (Agreement No. _____, signed in year) having the following attachments;
  - ☐ **Attachment A** – Terms and Conditions for non-regulated CPE and Services, and
  - ☐ **Professional Services Addendum** to Master Agreement, and
  - ☐ **SBC DataComm CPE – Scope of Work** with a **Network Diagram** and **Bill of Materials** (BOM), and
  - ☐ receipt of Customer's **Purchase Order** (also establishes the Project's actual Start Date).

Or ☐ Current version of SBC DataComm **Equipment and Services Agreement** (ESA No. _____, signed in year), and

- ☐ **SBC DataComm CPE – Scope of Work** with a **Network Diagram** and **Bill of Materials** (BOM), and
- ☐ receipt of Customer's **Purchase Order** (also establishes the Project's actual Start Date).

Or ☐ **Custom Contract** supplied by Customer and reviewed/approved by SBC Legal, and

- ☐ **SBC's Response** to Customer's Request for Proposal (RFP) due on *mmm dd, yyyy*, and
- ☐ **SBC DataComm CPE – Scope of Work** with a **Network Diagram** and **Bill of Materials** (BOM), and
- ☐ receipt of Customer's **Purchase Order** (also establishes the Project's actual Start Date).

Basic Project Information

Project Title: ***Network Infrastructure Upgrade Project***

No. of Sites involved: ***17 E-rate & 7 non-erate***

Site Location(s): *San Antonio, Texas*

Customer's Project Mgr location: *San Antonio, Texas*

Other SBC Services included:
- ☒ Professional Project Mgmt.
- ☒ Design / on-site Engineering
- ☒ Staging Center
- ☐ Network (SBC, ASI, LD, telco)
- ☒ Installation
- ☒ Structured Cabling
- ☒ Maintenance and/or monitoring

Please note, SBC DataComm PMs do not manage telco circuit installations, but will interface with the Acct Team or SBC Network PMs if requested.

SBC subcontractor or 3rd party services: *TBD*

Basic Solution & Mfg.: *Cisco 1231G Wireless Access Points, Cisco Catalyst 6506E & 6509E switches, Cisco Catalyst 3750-24 and 3750-48 switches, POE line cards, 6000w power supplies, fan kits, and SUP720 supervisor engines, cabling drops for wireless access points.*

Estimated Start Date: *07/15/05*

Estimated Completion Date: *04/15/06*

PM Involvement: ☐ Dedicated full-time ☐ mostly on-site ☒ Less than full-time ☒ remote

PM Contact: John Cooke 512-377-7082

Project Management Services Statement of Work

Upon receipt of required Contract Documentation, SBC DataComm will provide overall project management services over the various requirements specified within the **SBC DataComm CPE - Statement of Work** (Project SOW) for the project. The effort includes a phased approached to the planning, configuration, staging, construction and implementation of the proposed networking services and equipment being provided.

SBC DataComm's Project Management group performs traditional project management on data, voice, video CPE and other data networking projects as a professional service. SBC Project Managers are experienced in *classical* Project Management as well as the technologies of data communications. The SBC Project Manager's motivation is to help Customers achieve networking success by ensuring that their project is implemented on time, within budget, using best in class technology and meeting all agreed upon stakeholder requirements

The project is defined within the related **SBC DataComm CPE – Scope of Work** (along with other relevant information such as RFP, Network Diagram, BOM, etc) as generally requiring *staging, configuration, and installation of (264) Cisco 1231G Wireless Access Points, (2) Cisco Catalyst 6506E & (5) 6509E switches, (13) Cisco Catalyst 3750-24 and (41) 3750-48 switches, (4) POE line cards, (42) 6000w power supplies, (39) fan kits, (78) SUP720 supervisor engines, and cabling drops for all WAPs for the E-rate*

eligible school locations. For the non-E-rate schools, SBC proposes to stage, configure, and install (20) Cisco 1231G Wireless Access Points, (11) Cisco Catalyst 3750-24 and (4) 3750-48 switches, (4) POE line cards, (8) 6000w power supplies, (4) fan kits, (8) SUP720 supervisor engine, and cabling drops for all WAPs.

Before any hardware is ordered, SBC suggests a design review to ensure the system will perform to meet Customer expectations, as equipment often times cannot be returned to the manufacturer due to an incorrect design.

Project Management Responsibilities

SBC DataComm Project Management shall serve as the primary point of contact for all project related communications and activities. The Project Manager (or PM team) shall provide oversight of the organization, direction and control of all efforts needed to successfully complete the contracted Project requirements.

The SBC Project Manager works diligently to ensure the work;

- is executed safely, and in a quality workmanship manner,
- has been properly sequenced and synchronized for efficient and effective use of all available resources,
- performed within the agreed upon time and budget constraints,
- provides the desired performance and quality levels to meet the requirements of the contractual specifications and in a manner that best reflects the professionalism of SBC.

Project Management Activities and Deliverables

SBC DataComm provides Full Network Life Cycle Solutions based on the guidelines of the Project Management Institute (PMI®). PMI® organizes project management processes into five groups - Initiating, Planning, Executing, Controlling and Closing – each being interlinked to the others throughout the life of the Project.

The level of detail warranted for each of the Project Management deliverables listed herein will be determined by the assigned Project Manager based on the scale and complexity of the Project. The SBC Project Manager will review deliverables with the Customer and will advise on the application, structure and detail to be provided.

Initiation Process: SBC Project Management typically works with the Account Team to understand the needs of the Customer and the solution(s) proposed. Once assigned, the Project Manager's activities to initiate the Project include;

A. Reviews all Contract documents for thoroughness, appropriate approvals and dissemination.

B. Retains copy of Customer's Purchase Order & Contract documentation for reference and to set Project's Start Date.

C. Studies all relevant SBC DataComm provided Scope(s) of Work, Network Design(s) and Bill(s) of Materials.

D. Reviews entries made into SBC DataComm's internal ordering, billing and tracking systems for completeness.

E. Draft's the Project Summary Statement (Charter) describing the services & equipment, locations and major issues.

F. Begins dialogues to identify available resources and Project Team personnel. Researches the expected availability of proposed equipment and/or subcontractor resources.

G. Finalizes subcontractor agreements, invoicing terms, responsibilities and organization (when required).

H. Reviews or develops high-level Project Milestone Schedule usually with durations in lieu of actual dates.

I. Assembles concise list of Proposal Assumptions and drafts a list of any known Project Constraints.

J. Creates the Project website and inputs initial information.

K. Initiates internal executive reporting for upper management support of the Project within SBC DataComm.

Planning Process: The SBC Project Manager works with the Customer and Project Team to develop a detailed Project Plan as a road map to reach a successful outcome of the Project. The most significant responsibility of Project Management is planning. This process phase is usually one of the busiest for the Project Manager and often has the most Project Management deliverables. Deliverables from the planning process include:

A. Organizes and leads Project Kick-off Meeting(s) with appropriate SBC and Customer Team personnel.

B. Drafts the Project Overview document to provide an overview perspective of the Project.

C. Reviews all Contract Documentation and SOW(s) to develop concise list of all Project Deliverables.

D. Develops a detailed Project Communications Plan including; the Contact List, Project Organization Chart, Escalation, Executive Review Committee, Responsibility Matrix, Software Applications being used to generate correspondence and reports, Documentation List, Project website and archive, expected Project Reports & meetings and their frequency.

E. Uses list of Project Deliverables to develop Work Breakdown Structure (the project elements).

F. Organizes the Work Breakdown Structure (WBS) within the proposal major milestones to set dates and dependencies.

G. Reviews WBS with Customer for priorities, sequencing and direction within major milestone durations.

H. Works with Project Team and WBS to identify specific tasks, durations & dependencies to create the Project Schedule.

I. Uses WBS and Project Schedule to develop Responsibility Assignment Matrix (RAM).

J. Notifies field forces of upcoming work requirements.

K. Verifies and documents the Project Budget and establishes a Schedule of Values (if required).

L. Prepares expected Procurement Plan indicating when equipment should be ordered and when delivery is needed throughout the Project's phases.

M. Develops a concise Invoicing Plan identifying agreed upon terms, requirements, triggers and expected dates.

N. Prepares a Project Quality Plan to ensure all agreed upon stakeholder requirements are met and equipment and services perform as expected.

O. Reviews and finalizes Test & Acceptance Criteria with the Engineer and Customer.

P. Prepares a Risk Assessment and Response Plan with quantified risk events and possible contingencies.

Q. Uses the WBS and RAM with the Project Team to develop the Implementation Plan covering Design, Staging, Site Readiness, Installation, and hand-off to ongoing maintenance and monitoring services (if sold).

R. Develops formal Change Order Control Process outlining how changes to the Project SOW(s) will be communicated and agreed upon should the need occur. Reviews with Customer for concurrence.

S. Solicits and obtains documented Engineers' Design and Engineering Commitment forms.

This Agreement is for use by authorized employees of the Parties and is not for general distribution in or outside the respective companies.

T. Schedules completion of Product Implementation Guide (PIG) development and design 'freeze' so Installation can begin as needed.

U. Prepares Test and Acceptance Plan for field resources to follow based on the agreed upon criteria.

V. Plans for post-installation activities including testing, training, maintenance, and hand-off.

Execution Process: The SBC Project Manager coordinates and directs the various technical and organizational resources that are assigned to the project. Leadership, communication and negotiation skills are essential to effective project execution for the Project Manager. The Project Manager performs the following activities as part of the Project's Execution or Implementation Process.

A. Drives the project using the Project Timeline prepared during the Planning Phase. Creates a dynamic Action List to track issues as they develop, who should resolve, and the results.

B. Organizes, leads and reports developments of Project Team meetings such as status report meetings, project planning meetings and design review meetings.

C. Receives and reviews all specifications and drawings (considered to be accurate and complete by SBC Engineering) and distributes to field forces as needed.

D. Integrates the schedule of Customer's on-site contacts, SBC Staging Center (for delivery of made-ready network electronics), installation forces, contractors and others to allow timely arrivals to the site per the Project Plan.

E. Oversees activities for gaining access to Customer facilities.

F. Reviews the work to be performed prior to its inception to ensure all site prerequisites are met. If errors or omissions are found, the Project Manager will document the issue, establish the responsible party to resolve, and attempt to coordinate and reschedule work forces to other areas to continue making progress.

G. Ensures training facilities, arrangements and schedules are established for end-user orientation training (if sold).

H. Coordinates the activities of the Project Team, vendors, sub-contractors and Customer's site contacts to schedule work so as to minimize disruption to on-going operations.

I. Supervises and tracks the work performed by the Implementation Team, installation and/or sub-contractors in the field. Collects, reviews and takes any needed actions indicated by field reporting.

J. Oversees and coordinates the activities of labor forces to help ensure safety, quality and provide problem resolution.

K. Triggers and keeps current on the status of equipment deliveries, progress within the SBC Staging Center, shipment to the job site, and any "dead on arrival" (DOA) equipment returned to the manufacturer for repair or replacement.

L. Works and directs efforts needed to remove roadblocks that may arise during the implementation of the project.

M. Updates the Project Timeline, reviews the project for jeopardy, prepares status reports, and acts as single point of contact for the SBC Project Team.

N. Works with Customer and Project Team to ensure all sites are complete, tested, and accepted pursuant to the Test/Acceptance criteria from the Engineer.

O. Collects from SBC Staging Center and field forces up-to-date configuration, shipment, and serial number data to be submitted to the Customer for SBC supplied components.

P. Triggers Invoices for Payment as work progresses according to Invoicing Plan.

Q. Approves subcontractor invoices for work performed to specs.

Controlling Process: The SBC Project Manager ensures that project objectives are met by monitoring and controlling project activities, which may include corrective actions. Variances to the Project Plan are continually evaluated and adjustments are made if necessary. These adjustments may occur throughout the life cycle of the project. The Project Manager;

A. Ensures verification of the Project Scope through several on-going activities that include;
- reviewing project SOWs, BOMs, Contracts & RFPs,
- discussion during project meetings,
- developing and maintaining the Project Schedule and
- establishing acceptance criteria.

B. Controls changes to the Project Scope;
- via established Change Control processes,
- by verifying that activities are compliant with specifications,
- by monitoring the Project and updating the Project Plan.

Changes to the SOWs, Schedule or other accepted documents will be made under the terms of the Contract and must be coordinated through the SBC Project Manager.

C. Controls Project Schedule by;
- monitoring & reporting task progress versus schedule,
- managing critical path activities,
- triggering equipment deliveries and field forces, and
- maintaining the Project Schedule.

D. Confirms adherence to quality standards and monitors Customer satisfaction by;
- ensuring specifications and designs are reviewed, approved and forwarded to field forces,
- reviewing processes to ensure effectiveness,
- striving to foresee and mitigate Project Risks, and
- acting as single point of contact, responsible for overall Project success.

E. Gathers, prepares, documents and disseminates Project information and Performance Reports via;
- Status Reports,
- progress made versus Project Schedule,
- accomplishments to date, and
- upcoming Project tasks (looking ahead).

F. Monitors Project for Risk Events and Control by;
- reviewing and updating the Risk Assessment,
- taking mitigation steps to avoid risks identified,
- publishing Jeopardy Notices if warranted, and
- by suggesting changes to the Project to avoid potentially negative occurrences.
- soliciting, compiling, documenting, evaluating, proposing, and implementing process changes to improve Customer satisfaction and/or to reduce project risk(s).

Closure Process: The SBC Project Manager will pursue an orderly conclusion to the Project's installation and the formal acceptance by the Customer in order to transition to post-installation support (such as monitoring & maintenance). The SBC Project Manager performs the following activities towards achieving project closure.

A. Consolidates test/acceptance records for the Customer.

B. Solicits, consolidates, and works with appropriate parties to clear punch items.

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C. Makes sure long-term maintenance and support organizations have appropriate documentation and contact information is provided to the Customer for on-going support.

D. Solicits and consolidates key project documents and 'As-Built' drawings into project binder(s) or project CD(s).

E. Compares the list of Project Deliverables with work performed to ensure the project is complete per the requirements.

F. Reviews all Status Reports and Action Items to ensure all items have been resolved.

G. Obtains Customer Acceptance of the work performed and/or ensures all conditions and deliverables are adequately finished so that the Project can be considered complete.

H. Reviews financial systems to ensure all bills are paid and invoices have been delivered per the Invoicing Plan.

I. Reviews and documents any 'Lessons Learned' for continuous process improvements.

J. Releases SBC resources & disengages from the completed Project.

Project Website: As a value-added feature and to further facilitate effective communications, the SBC Project Manager will have a project web-site established via SBC DataComm's Electronic Project Management Office (ePMO). This web-based tool provides easy access to information concerning the project, 24 hours a day, 7 days a week via the Internet. It is a repository for all project related files including Statements of Work, status reports, project plans, the communications plan, contract documents and other project-related information. To address security concerns, access to the ePMO is controlled through unique User ID and Password combinations initiated by the Project Manager.

Assumptions

SBC DataComm Project Management Services are based on the following standard assumptions;

A. Information used to prepare this SOW is relative to the current conditions of the sites, expected schedule, adequacy and accuracy of site information, expected responsiveness and decisiveness of Customer's organization, the thoroughness of legacy network addressing and design, and expected access to the work provided by the Customer.

To save the Customer the cost of a due diligence survey, SBC has relied on the information provided by the Customer and will not be responsible or held liable for any damages, costs or schedule delays that result from errors or omissions in such information. If subsequent to the project start, SBC discovers that conditions are materially different from those presented, SBC shall be entitled to suspend performance, require increased compensation, and/or time for completion.

B. SBC Project Managers do not personally design, install, connect or test network cabling, electronics or components but rather work to have such appropriate personnel engaged on the Project to meet SBC's contractual commitments.

C. Unless specifically identified otherwise within the Project SOW, all installations are assumed to be performed during normal business hours (Monday through Friday, 8AM to 5PM). Any work performed during non-business hours or weekends at the customer's request will be billed at SBC's standard overtime, weekend or holiday rates. If the Customer's specifications require that cut-overs take place during off-hours it shall be understood that the racking of equipment and other preparations will be performed during normal business hours, as will be the main body of the Project Manager's work. All Project-related work will be performed over a consecutive time frame, unless otherwise specified.

D. SBC Project Managers typically work from SBC DataComm offices unless full-time, on-site representation is explicitly required or when the SBC Project Manager determines that on-site visits are needed.

E. Travel and expenses (T&E) will be added on a pass through basis when the project requires the Project Manager to visit sites. T&E will be invoiced and available for audit upon request. If so directed by the Customer, the Project Manager will submit travel plans and costs for review by the Customer prior to incurring the expense. Travel and expenses could include airfare, hotel, rental car and meals as applicable.

Project Specific Assumptions and Constraints

Based on the available Project information, SBC DataComm Project Management has considered the following additional assumptions and constraints;

- *All Acknowledgement or Engagement Forms will be signed by Customer before the scheduled Design Review and prior to staging of any equipment.*
- *Equipment will be tested & accepted at each site on the day of installation to maximize onsite resources.*
- *SBC will invoice per the agreed upon invoicing plan.*
- *Any site not ready by scheduled date will be moved to the end of the schedule.*
- *All equipment will be shipped from SBC Staging Center to a centralized customer location and held until ready for install.*
- *Customer will provide SBC with AutoCAD drawings of the proposed electrical systems showing all voice, data, POS, security, and other wiring locations to be installed by SBC.*
- *Customer will facilitate meeting with Architect, General Contractor, and/or Electrician installing conduit and wiring pathways in order to establish the appropriate responsibilities among all parties.*
- *SBC will invoice customer for all materials upon its delivery to the site and for all installation and Project Management services according to the schedule detailed in the invoicing section below.*
- *All wiring jack locations must be approved in writing by the customer before installation of the structured cabling solution can begin.*
- *The high level timeline, and subsequent pricing contained in this SOW assumes that SBC can proceed through the installation of all wiring activities on consecutive weeks without interruption.*

Customer Responsibilities

In order for the SBC Project Manager to effectively manage the scale and complexities of the Project, the Customer hereby agrees to the following responsibilities.

A. During the project, SBC will need assistance from Customer to gain access to facilities. Customer will provide the required access as scheduled along with any Customer-required identification badges, background checks, and/or drug screenings if necessary.

C. The Customer will provide a single point of contact (SPOC) through whom information, decisions and assistance can be obtained rapidly. The SPOC shall participate as a vital member of the Project Team, attend scheduled meetings,

participate in Project discussions and actively provide updated information and decisions from the Customer's organization.

D. As networking electronics arrive at SBC DataComm's Staging Center, necessary configuration information such as IP addresses, naming conventions, VLAN and trunking groups, routing parameters, quality service levels, bandwidth levels, multicast/broadcast support, security features, etc. not already provided within the project documentation shall be developed by the SBC Engineer (or Sales Specialist) working with the Customer's SPOC (or designated representative). This documentation is referred to as a "Product Implementation Guide" (PIG). Customer shall sign-off and accept this documentation before it is forwarded within SBC to the Staging Center staff to begin configuring the equipment. SBC needs the Customer's consent of this documentation in the time needed to continue the installation as planned.

E. In rare cases where Customer chooses to provide networking equipment and retain SBC for Project Management and Field Installation services only, Customer shall be responsible for providing such equipment within the pre-defined schedule ensuring all components are viable (or making suitable on-site arrangements to overcome faulty, "DOA" or defective hardware), having the appropriate version of operating system software, and properly configured with applicable network addresses, naming conventions, routing, etc. Customer shall also provide specific equipment listings for each site to SBC prior to the dispatch of field personnel.

F. Any delays or changes to the work due to or caused by Customer (or forces under the control of the Customer such as General Contractors, trade workers, security access, etc) or if compliance with the schedule becomes impractical due to no fault of SBC or its subcontractors, SBC reserves the right to reevaluate and amend the pricing for the equipment and services or to submit change notice for any additional costs incurred as a consequence of such changes including additional Project Management resources. SBC assumes Customer will provide a minimum of three (3) days' notice for cancellations or reschedule notices for work scheduled at Customer locations. Where such notice is not given, SBC reserves the right to bill for cancellation charges.

H. Customer shall identify or otherwise approve in writing any/all networking equipment or infrastructure being removed or decommissioned as part of this project prior to the dispatch of field personnel to perform this service. Should such approval be delayed or unavailable, SBC shall be entitled to suspend the work until approval can be obtained in SBC's efforts to prevent inadvertent field personnel removing active, necessary network components.

I. Cutover occurs when the equipment has been delivered and installed and is ready for Customer's use. Unless specifically identified otherwise in the Project SOW, it is typically assumed Customer will have ten (10) days to test the equipment and deliver a signed certificate of acceptance or written notification of material defects to SBC. If written acceptance or notification of defect is not provided, the equipment and services shall be deemed accepted on the day of cutover.

J. SBC is entitled to increased compensation and/or time for completion where SBC encounters concealed physical conditions which differ materially from those indicated in documents provided or otherwise represented by the Customer (or its designee) or if latent physical conditions differ materially from those ordinarily found to exist and generally recognized as inherent in the installation activities required of this project, where such conditions would materially interfere with, delay or increase the cost of performance.

K. Although SBC will ascertain the existence of the pre-requisite environment prior to the work, the Customer is responsible for all timely on-site preparation (unless specifically identified as a SBC deliverable within the Project SOW), including but not limited to;

- Providing all appropriate site wiring for power, signal, grounding, and communications.
- Providing appropriate and code compliant power distribution locations, conduits, lightening protection, grounding, power outlets and associated hardware. Power outlets shall be within five (5) feet of location where equipment will be installed.
- Providing proper rack or footprint space for incoming equipment to include re-arrangement of existing components to make space for the new equipment.
- Any building alterations necessary to meet site requirements including construction (or renovation) for adequate communications rooms, closets, or facilities to include HVAC and conditioned power services as may be necessary for equipment warranties.
- Preparing site according to the site preparation guide provided by SBC DataComm and completing the Product Implementation Guide (PIG) as scheduled.
- EIA/TIA/ANSI-compliant structured cabling infrastructure.
- Activated network circuit connections from any carrier or local exchange company. Termination (demarcation point) is expected within six (6) feet of interfacing equipment installed or integrated as part of the Project.

If SBC field personnel provides cables or other ancillary equipment for expediency sake (i.e. to avoid a second trip), Customer shall be billed accordingly.

F. Customer will provide a safe work environment when on Customer's property for SBC installation personnel and sub-contractors. The Customer's obligations include, but are not limited to:

- Notifying SBC of the location, prior to the commencement of any work under this Agreement, of any environmental hazards, including, but not limited to the presence of lead and friable asbestos, which are present in the Premises;
- Removing or abating, at its expense, the risk posed by any such environmental hazards when required by law or deemed necessary by SBC; and
- Adopting, at its expense, any other work site safety measures required by law or deemed necessary by SBC.

Notwithstanding any other part of this Agreement:

- SBC shall have the right to suspend performance or to pursue any other remedies provided for under this Agreement where the Customer delays or fails to comply with this provision; and
- Where any of the measures described above are unreasonably expensive, the Customer may request that SBC suspend its performance until such time as an alternative remedy or course of performance is secured or agreed upon.

Pricing

The price for SBC DataComm Project Management Services is largely a function of the expected duration of Project Management's assignment to the project. Pricing for Project Management Services is provided in SBC DataComm's attached

quote and is based on the high-level Project Milestone Schedule included within this SOW. The Milestone Schedule has been developed using pre-contract assumptions. A detailed project Timeline and final duration will be developed and mutually agreed upon with the Customer. The Milestone Schedule is subject to change by such factors.

As the costs for Project Management Services are based on the duration of the assignment, it is assumed that once the project has started, the installation of the stated equipment within the SOW and BOM can be accomplished continuously (without start/stops) at the installation pace reflected. If the project assignment needs to be extended or delayed, SBC DataComm will attempt to make the same Project Manager available to continue based on acceptance of a Change Order Request.

The costs for Project Management Services are typically invoiced as follows:

50% after Project Kick-off Meeting
40% upon delivery of equip./materials to Customer site
10% upon final project acceptance by Customer

Milestone Schedule

SBC Project Management has developed the following high-level Project Milestones based on available information.

High-Level Milestones	Exp'td in
Contract docs signed & P.O. received	*Week #1*
Equipment and Materials Ordered	*Week #1 thru #3*
Project Planning & Initiation	*Week #1 thru #3*
Project Kick-off Meeting	*Week #4*
Design Review Meeting	*Week #4*
Project Schedule Developed	*Week #4 thru #5*
Site Surveys Completed	*Week #5 thru #7*
Equipment Delivered to Staging Center	*Week #8*
Equipment Staged and Shipped	*Week #8 thru #12*
Equipment Delivered to Customer Site	*Week #12 thru #16*
Equipment Installed	*Week #16 thru #32*
Project accepted and final Invoice created	*Week #33 thru #36*

Resources

SBC reserves up to two (2) weeks time to designate and assign the specific Project Manager(s) or Project Management Team at the receipt of Customer's Purchase Order, project scope of work and this signed statement of work. SBC's determination of the specific Project Manager(s) will be dependent on the experience, capabilities, and availability of the current Project Management staff. Every reasonable effort is made to match these skills with the locale and requirements of the project for the best possible fit. The specific qualifications of the selected Project Manager(s) or Team for this project can be provided upon request after Contract Award to SBC.

Customer Signature

The Customer, by signing below, indicates that the Statement of Work for Project Management Services has been read and the terms outlined within have been accepted. This Statement of Work is part of SBC DataComm's Product and Services Agreement. The Customer is also aware that any delays incurred because of any reasons listed in the Customer Responsibilities section is considered billable time. Any questions concerning SBC DataComm's responsibilities and the work to be done should be directed to the SBC DataComm representative.

Customer's Authorized Representative:

Name: _____

Company: _____

Title: _____

Date: _____

SBC DataComm Authorized Representative:

Name: _____

Title: _____

Date: _____

END OF DOCUMENT

SBC DataComm
4119 Broadway Room 460
San Antonio, Texas 78209
Ph: 210-633-5595
Fax: 210-804-2942
Email: kr7296@txmail.sbc.com

Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
		Armstrong Elementary School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	2	$700.00	$ 385.00	$ 770.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	1	$495.00	$ 272.25	$ 272.25
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	2	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	4	41.95	$ 34.55	$ 138.20
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	4	$14,000.00	$ 7,700.00	$ 30,800.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$45.00	$ 24.75	$ 99.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	1	$23,490.00	$ 12,919.50	$ 12,919.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	1	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	WS-C6506-E	Enh C6506 Chassis, 6slot, 12RU, No Pow Supply, No an Tray	1	$5,500.00	$ 3,025.00	$ 3,025.00
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	1	$0.00	$ -	$ -
Cisco	WS-SUP720-3B	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	2	$700.00	$ 385.00	$ 770.00
Cisco	GLC-SX-MM	GE SFP, LC connector SX transceiver	4	$500.00	$ 275.00	$ 1,100.00
Cisco	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	4	$14,000.00	$ 7,700.00	$ 30,800.00
Cisco	WS-C6506-E-FAN	Catalyst 6506-E Chassis Fan Tray	1	$495.00	$ 272.25	$ 272.25
Cisco	WS-CAC-6000W	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00
Cisco	CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$0.00	$ -	$ -
Cisco	CON-SNT-WS-C6506	8x5xNBD Service,Catalyst 6506	1	$5,250.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 6500 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	12	$899.00	$ 494.45	$ 5,933.40
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	12	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	12	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	24	$19.00	$ 10.45	$ 250.80
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	12	$72.00	$ -	$ -

SBC DataComm

SBC DataComm
4119 Broadway Room 460
San Antonio, Texas 78209
Ph: 210-633-5595
Fax: 210-804-2942
Email: kr7296@txmail.sbc.com

Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
		Athens Elementary School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	7	$14,000.00	$ 7,700.00	$ 53,900.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	2	$23,490.00	$ 12,919.50	$ 25,839.00
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	2	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	2	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	4	$500.00	$ 275.00	$ 1,100.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	2	$1,564.00	$ -	$ -
2	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	2	41.95	$ 34.55	$ 69.10
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	WS-C6506-E	Enh C6506 Chassis, 6slot, 12RU, No Pow Supply, No an Tray	1	$5,500.00	$ 3,025.00	$ 3,025.00
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	1	$0.00	$ -	$ -
Cisco	WS-SUP720-3B	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00
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Cisco	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	4	$14,000.00	$ 7,700.00	$ 30,800.00
Cisco	WS-C6506-E-FAN	Catalyst 6506-E Chassis Fan Tray	1	$495.00	$ 272.25	$ 272.25
Cisco	WS-CAC-6000W	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00
Cisco	CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$0.00	$ -	$ -
Cisco	CON-SNT-WS-C6506	8x5xNBD Service,Catalyst 6506	1	$5,250.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 6500 switches)	1	41.95	$ 34.55	$ 34.55

SBC DataComm
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Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	10	$899.00	$ 494.45	$ 4,944.50
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	10	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	10	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	20	$19.00	$ 10.45	$ 209.00
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	10	$72.00	$ -	$ -
		Benavidez Elementary School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	8	$14,000.00	$ 7,700.00	$ 61,600.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	3	$23,490.00	$ 12,919.50	$ 38,758.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	3	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	3	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	6	$500.00	$ 275.00	$ 1,650.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	3	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	3	41.95	$ 34.55	$ 103.65
Cisco	WS-C6509-E	Enh C6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tray	1	$9,500.00	$ 5,225.00	$ 5,225.00
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	1	$0.00	$ -	$ -
Cisco	WS-SUP720-3B	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	2	$700.00	$ 385.00	$ 770.00
Cisco	GLC-SX-MM	GE SFP, LC connector SX transceiver	4	$500.00	$ 275.00	$ 1,100.00
Cisco	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	5	$14,000.00	$ 7,700.00	$ 38,500.00
Cisco	WS-C6509-E-FAN	Catalyst 6509-E Chassis Fan Tray	1	$495.00	$ 272.25	$ 272.25
Cisco	WS-CAC-6000W	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00
Cisco	CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$0.00	$ -	$ -
Cisco	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	1	$6,500.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 6500 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	16	$899.00	$ 494.45	$ 7,911.20

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Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	16	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	16	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	32	$19.00	$ 10.45	$ 334.40
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	16	$72.00	$ -	$ -
		Carillo Elementary School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	7	$14,000.00	$ 7,700.00	$ 53,900.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	1	$23,490.00	$ 12,919.50	$ 12,919.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	1	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	12	$899.00	$ 494.45	$ 5,933.40
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	12	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	12	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	24	$19.00	$ 10.45	$ 250.80
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	12	$72.00	$ -	$ -
		Five Palms Elementary School				

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Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	2	$700.00	$ 385.00	$ 770.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	1	$495.00	$ 272.25	$ 272.25
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	2	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	4	41.95	$ 34.55	$ 138.20
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	4	$14,000.00	$ 7,700.00	$ 30,800.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$45.00	$ 24.75	$ 99.00
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	1	$500.00	$ 275.00	$ 275.00
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	WS-C6509-E	Enh C6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tray	1	$9,500.00	$ 5,225.00	$ 5,225.00
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	1	$0.00	$ -	$ -
Cisco	WS-SUP720-3B	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	2	$700.00	$ 385.00	$ 770.00
Cisco	GLC-SX-MM	GE SFP, LC connector SX transceiver	4	$500.00	$ 275.00	$ 1,100.00
Cisco	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	6	$14,000.00	$ 7,700.00	$ 46,200.00
Cisco	WS-C6509-E-FAN	Catalyst 6509-E Chassis Fan Tray	1	$495.00	$ 272.25	$ 272.25
Cisco	WS-CAC-6000W	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00
Cisco	CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$0.00	$ -	$ -
Cisco	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	1	$6,500.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 6500 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	12	$899.00	$ 494.45	$ 5,933.40
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	12	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	12	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	24	$19.00	$ 10.45	$ 250.80
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	12	$72.00	$ -	$ -
		Hutchins Elementary School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00

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Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	7	$14,000.00	$ 7,700.00	$ 53,900.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	14	$899.00	$ 494.45	$ 6,922.30
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	14	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	14	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	28	$19.00	$ 10.45	$ 292.60
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	14	$72.00	$ -	$ -
		Kindred Elementary School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	6	$28,000.00	$ 15,400.00	$ 92,400.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	6	$700.00	$ 385.00	$ 2,310.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	3	$495.00	$ 272.25	$ 816.75
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	6	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	12	41.95	$ 34.55	$ 414.60
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	9	$14,000.00	$ 7,700.00	$ 69,300.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$45.00	$ 24.75	$ 99.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	1	$23,490.00	$ 12,919.50	$ 12,919.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -

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Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	1	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	12	$899.00	$ 494.45	$ 5,933.40
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	12	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	12	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	24	$19.00	$ 10.45	$ 250.80
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	12	$72.00	$ -	$ -
		Palo Alto Elementary School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	6	$14,000.00	$ 7,700.00	$ 46,200.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	4	$23,490.00	$ 12,919.50	$ 51,678.00
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	4	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	4	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	8	$500.00	$ 275.00	$ 2,200.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	4	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	4	41.95	$ 34.55	$ 138.20
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -

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4119 Broadway Room 460
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Ph: 210-633-5595
Fax: 210-804-2942
Email: kr7296@txmail.sbc.com

Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	16	$899.00	$ 494.45	$ 7,911.20
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	16	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	16	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	32	$19.00	$ 10.45	$ 334.40
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	16	$72.00	$ -	$ -
		Price Elementary School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	6	$14,000.00	$ 7,700.00	$ 46,200.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	4	$23,490.00	$ 12,919.50	$ 51,678.00
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	4	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	4	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	8	$500.00	$ 275.00	$ 2,200.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	4	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	4	41.95	$ 34.55	$ 138.20
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	12	$899.00	$ 494.45	$ 5,933.40
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	12	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	12	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	24	$19.00	$ 10.45	$ 250.80
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	12	$72.00	$ -	$ -
		Royalgate Elementary School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00

SBC DataComm

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Address: 2525 Bobcat Lane
San Antonio, TX 78224

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Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	5	$14,000.00	$ 7,700.00	$ 38,500.00
Cisco						
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	4	$23,490.00	$ 12,919.50	$ 51,678.00
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	4	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	4	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	8	$500.00	$ 275.00	$ 2,200.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	4	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	4	41.95	$ 34.55	$ 138.20
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	1	$11,790.00	$ 6,484.50	$ 6,484.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	1	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	1	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	2	$500.00	$ 275.00	$ 550.00
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	1	$832.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	16	$899.00	$ 494.45	$ 7,911.20
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	16	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	16	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	32	$19.00	$ 10.45	$ 334.40
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	16	$72.00	$ -	$ -
		Shepard Middle School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	8	$14,000.00	$ 7,700.00	$ 61,600.00

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Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C6509-E	Enh C6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tray	1	$9,500.00	$ 5,225.00	$ 5,225.00
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	1	$0.00	$ -	$ -
Cisco	WS-SUP720-3B	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	2	$28,000.00	$ 15,400.00	$ 30,800.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	2	$700.00	$ 385.00	$ 770.00
Cisco	GLC-SX-MM	GE SFP, LC connector SX transceiver	4	$500.00	$ 275.00	$ 1,100.00
Cisco	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	5	$14,000.00	$ 7,700.00	$ 38,500.00
Cisco	WS-C6509-E-FAN	Catalyst 6509-E Chassis Fan Tray	1	$495.00	$ 272.25	$ 272.25
Cisco	WS-CAC-6000W	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00
Cisco	CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$0.00	$ -	$ -
Cisco	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	1	$6,500.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 6500 switches)	1	41.95	$ 34.55	$ 34.55
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	15	$899.00	$ 494.45	$ 7,416.75
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	15	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	15	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	30	$19.00	$ 10.45	$ 313.50
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	15	$72.00	$ -	$ -
		Kazen Middle School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	6	$28,000.00	$ 15,400.00	$ 92,400.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	6	$700.00	$ 385.00	$ 2,310.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	3	$495.00	$ 272.25	$ 816.75
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	6	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	12	41.95	$ 34.55	$ 414.60
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	11	$14,000.00	$ 7,700.00	$ 84,700.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	6	$5,000.00	$ 2,750.00	$ 16,500.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	WS-C6509-E	Enh C6509 Chassis, 9slot, 15RU, No Pow Supply, No Fan Tray	2	$9,500.00	$ 5,225.00	$ 10,450.00
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	2	$0.00	$ -	$ -
Cisco	WS-SUP720-3B	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00

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Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Cisco	GLC-SX-MM	GE SFP, LC connector SX transceiver	8	$500.00	$ 275.00	$ 2,200.00
Cisco	WS-X6548-GE-45AF	Cat6500 48-port fab-enabled 10/100/1000 w/802.3af inline pwr	8	$14,000.00	$ 7,700.00	$ 61,600.00
Cisco	WS-C6509-E-FAN	Catalyst 6509-E Chassis Fan Tray	2	$495.00	$ 272.25	$ 544.50
Cisco	WS-CAC-6000W	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$0.00	$ -	$ -
Cisco	CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509	2	$6,500.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 6500 switches)	2	41.95	$ 34.55	$ 69.10
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	15	$899.00	$ 494.45	$ 7,416.75
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	15	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	15	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	30	$19.00	$ 10.45	$ 313.50
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	15	$72.00	$ -	$ -
		Dwight Middle School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	8	$28,000.00	$ 15,400.00	$ 123,200.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	8	$700.00	$ 385.00	$ 3,080.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	4	$495.00	$ 272.25	$ 1,089.00
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	8	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	16	41.95	$ 34.55	$ 552.80
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	15	$14,000.00	$ 7,700.00	$ 115,500.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	8	$5,000.00	$ 2,750.00	$ 22,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	16	$45.00	$ 24.75	$ 396.00
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	3	$23,490.00	$ 12,919.50	$ 38,758.50
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	3	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	3	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	6	$500.00	$ 275.00	$ 1,650.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	3	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	3	41.95	$ 34.55	$ 103.65
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	20	$899.00	$ 494.45	$ 9,889.00
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	20	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	20	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	40	$19.00	$ 10.45	$ 418.00
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	20	$72.00	$ -	$ -

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		South San High School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	12	$28,000.00	$ 15,400.00	$ 184,800.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	12	$700.00	$ 385.00	$ 4,620.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	6	$495.00	$ 272.25	$ 1,633.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	12	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	24	41.95	$ 34.55	$ 829.20
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	24	$14,000.00	$ 7,700.00	$ 184,800.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	12	$5,000.00	$ 2,750.00	$ 33,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	24	$45.00	$ 24.75	$ 594.00
Cisco	WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	6	$11,790.00	$ 6,484.50	$ 38,907.00
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	6	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	6	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	12	$500.00	$ 275.00	$ 3,300.00
Cisco	CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/	6	$832.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	6	41.95	$ 34.55	$ 207.30
Cisco	WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	18	$23,490.00	$ 12,919.50	$ 232,551.00
Cisco	CAB-STACK-50CM	Cisco StackWise 50CM Stacking Cable	18	$0.00	$ -	$ -
Cisco	CAB-16AWG-AC	AC Power cord, 16AWG	18	$0.00	$ -	$ -
Cisco	GLC-SX-MM=	GE SFP, LC connector SX transceiver	36	$500.00	$ 275.00	$ 9,900.00
Cisco	CON-SNT-3750GPE	SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 SF	18	$1,564.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	18	41.95	$ 34.55	$ 621.90
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	30	$899.00	$ 494.45	$ 14,833.50
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	30	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	30	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	60	$19.00	$ 10.45	$ 627.00
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	30	$72.00	$ -	$ -
		West Campus High School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	4	$28,000.00	$ 15,400.00	$ 61,600.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	4	$700.00	$ 385.00	$ 1,540.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	2	$495.00	$ 272.25	$ 544.50
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	4	$0.00	$ -	$ -

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Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	8	41.95	$ 34.55	$ 276.40
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	13	$14,000.00	$ 7,700.00	$ 100,100.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	2	$5,000.00	$ 2,750.00	$ 5,500.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	4	$45.00	$ 24.75	$ 99.00
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	15	$899.00	$ 494.45	$ 7,416.75
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	15	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	15	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	30	$19.00	$ 10.45	$ 313.50
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	15	$72.00	$ -	$ -
		Alternative School				
Cisco	WS-SUP720-3B=	Catalyst 6500/Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	6	$28,000.00	$ 15,400.00	$ 92,400.00
Cisco	MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	6	$700.00	$ 385.00	$ 2,310.00
Cisco	WS-C6K-6SLOT-FAN2=	High Speed Fan Tray, Spare for Catalyst 6506, spare	3	$495.00	$ 272.25	$ 816.75
Cisco	S733ZLK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES LAN ONLY	6	$0.00	$ -	$ -
Blackbox	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to upgrade SUP720s)	12	41.95	$ 34.55	$ 414.60
Cisco	WS-X6548-GE-45AF=	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	9	$14,000.00	$ 7,700.00	$ 69,300.00
Cisco	WS-CAC-6000W=	Cat6500 6000W AC Power Supply	4	$5,000.00	$ 2,750.00	$ 11,000.00
Cisco	CAB-AC-2500W-US1=	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	8	$45.00	$ 24.75	$ 198.00
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	12	$899.00	$ 494.45	$ 5,933.40
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	12	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	12	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	24	$19.00	$ 10.45	$ 250.80
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	12	$72.00	$ -	$ -
		Robert C. Zamora Middle School				
Cisco	AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	25	$899.00	$ 494.45	$ 12,361.25
Cisco	AIR-PWR-CORD-NA	AIR Line Cord North America	25	$0.00	$ -	$ -
Cisco	S12W7K9-12215XR	Cisco 1200 Series IOS WIRELESS LAN	25	$0.00	$ -	$ -
Cisco	AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	50	$19.00	$ 10.45	$ 522.50
Cisco	CON-SNT-1231GAK9	SMARTNET 8X5XNBD 802.11b IOS AP w/Ava	25	$72.00	$ -	$ -

SBC DataComm

SBC DataComm
4119 Broadway Room 460
San Antonio, Texas 78209
Ph: 210-633-5595
Fax: 210-804-2942
Email: kr7296@txmail.sbc.com

Company Name: South San Antonio Independent School District
Point of Contact: Sandara Soto
Address: 2525 Bobcat Lane
San Antonio, TX 78224

Bill of Materials

Date:

Vendor	Product	Description	Quantity	List Price	Disc. Price	Ext. Cost
		Cables for Erate Eligible Sites				
	EFN110-003M-STLC	SFP Fiber Patch Cable LC-ST 3M (connect to new 3570 switches)	368	41.95	$ 34.55	$ 12,714.40
	EVNSL21-0010 (quoting EVNSL21E-0010)	CAT5 100-MHz Patch Cables with Molded Boots, T568B Straight-P	264	$ 6.95	$ 5.73	$ 1,512.72
		Total				**$ 3,887,684.37**

FOB Point: Origin
Ship Date:
Quote Valid : 60 Days

Payment Terms: Net 30
Installation: Available on Request and Billable
Warranty: 90 days

Signed:

Ken Ross

Notes:

Cisco Limited Warranty, Disclaimer of Warranty, and End User License Agreement

Limited Warranty

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Customer, freight and insurance prepaid. Cisco replacement parts used in Hardware replacement may be new or equivalent to new. Cisco's obligations hereunder are conditioned upon the return of affected Hardware in accordance with Cisco's or its service center's then-current Return Material Authorization (RMA) procedures.

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http://www.cisco.com/univercd/cc/td/doc/es_inpck/cetrans.htm

United States Federal Communications Commission Notice

The following information is for FCC compliance of Class A devices: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to correct the interference at their own expense.

The following information is for FCC compliance of Class B devices: The equipment described in this manual generates and may radiate radio-frequency energy. If it is not installed in accordance with Cisco's installation instructions, it may cause interference with radio and television reception. This equipment has been tested and found to comply with the limits for a Class B digital device in accordance with the specifications in part 15 of the FCC rules. These specifications are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

You can determine whether your equipment is causing interference by turning it off. If the interference stops, it was probably caused by the Cisco equipment or one of its peripheral devices. If the equipment causes interference to radio or television reception, try to correct the interference by using one or more of the following measures:

- Turn the television or radio antenna until the interference stops.
- Move the equipment to one side or the other of the television or radio.
- Move the equipment farther away from the television or radio.
- Plug the equipment into an outlet that is on a different circuit from the television or radio. (That is, make certain the equipment and the television or radio are on circuits controlled by different circuit breakers or fuses.)

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78-5235-03A0

Cisco One-Year Limited Hardware Warranty Terms

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Duration of Hardware Warranty: One (1) Year

Replacement, Repair or Refund Procedure for Hardware: Cisco or its service center will use commercially reasonable efforts to ship a replacement part within ten (10) working days after receipt of the RMA request. Actual delivery times may vary depending on Customer location.

Cisco reserves the right to refund the purchase price as its exclusive warranty remedy.

To Receive a Return Materials Authorization (RMA) Number: Please contact the party from whom you purchased the product. If you purchased the product directly from Cisco, contact your Cisco Sales and Service Representative.

Complete the form below and keep for ready reference.

Product purchased from:	
Their telephone number:	
Product Model and Serial number:	
Maintenance Contract number:	

For warranty or license terms which may apply in particular countries and for translations of the above information, please visit the following URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpck/cetrans.htm

78-10747-01C0

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Duration of Hardware Warranty: As long as the original End User continues to own or use the Product, provided that: fan and power supply warranty is limited to five (5) years. In the event of discontinuance of product manufacture, Cisco warranty support is limited to five (5) years from the announcement of discontinuance.

Replacement, Repair or Refund Procedure for Hardware: Cisco or its service center will use commercially reasonable efforts to ship a replacement part within ten (10) working days after receipt of the RMA request. Actual delivery times may vary depending on Customer location.

Cisco reserves the right to refund the purchase price as its exclusive warranty remedy.

To Receive a Return Materials Authorization (RMA) Number: Please contact the party from whom you purchased the product. If you purchased the product directly from Cisco, contact your Cisco Sales and Service Representative.

Complete the form below and keep for ready reference.

Product purchased from:	
Their telephone number:	
Product Model and Serial number:	
Maintenance Contract number:	

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http://www.cisco.com/univercd/cc/td/doc/es_inpck/cetrans.htm

78-6310-02C0

SBC DataComm
4119 Broadway Room 460
San Antonio, Texas 78209
Ph: 210-633-5595
Fax: 210-804-2942
Email: kr7296@txmail.sbc.com

Erate Price Quotation for South San ISD

Hourly Network Support

Date: 2/7/2005

To: Sandra Soto
South San Antonio ISD
2715 Bobcat Lane
San Antonio TX 78224
Ph: 210-977-7377
Fax: 210-977-7378

Quote Number: 022705-01-SSAISD

Customer Acceptance _____ Date _____

Customer Purchase Order _____

Product Number	Product Description	Hourly Rate
SBC-FE-TS	SBC onsite technical support - Networking (Hourly Rate) To be used for repairs caused by misuse or abuse of equipment or software/operator problems.	$ 122.00

FOB Point: Origin
Ship Date:
Quote Valid : 30 Days

Payment Terms: Net 30
Installation: Available on Request and Billable
Warranty: 90 days

Signed: _____
Ken Ross

Notes:

SBC Master Agreement

This SBC Master Agreement (the "Agreement") is between SBC Global Services, Inc., a Delaware corporation with offices at One SBC Plaza, Dallas, Texas 75202, on behalf of itself and those SBC Affiliates identified in those Addenda, Attachments, Orders, and/or SOWs that may be entered into from time to time and incorporated by reference into this Agreement (individually and collectively, "SBC") and [Customer's Full Legal Business Name] ("Customer"), a [Enter the state of incorporation] You must select one of the choices, with offices at [Enter the Customer's Street Address, City, ST and ZIP], is effective on the date of last execution ("Effective Date"). SBC and Customer are sometimes referred to herein collectively as the "Parties" or individually as a "Party."

References to "Agreement" refer to this Agreement, any applicable tariff or guidebook, and the documents listed in the Addendum and Attachment List, including any Statement of Work ("SOW"). New or revised Addenda, Attachments, Orders, and/or Statements of Work must be signed by Customer and SBC Affiliate. The following order of precedence applies to the documents comprising an Agreement: (1) any applicable guidebook and tariff(s), (2) Addenda (and related SOWs and Attachments), (3) this Agreement, and (4) Orders.

Notices from a Party concerning this Agreement must be written and delivered to the other Party at the address(es) below (i) in person, (ii) by certified mail, return receipt requested, (iii) by traceable overnight delivery, or (iv) by facsimile, electronically confirmed and followed immediately by U.S. Mail. Notice will be effective upon delivery.

To Customer:
Enter the Customer's Business Name
Enter the Customer's Street Address
Enter the Customer's City, State, and ZIP
Fax:
Attention: Telecommunications Contract Manager

To SBC:
SBC
SBC Account Team Address
SBC Account Team City, State, and ZIP
Fax:
Attention: Account Team for Enter the Customer's Business Name

SO AGREED by the Parties' respective authorized signatories:

ENTER THE CUSTOMER'S FULL LEGAL BUSINESS NAME HERE		**SBC GLOBAL SERVICES, INC. ON BEHALF OF ITS AFFILIATES**	
By:		**By:**	
Name:	[Enter Signer's Name if known, Clear Field if not]	**Name:**	
Title:	[Enter Signer's Title if known, Clear Field if not]	**Title:**	
Date:		**Date:**	

I. DEFINITIONS

1.1 "Affiliate" means an entity that controls, is controlled by, or is under common control with a Party.

1.2 "Confidential Information" means ideas, know-how, trade secrets, computer programs, technical information, and other confidential information which is disclosed by a disclosing Party to a receiving Party under this Agreement. The terms of this Agreement shall be deemed Confidential Information by the Parties.

1.3 "Cutover" occurs (except as otherwise described herein or in an Addendum/Attachment/SOW) (a) for a Service when the Service is first provisioned or otherwise available for Customer's use at any single Site; and/or (b) for Equipment when the Equipment is delivered to the carrier for shipment, or if installation by SBC is provided as part of the Services, then upon SBC's installation of the Equipment.

1.4 "Equipment" means equipment that SBC sells or leases to Customer under this Agreement.

1.5 "Software" means computer programs and related object code licensed by SBC to Customer, including any software licensed with or separately from Equipment.

1.6 "Normal Business Hours" means Monday through Friday, 8:00 a.m. to 5:00 p.m. (local time), excluding SBC recognized holidays.

1.7 "Order" means any purchase order for Equipment or Services that references this Agreement (or an Addendum).

1.8 "Service(s)" means any or all services provided by SBC, as further described in this Agreement or an Addendum.

1.9 "Site(s)" means Customer locations where SBC is to perform Services.

II. SERVICE-SPECIFIC TERMS AND CONDITIONS

2.1 Limitation on Service; Applicability of Tariffs. Service is offered subject to the availability and operational limitations of the necessary systems, facilities, and equipment. Except as otherwise specified in an Addendum, regulated Services (e.g., local or long distance telephone service) are subject to applicable tariffs and/or guidebooks (generally available at www.sbc.com or from an SBC sales representative). Customer and any Customer end-user use of Service shall at all times comply with applicable laws, regulations and any SBC written or electronic instructions for use.

2.2 Payment and Billing. Customer will pay SBC (i) the monthly fees and nonrecurring charges set forth in the applicable Addendum (or, in the case of regulated services, at the charges set forth in the applicable tariff and/or guidebook), and (ii) applicable taxes, surcharges, and recovery fees (including universal service fees), and customs and duties. Except as otherwise provided in the applicable Addendum or invoice, (i) billing commences on Cutover; (ii) payment is due within 30 days after the date of invoice; and (iii) payment is subject to SBC's credit requirements and SBC may require a security deposit to ensure prompt payment. Customer will advise SBC of any billing dispute within 30 days after receipt of invoice or the invoice shall be deemed correct. In addition to recovering attorneys' fees and costs of collection, SBC may assess a late payment fee equal to the lesser of 1.5% per month or the maximum amount allowed by law.

III. GENERAL TERMS AND CONDITIONS

3.1 Term and Termination. This Agreement will start on the Effective Date and remain in effect until terminated by either Party as provided herein (the "Term"). Each Addendum is coterminous with this Agreement, unless the Addendum specifies a different term. Upon expiration of the term specified, each Addendum shall remain in effect on a month-to-month basis at SBC's then current monthly pricing. Customer, and SBC (in the case of Services that are no longer under a term commitment), may terminate this Agreement or an Addendum without cause and for convenience upon 30 days' prior written notice. If Customer terminates an Addendum with a specified term or term commitment, Customer shall pay the termination liability (i) specified in the Addendum; or (ii) if no termination liability is specified, an amount equal to (a) 50% of the remaining monthly recurring charges due under the Addendum; and (b) any charges imposed on SBC by any third party as a result of Customer's early termination. Customer may cancel an Order for Equipment prior to Cutover, subject to payment of any non-recoverable restocking fees or costs incurred by SBC. Customer may not cancel an Order for Equipment after Cutover.

3.2 Termination for Breach. This Agreement (or applicable Addendum) may be terminated immediately by either Party or SBC may suspend performance hereunder or thereunder, upon written notice to the other Party if the other Party (i) is in material breach (including but not limited to failure to make timely undisputed payments) and such failure or breach is not remedied within 30 days after the terminating Party provides written notice to the breaching Party specifically describing such breach; (ii) ceases to carry on business as a going concern, becomes the object of voluntary or involuntary bankruptcy or liquidation, or a receiver is appointed with respect to a substantial part of its assets; (iii)

engages in fraud, criminal conduct, or willful misconduct; or (iv) breaches the confidentiality obligations under this Agreement.

3.3 Force Majeure. Except in the case of payment of amounts due, neither Party will be liable to the other Party for any failure of performance due to any cause beyond that Party's reasonable control, including acts of God, fire, explosion, vandalism, terrorism, cable cut, storm, or other similar occurrence, any law, order, regulation, direction, action, or request by any government, civil, or military authority, national emergencies, insurrections, riots, wars, labor difficulties, supplier failures, shortages, breaches, or delays, or preemption of existing Service to restore Service in compliance with the regulatory rules and regulations, or, in the case of SBC, delays caused by Customer or Customer's service or equipment vendors.

3.4 Assignment. Neither this Agreement nor any portion or interest in this Agreement may be assigned, sublet, or in any manner transferred by a Party without the prior written consent of the other Party, which consent will not be unreasonably withheld. Notwithstanding the foregoing, SBC may assign all or any part of this Agreement to an SBC Affiliate or use subcontractors to perform Services.

3.5 Use of Confidential Information. During the Term, each Party may obtain Confidential Information from the other Party. Written or other tangible Confidential Information must at the time of disclosure be identified and labeled as Confidential Information belonging to the disclosing Party. When disclosed orally or visually, Confidential Information must be identified as confidential at the time of the disclosure, with subsequent confirmation in writing within 15 days after disclosure. Neither Party may during the Term and for 3 years thereafter disclose any of the other Party's Confidential Information to any third party. Neither Party may use the other Party's Confidential Information except to perform its duties under this Agreement. The Confidential Information restrictions will not apply to Confidential Information that is (i) already known to the receiving Party, (ii) becomes publicly available through no wrongful act of the receiving Party, (iii) independently developed by the receiving Party without benefit of the disclosing Party's Confidential Information, or (iv) disclosed by the disclosing Party to a third party without an obligation of confidentiality. Upon termination of this Agreement or an applicable Addendum, each Party will return the other Party's Confidential Information.

3.6 Customer Information; Access and Safe Working Environment. SBC may rely on any information provided by Customer and assumes no liability for any damages or costs that result from errors or omissions in such information. Customer shall provide SBC with timely access to Customer information, facilities or equipment as SBC reasonably requires to provide the Services and keep SBC informed on developments in Customer's business or operations that may impact Service. SBC may share Customer information and Confidential Information (including billing and usage information for Services purchased) with SBC Affiliates and inform Customer of other SBC product/service offerings. Customer shall maintain the Site in a suitable and safe working environment, free of Hazardous Materials. Customer represents and warrants that the area of the Site where SBC performs Services is free of Hazardous Materials. SBC does not handle, remove or dispose of, nor does SBC accept any liability for, any Hazardous Materials at the Site. Customer shall pay SBC for any damages, costs, fines or penalties SBC incurs as result of the presence or release of such Hazardous Materials. If SBC encounters any such Hazardous Materials, SBC may terminate this Agreement or suspend performance until Customer removes and cleans up at its expense Hazardous Materials in accordance with this Agreement and applicable law. For purposes hereof, "Hazardous Materials" means any substance whose use, transport, storage, handling, disposal, or release is regulated to any law related to pollution, protection of air, water, or soil, or health and safety.

3.7 Publicity. During the Term, SBC may refer to Customer, orally and in writing, as a customer of SBC and may publish a press release announcing in general terms that SBC and Customer have entered into this Agreement and SBC may in general terms describe the activities contemplated hereunder. Any other reference to one Party by the other Party requires written consent of the first Party.

3.8 Limitation of Liability. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY INDIRECT, INCIDENTAL, PUNITIVE, EXEMPLARY, SPECIAL OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION DAMAGES RELATED TO LOST PROFITS, TOLL FRAUD, LOSS OF USE, AND LOSS OF DATA, OR FAILURE TO REALIZE SAVINGS OR BENEFITS) ARISING UNDER THIS AGREEMENT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH LOSS. EXCEPT AS OTHERWISE PROVIDED IN ANY APPLICABLE TARIFF OR GUIDEBOOK, THE TOTAL AGGREGATE LIABILITY OF SBC, ITS SUPPLIERS, LICENSORS, AFFILIATES, DIRECTORS, OFFICERS, AND/OR EMPLOYEES UNDER OR IN CONNECTION WITH THIS AGREEMENT WILL BE LIMITED TO PROVEN DIRECT DAMAGES NOT TO EXCEED AMOUNTS ACTUALLY PAID BY CUSTOMER DURING THE 3-MONTH PERIOD IMMEDIATELY PRECEDING THE DATE OF THE CIRCUMSTANCES GIVING RISE TO THE FIRST CLAIM FOR DAMAGES UNDER THIS AGREEMENT.

3.9 Warranties; Disclaimer of Other Warranties. With respect to maintenance or professional Services, SBC warrants that the Services will be performed in a professional and workmanlike manner. SBC further warrants that it has good title to the Equipment and that the Equipment will perform in accordance with the manufacturer's published specifications during the warranty period set forth by such manufacturer and SBC will use commercially reasonable efforts to subrogate any SBC claims or rights against the Equipment manufacturer to Customer. SBC makes no warranties and assumes no liability for any defects or nonconformities caused by non-SBC approved modifications or alterations; misuse, accident or neglect; or Customer failure to comply with SBC or SBC vendor specifications or requirements for use. These warranties do not cover and SBC has no responsibility for (a) installation, maintenance or operation of non-SBC provided equipment or software or impairment caused by such equipment/software; (b) compatibility of such equipment/software with SBC-provided Equipment or Software; or (c) modifications, alternations or repairs to Equipment or Software by persons other than SBC or its authorized agents. EXCEPT FOR THE FOREGOING, OR AS EXPRESSLY SET FORTH IN AN ADDENDUM, SBC MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND WARRANTIES RELATED TO THE MATERIALS, SERVICE, EQUIPMENT OR SOFTWARE, ALL OF WHICH ARE PROVIDED "AS IS" TO THE FULL EXTENT PERMITTED BY LAW.

3.10 Indemnities. Customer will indemnify and defend SBC, its directors, officers, employees, agents and their successors ("Agents") from and against any and all third party claims and related loss, liability, damage and expense, including attorneys' fees, (collectively "Damages") arising from improper use of Services or information or any content or data transmitted over any SBC network or facilities. SBC will indemnify and defend Customer and its Agents from and against any Damages finally awarded or paid in settlement based on a claim that any Service, or SBC-provided Equipment and Software (collectively, "Materials"), infringe a U.S. patent or copyright. If a final injunction or judgment is awarded against Customer prohibiting use of Service/Materials by reason of infringement of a U.S. patent or copyright, SBC will at its option and expense either (a) procure the right for Customer to continue using the Service/Materials; (b) obtain and deliver equivalent non-infringing Service/Materials; or (c) terminate the infringing Service/Materials and refund to Customer amounts paid for infringing Service/Materials, less a reasonable charge for use. An indemnified Party shall provide the indemnifying Party with notice for any claim of indemnity and the indemnifying Party shall have complete authority to assume the sole defense and settlement of such claim. The indemnified Party may participate in the settlement or defense at its own expense and shall reasonably cooperate to facilitate the defense and settlement of such claims.

3.11 Equipment. To the extent that Customer purchases Equipment under an Addendum/Attachment/SOW, the following additional terms apply: SBC will deliver the Equipment FOB shipping point, freight prepaid and charged and title to Equipment and all risk of loss to the Equipment shall pass to Customer at Cutover. Upon Cutover, SBC hereby grants to Customer a personal, nontransferable, non-exclusive license to use the Software on or with the corresponding Equipment and SBC (or its licensors) shall retain and continue to own all right, title and interest in any Software and all copies. Customer will furnish any conduit, holes, wireways, wiring, plans, equipment, space, power/utilities, and all other items reasonably required to perform installation and other Services related to the Equipment and obtain any necessary licenses, permits and consents to do so. Customer has 30 days after Cutover to test the Equipment and provide SBC with written notice if the Equipment is defective and does not conform to manufacturer's specifications. SBC will repair or replace (at its option and expense) any such non-conformity and if the Equipment fails to conform after a reasonable number of attempts to do so, SBC will (at its option and expense) provide replacement Equipment or refund payments for non-conforming Equipment. SBC is not responsible for and shall have no liability for, or any impairment caused by (a) any non-conformity caused by improper use or environmental or electrical conditions or attachment of non-SBC or manufacturer materials or devices; or (b) installation, operation or maintenance of non-SBC hardware/software. Customer is responsible for ensuring that such non-SBC hardware/software is compatible with the Services, Equipment or Software. If Customer does not deliver a written certificate of acceptance or written notice of non-conformity within 30 days after Cutover, the Equipment shall be deemed accepted.

3.12 Miscellaneous. This Agreement sets forth the entire understanding of the Parties and supersedes any and all prior agreements, representations, and understandings relating to the subject matter hereof. No modifications or subsequent agreements concerning the subject matter of this Agreement will be effective unless made in writing and signed by the Parties. SBC shall not be bound by any electronic or pre-printed terms additional to, or different from, those in this Agreement that may appear in Customer's form documents, orders, acknowledgments or other communications. Customer shall not resell any Services without SBC's written consent. Any legal action arising under this Agreement must commence within 2 years after the cause of action arises. SBC, its employees, agents, and representatives are not employees, servants, partners, or joint venturers of or with Customer. SBC is an independent contractor and will at all times direct, control, and supervise all of its employees. This Agreement will be governed by the laws of Texas, without regard to its conflicts of law rules. The Parties specifically disclaim the United Nations Convention on Contracts for the International Sale of Goods and the Uniform Computer Information Transactions Act. If any provision of this Agreement is determined to be invalid or unenforceable, this Agreement will be construed as if it did not contain such provision. The failure of a Party to insist upon strict performance of any provision of this Agreement in any one or more instances will not be construed as a waiver or relinquishment of such provision and the same will remain in full force and effect.

Addendum and Attachment List

This Addendum and Attachment List to the Master Agreement (the "List") between SBC and Customer, current as of the Effective Date, is incorporated into the Agreement by this reference. All Addenda and Attachments shall be attached to the Agreement.

Enter Addendum # (if none, clear field)	Enter the Title of Addendum (if none, clear field)
Enter Addendum # (if none, clear field)	Enter the Title of Addendum (if none, clear field)
Enter Addendum # (if none, clear field)	Enter the Title of Addendum (if none, clear field)
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Enter Addendum # (if none, clear field)	Enter the Title of Addendum (if none, clear field)
Enter Addendum # (if none, clear field)	Enter the Title of Addendum (if none, clear field)

This List may be amended from time to time in writing and signed by the Parties.

Addendum to Master Agreement
Data Equipment and Services

Addendum No. Enter Next Sequential Addendum #

This Addendum Number Enter same Addendum # as above ("Addendum"), entered into by SBC Global Services, Inc. (on behalf of SBC DataComm* ("SBC")) and (Insert Customer Name) ("Customer") and effective as of the date last signed below ("Effective Date"), is an attachment to that certain Master Agreement ("Agreement") dated [Enter date of last signature on Master Agreement] between the parties thereto. The definitions contained in the Agreement are herein incorporated by reference.

Customer Name: (Customer Name)

Customer Billing Address: (Billing Address)

(City, State, Zip)

Customer Billing Number: (Billing Number)

Location of Equipment (Delivery/Installation Site Address):

(Shipping Address)

(City, State, Zip)

Date of Submission: **Lessor:** SBC Capital Services or None if no financing

Delivery Date: **Installation/Cutover Date:** **Effective Date:**

Purchase Order Number: (Purchase Order Number)

PURCHASE PRICE

1. **Total Price of Equipment** .....
2. **Total Charge for Installation/Cutover**.....
3. **Total Purchase Price** .....

* **Taxes & Shipping will be listed separately on the invoice.**

SELECTION OF MAINTENANCE PLAN

Initial Term: (Enter Term) **year(s)** **From:** **To:**

Total Price: ***(plus tax, if applicable)***

☐ **Maintenance Declined – Customer Initials:** _____

Attachments:

1. Statements of Work e.g. SOW, SCOW, PIG ☐
2. Bill of Materials for Equipment and Services ☐
3. Invoicing Schedule and Payment Terms ☐
4. Implementation Timeline ☐
5. Certificate of Acceptance ☐
6. Other: [_____]

This Addendum may be withdrawn by SBC if not signed and returned by the Customer within ninety (90) days from the date of submission referred to above.

* "SBC DataComm" as used herein refers to: SBC DataComm, Inc. a Delaware corporation; and to SBC DataComm, a d/b/a name registered to Southwestern Bell Telephone Company in Arkansas, Kansas, Missouri, Oklahoma, and Texas, and to Pacific Bell Telephone Company in California.

SO AGREED by the Parties' respective authorized signatories:

ENTER THE CUSTOMER'S FULL LEGAL BUSINESS NAME HERE	SBC GLOBAL SERVICES, INC. ON BEHALF OF ITS AFFILIATES
By: _____	**By:** _____
Name: [Individual's Name]	**Name:** _____
Title: [Individual's Title]	**Title:** _____
Date: _____	**Date:** _____

PTIE (SBC – For Internal Use): _____

1. **Scope**
This Addendum covers SBC's sale and Customer purchase of Equipment and Services described in this Addendum (or any attached Bill of Materials, Order, SOW, listing or other applicable document), and any Orders issued under this Addendum, as well as any additions or replacement to the Equipment or Services. This Addendum shall remain in effect until terminated by either Party upon 30 days written notice to the other Party.

2. **Installation; Invoicing**
At the Site, SBC will, when so requested by Customer, install Equipment in accordance with the Statement of Work agreed to by the Parties, and referenced in an Order. SBC will maintain all SBC work areas at the Site in a neat and orderly condition.

In addition to the payment provisions contained in the Agreement, and unless the deferred cash option is selected, invoices for all Equipment will be issued the date the Equipment is delivered to the carrier; invoices for Services will be issued monthly for all Services performed in the preceding month; invoices for maintenance Service contracts will be issued as of the date of such contract and for the entire amount of such contract.

3. **Additional Warranties, Limitation of Liability and Limitation of Remedy**
In addition to the warranties and limitations contained in the Agreement: (i) during the 30 day period after Cutover, in the case of major malfunctions with the Equipment, SBC will use reasonable commercial efforts to have a technician working on the Equipment within: (a) four (4) hours, after receiving Customer's notice and SBC will complete repairs as soon as practicable; (b) for other malfunctions, SBC will use reasonable commercial efforts to respond within twenty-four (24) hours during Normal Business Hours. The foregoing are Customer's exclusive remedies for breach of warranty. It is a condition precedent to SBC's warranty obligations that: (a) Customer is not in default of its obligations under the Agreement; and (b) the Equipment has not been damaged as a result of misuse, abuse, neglect, accident, improper environmental conditions, electrical voltages or currents, repair, alteration or maintenance by any person or party other than an authorized service facility, attachment of mechanical, electrical or electronic material or devices not supplied by SBC, or any use violative of the use instructions furnished with the Equipment by SBC or by the manufacturer.

4. **Storage of Equipment**
SBC and/or its designated subcontractors may store a reasonable amount of equipment, materials, tools and other items necessary for the performance of an Order on the Site or in such other secure location(s) as Customer may designate, at no charge. Customer will take reasonable precautions to protect and maintain the integrity of any such items and will accept delivery of any such items delivered to Customer facilities when SBC personnel are not available to accept delivery and place or direct the placement of such items on the Site or other secure location(s). In the event Customer accepts delivery of any items under this Agreement, Customer will promptly notify SBC of the delivery and location of the items delivered.

5. **Amendments; Termination**
Customer will be charged for any additions, deletions or changes ("Change" or "Change Order") in the Equipment/Services. If Customer desire a Change, Customer will notify SBC by written request, and SBC will provide Customer a revised Bill of Materials and/or Statement of Work reflecting the equipment, service and price changes, shipping dates, Cutover dates and other terms. Any increase or decrease in the price occasioned by a Change will be invoiced separately or added to/subtracted from the amount of Customer final invoice.

CONFIDENTIAL INFORMATION
This Agreement is for use by authorized employees of the parties hereto only and is not for general distribution within or outside their companies.

Either Party may terminate this Addendum in whole or in part by giving the other Party at least thirty (30) days' prior written notice. Either Party may terminate an Order or Change Order by giving the other Party written notice prior to Cutover. In the event the Customer terminates an Order or Change Order prior to Cutover, the Customer shall be liable for all expenses incurred by SBC under that Order or Change. Upon termination, Customer agree to pay SBC all amounts due for Equipment and Services provided by SBC up to and including the effective date of termination, plus any non-recoverable restocking fees or other costs incurred by SBC. Such payment will constitute a full and complete discharge of Customer payment obligations. Termination will also constitute a full and complete discharge of our obligations. Any Order in progress or requested prior to the termination of this Agreement will be completed and Customer agrees to pay SBC for the Services performed and/or any Equipment delivered or installed under the Order. Customer may not cancel an Order for Equipment after Cutover.

6. SBC Capital Services (SBC-CS) Financing Option

[Customer Initials:] _____ Customer elects to finance the Total Purchase Price (as referenced above) through SBC-CS. Customer hereby requests that SBC invoice SBC-CS and arrange for payment as described below:

SBC will invoice Customer in care of SBC-CS for 100% of Total Purchase Price on the Cutover date for the Equipment and the invoice shall be promptly paid after its delivery to SBC-CS, provided that all required lease documentation has been properly executed and received by SBC-CS, including the signed certificate of acceptance. If all lease documentation is not executed and received by SBC-CS as required in the previous sentence, Customer agrees to and will pay the Total Purchase Price upon receipt of an invoice.

E-Rate Rider Coversheet

General Instructions: This Rider provides additional terms and conditions (Terms) that may apply when the undersigned Customer purchases SBC services (Services) that are eligible for discounts (Discounts) from the Schools and Library Division of the Universal Services Administrative Company (USAC), pursuant to Section 254 of the Telecommunications Act and related requirements (E-Rate Requirements). These Terms do not apply if Customer checks either box Number 1 or 2 below.

Check the applicable box:

1. ☐ No E-Rate Funding required. (Services are not in any way dependent or contingent on any E-Rate Discounts)

   (The attached Terms are not applicable.)

2. ☐ Services purchased are in the aggregate of $75,000 or less.

   (The attached Terms are not applicable.)

3. ☐ Services purchased exceed in the aggregate $75,000, but SBC will not provide Services until USAC provides a written Funding Commitment.

   (Terms are applicable upon SBC's receipt of Funding Commitment.)

4. ☐ Services purchased exceed in the aggregate $75,000, but Customer provides SBC with written Notice to Proceed even though SBC has not received the Funding Commitment.

   (Terms are applicable upon SBC's receipt of Notice to Proceed.)

Customers selecting options 2, 3 or 4 are **required** to designate one of the two funding methods below:

☐ Billed Entity Application Reimbursement ("BEAR")* ☐ Service Provider Invoice Form**

* Customer will file Form 472 and certify that it has received and paid for Services in full and SBC will certify that it will remit the discount amount to Customer within twenty (20) business days after receipt of payment from USAC (or such other period required by USAC). The BEAR method of payment is required in the case of any drop shipment of equipment (e.g. third-party will install equipment).

** SBC will file Form 474 after Services have been provided. SBC will bill Customer for the non-discount portion of Services and Customer will submit Form 486 to USAC promptly after receipt of the Funding Commitment (as defined below).

CUSTOMER	**SBC GLOBAL SERVICES**
By: _____	**By:** _____
Printed Name/Title: _____	**Printed Name/Title:** _____
Date: _____	**Date:** _____

E-RATE TERMS

1. Scope and Term. The terms of this Rider supplement and are in addition to any Master Agreement*, Addendum or terms applicable to the Services ("Service Conditions"). In the event of any inconsistency between these terms and the Service Conditions, the terms of this Rider prevail. SBC agrees to provide Customer those Services that Customer has determined are eligible for Discounts. This Rider shall remain in effect for so long as SBC is providing the Services or Customer is obligated to pay for such Services. The indemnities below survive the expiration of this Rider. Customer agrees that if USAC seeks reimbursement of E-Rate program funds from SBC due to Customer's failure to comply with the E-Rate Requirements or a decision by USAC that any approved Services are not eligible for funding (other than as the result of SBC's failure to comply with the E-Rate Requirements), Customer shall reimburse SBC for any funds that SBC must return to USAC or other appropriate entity or agency. Unless otherwise provided in the Service Conditions, Customer will pay all amounts due for Services no later than ninety (90) days after SBC's delivery of Services.

2. Requested Information. Customer will provide SBC with copies of the following materials (including all attachments) relating to the Services: (i) Form 471 (at the time of filing by Customer); (ii) Form 500 and Service Substitution Form (provided promptly but no later than 7 days after filing); and (iii) Service Certification Form (provided promptly but no later than 7 days after SBC's request). To the extent that Customer issues purchase orders, Customer shall clearly delineate between eligible and non-eligible Services on a single or separate purchase orders.

3.. Representations, Warranties and Indemnities. Each Party represents and warrants that it has or will comply with all laws and the requirements applicable to it pursuant to the E-Rate Requirements. Each Party agrees to indemnify and hold harmless the other Party (and its employees, officers, directors and agents) from and against all third party claims (including FCC or USAC claims) and related loss, liability, damage and expense (including attorney's fees) arising out of the indemnifying Party's violation of the E-Rate Requirements or breach of the representations, warranties, and terms contained in this Addendum.

*If this Rider is an attachment to a Master Agreement, insert below the date and Agreement Number" of the Master Agreement:

Exhibit 3c

PRESIDIO BID

Proposal for: CISCO Wireless Network Systems and Network Upgrades

RFP #05-48

Due: February 8, 2005

Prepared for:

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
PURCHASING DEPARTMENT

2515 BOBCAT LANE
SAN ANTONIO, TEXAS 78224

Prepared by:

The Presidio Corporation
7601 Ora Glen Drive, Suite 100
Greenbelt, MD 20770

Mike Wetz
Territory Manager
Phone – (210) 497-0795
Fax – (210) 497-4085
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Margaret Mendenhall
Inside Sales
Phone – (301) 313-0243
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Email mmendenhall@presidio.com

COPY

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SPIN # 143015315
QISV#1581667655300

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PRESIDIO

Quote #

Contact

Company
Street
City
State
Zip
Phone
Ext
Fax
Email

Date 2/7/05

Prepared By MARGARET MENDENHALL
The Presidio Corporation
7601 Ora Glen Drive, Suite 100
Greenbelt MD 20770
Phone 301/313-2043
Fax 301/313-0820
Mobile
Pager
Email mmendenhall@presidio.com

PART NUMBER	DESCRIPTION	QTY	LIST PRICE	EXT LIST PRICE
WS-C6506-E	Enh C6506 Chassis, 6slot, 12RU, No Pow Supply, No an Tray	2	$ 5,500.00	$ 11,000.00
	Enh C6509 Chassis, 9slot, 12RU, No Pow Supply, No an Tray	5	$ 9,500.00	$ 47,500.00
WS-SUP720-3B	Catalyst 6500 / Cisco 7600 Supervisor 720 Fabric MSFC3 PFC3B	92	$ 28,000.00	$ 2,576,000.00
MEM-C6K-CPTFL128M	Cat6500 Sup720 Compact Flash Mem 128MB	92	$ 700.00	$ 64,400.00
GLC-SX-MM	GE SFP, LC connector SX transceiver	292	$ 500.00	$ 146,000.00
WS-C6K-6SLOT-FAN	Catalyst 6000 Fan Tray for 6-Slot Systems	39	$ 495.00	$ 19,305.00
WS-C6K-9SLOT-FAN	Catalyst 6000 Fan Tray for 9-Slot Systems	0	$ 495.00	$ -
WS-C6506-E-FAN	Catalyst 6506-E Chassis Fan Tray	2	$ 495.00	$ 990.00
WS-C6509-E-FAN	Catalyst 6509-E Chassis Fan Tray	5	$ 495.00	$ 2,475.00
WS-X6548-GE-45AF	Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card	175	$ 14,000.00	$ 2,450,000.00
WS-CAC-6000W	Cat6500 6000W AC Power Supply	82	$ 5,000.00	$ 410,000.00
CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20 plug, US	164	$ -	$ -
WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced Image	13	$ 11,790.00	$ 153,270.00
WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced Image	41	$ 23,490.00	$ 963,090.00
CAB-AC	Power Cord,110V	54	$ -	$ -
AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	264	$ 899.00	$ 237,336.00
AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect. Qty. 1	264	$ 19.00	$ 5,016.00
AIR-PWR-SPLY-NA	AIR Line Cord North America/Domestic Power Supply	264	$ -	$ -
S733ZK9-12218SXD	Cisco CAT6000-SUP720 IOS IP W/SSH/3DES	7	$ -	$ -
CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/100/1000 (This is a 3 Year contract, first year Erate is free with an additional 2 Years.) -	13	$ 1,664.00	$ 21,632.00
CON-SNT-3750GPE	SMARTNET 8X5XNBD Catalyst 3750 48 10/100/1001 (This is a 3 Year contract, first year Erate free with an additional 2 Years) -	41	$ 3,128.00	$ 128,248.00
CON-SNT-WS-C6506	8x5xNBD Service,Catalyst 6506 - (This is a 3 Year contract, first year Erate is free with an additional 2 Years) -	2	$ 10,500.00	$ 21,000.00
CON-SNT-WS-C6509	8x5xNBD Service,Catalyst 6509 (This is a 3 Year contract, first year Erate is free with an additional 2 Years)	5	$ 13,000.00	$ 65,000.00

PRESIDIO

Quote #

Contact	Date	2/7/05	
Company	Prepared By	MARGARET MENDENHALL	
Street	The Presidio Corporation		
City	7601 Ora Glen Drive, Suite 100		
State	Greenbelt	MD	20770
Zip	Phone	301/313-2043	
Phone	Fax	301/313-0820	
Ext	Mobile		
Fax	Pager		
Email	Email	mmendenhall@presidio.com	

Account Manager :MICHAEL WETZ

PART NUMBER	DESCRIPTION	QTY	LIST PRICE	EXT LIST PRICE
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GLC-SX-MM	GE SFP, LC connector SX transceiver	46	$ 500.00	$ 23,000.00
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WS-X6548-GE-45AF	Cat 6500 PoE 802.3af 10/100/1000 48-	4	$ 14,000.00	$ 56,000.00
WS-CAC-6000W	Cat6500 6000W AC Power Supply	8	$ 5,000.00	$ 40,000.00
CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20	16	$ -	$ -
WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced	11	$ 11,790.00	$ 129,690.00
WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced	4	$ 23,490.00	$ 93,960.00
CAB-AC	Power Cord,110V	15	$ -	$ -
AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	20	$ 899.00	$ 17,980.00
AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect.	20	$ 19.00	$ 380.00
AIR-PWR-SPLY-NA	AIR Line Cord North America/Domestic Power Supply	20	$ -	$ -
CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/100/1000 (This is a 3 Year contract, first year Erate is free with an additional 2 Years)	11	$ 1,664.00	$ 18,304.00
CON-SNT-3750GPE	SMARTNET 8X5XNBD Catalyst 3750 48 10/100/1001 (This is a 3 Year contract, first year Erate is free with an additional 2 Years)	4	$ 3,128.00	$ 12,512.00

Pricing

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

School	Part Cost	Labor/Installation	Total
Athens Elementary	$ 261,904.38	$ 8,200.00	$ 270,104.38
Carrillo Elementary	$ 165,424.85	$ 8,200.00	$ 173,624.85
Armstrong Elementary	$ 175,150.52	$ 8,200.00	$ 183,350.52
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Grand Total	$ 4,551,097.63	$ 227,900.00	$ 4,778,997.63

PRICES ABOVE INCLUDE TRADE IN VALUE OF $150,000.00 OF EXCESS CISCO EQPT WHICH HAS BEEN DEDUCTED FROM THE TOTAL PARTS COST AT EACH SITE AND WILL BE ACCEPTED AFTER INSTALL OF NEW GEAR.

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

PRODUCT SPECIFICATIONS

The following are detailed specifications for the equipment that is part of this bid. Mark Yes in the blank if **your** product meets the requirement, or No if it does not meet the requirement. **All blanks must be marked with a "yes" or a "no" response. An unmarked blank or any other mark besides "yes" or "no" will be considered to be a "no" (not meeting requirement).**

Example: Yes Meets the requirement.
No Does not meet the requirement.

Section A: Detailed Specifications

General Requirement for Bid Items.

Yes Cisco equipment must meet FCC Class B and UL Safety Certification requirements.

Yes All hardware must be new (not previously used).

Yes All Cisco equipment must be equipped with identical components. No substitution of Cisco components among other units concerning manufacturer and/or model number is permitted.

Yes All hardware must be currently (at the time of bid) in production. If a model is discontinued, the bidder must provide an acceptable substitute at no increase in cost. The bidder must notify the South San Antonio ISD Technology Department of the substitute before making any substitutions. FAXED notification must be sent to:

South San Antonio ISD
Department of Technology
2715 Bobcat Lane #4
San Antonio Texas 78224-1298
Phone 210-977-7375
Fax: 210-977-7378

Yes Each Cisco equipment must have a unique serial number. The method used by the bidder to derive these serial numbers is immaterial to South San Antonio ISD Technology Department, a serial number must be displayed externally on the rear of the Cisco equipment. The serial number, if not provided by the original manufacturer, must be displayed on a printed label, may be of local fabrication, and must be affixed permanently to the component.

Yes A label must be affixed to the back of each Cisco Equipment that includes the following information:

1. Name of the Vendor
2. Area code and phone number of the Vendor
3. Date of warranty expiration.

Yes All Cisco Equipment must be able to accept and employ circuit boards designed to be inserted as expansion boards that meet industry standards. All expansion boards must not degrade performance of the Cisco Equipment.

Yes Testing and verification of functionality of the newly installed equipment by the vendor will be required.

Yes Vendor must notify the Technology Department in writing the serial numbers and location of installation of all Cisco Equipment. The location information must include the campus and room number. (Data on diskette is acceptable.)

Section B: DELIVERY

Delivery is included in the price of the Cisco Equipment, but the District has the option of having the vendor install and setup the Cisco Equipment. If the District purchased this option, the **vendor** must provide the following functions at the South San Antonio ISD **point of use** at a time on a date agreed upon:

1. Unbox all equipment and set it up at the location specified,
2. Connect the equipment,
3. Turn on the unit and verify that all components are functioning correctly.
4. A series of diagnostic routines must be automatically executed upon start up of all computers. The diagnostics must verify the correct operation of all key components, which must include as a minimum the following examples: the CPU, system RAM, internal disk controllers, internal drives, sound cards, keyboard and mouse.
5. If applicable the Windows XP and Office XP and or Cisco Software **MUST** be activated prior to completion of installation.
6. **ALL** software is to be delivered to the Technology Department Office.

Section C: Environmental for Bid Items

Yes Each hardware component must be underwriters Laboratory (UL) Certified. The vendor to whom this bid is awarded must be prepared to show proof of **UL** listing.

Yes Each hardware component must operate continuously in a normal office environment without degradation within an ambient temperature range of 60 degrees Fahrenheit through at least 90 degrees Fahrenheit with the relative humidity between 20 percent and 80 percent (non-condensing).

Yes Each hardware component must operate using a power source within a range of 115 volts AC nominal +1-10%, 60 Hertz frequency +/- 1 Hertz, single phase, and supplied form the normal 3-wire grounded outlet.

Yes Each electrical component must be certified to comply with the limits for Class B computing devices pursuant to Part 15 of FCC rules.

Yes Each hardware component must possess internal power-overload protection (fuses, circuit breakers, etc.) that conforms to Underwriters Laboratory (UL) requirements for that specific component.

Section E: Maintenance Specifications for Bid Items

Yes Each Cisco Equipment must be covered by a minimum three (3) year full coverage parts and labor warranty including either on-site repair or pick-up and return maintenance. (*1st year eligible for funding the others not*)

Yes If the manufacturer does not offer a full three (3) year warranty, the bidder must provide the balance of the three (3) year warranty, with identical provisions for parts and labor.

Yes Bidder must supply one copy of all warranties that apply to items bid. One copy of all such warranties should be included with each copy of the bid response.

Yes Response time for an item returned to the local service facility must normally be three (3) working days or less, i.e., the repair for an item returned for service under this bid must normally be completed within three (3) working days of receipt by the local service facility. If the vendor is unable to complete the repairs in three (3) working days, a "Loaner" of like or greater specifications and identical in operation to the unit brought in for repair must be made available to the South San Antonio ISD.

Yes Any replacement loaner equipment hardware item delivered to South San Antonio ISD must meet the same conditions and standards stated in this bid for original equipment.

Yes The bidder must agree that the use by South San Antonio ISD of after-sale added third party components will not void any of the warranty or maintenance provisions required as part of this bid. South San Antonio ISD agrees not to improperly use and/or otherwise configure the equipment in a manner that is not in accordance with the original manufacturer's warranty guidelines.

Yes All warranty and follow-on maintenance must be performed at a location in the greater San Antonio metropolitan area. This does not preclude depot level maintenance where certain items must be shipped back to the original manufacturer (at the bidders expense); however, the majority of the maintenance performed should be within the greater San Antonio Metropolitan Area.

Worker's Compensation: The Contractor shall provide and maintain worker's compensation based on statutory limits set by the Texas Workers Compensation Law. The contractor shall also provide Employer's Liability Insurance with a limit of not less than $500,000 for property damage liability with an aggregate of $1,000,000.

General Liability: The Contractor shall provide and maintain Comprehensive General Liability Insurance protection. Policy limits must be at least $500,000 for bodily injury liability and $500,000 for property damage liability with an aggregate of $1,000,000.

Automobile Liability: The Contractor shall provide and maintain during the life of this Contract, automobile public liability insurance in the amounts of not less than $250,000 and $500,000 for bodily injury, and $250,000 for property damage. Said insurance policy must provide protection for non-owned and hired vehicles, as well as vehicles owned by the Contractor.

PROPOSALS:

1. Proposals must be made on the enclosed bid form.
2. Facsimile proposals will not be accepted.
3. Proposals received after the time and date indicated will not be accepted and will be returned to the contractor unopened.
4. Proposal prices shall be firm for a minimum period of sixty (60) days from the date of the bid opening. A thirty (30) day minimum is usually required for approval by the Board of Trustees.
5. Questions in regards to this RFP must be submitted to the Purchasing Department for clarification US Postal Mail.
6. Vendor must include with bid a **one-page** description of the vendor's format of warranty work, i.e. from first call for assistance through resolution of problem.
7. The vendor must be able to supply a four-hour response time to perform warranty work on computer systems.
8. The vendor must have two certified computer repair technician employees at their business location. Both with CISCO Certifications that are valid. The vendor must provide a project manager who will be responsible for coordination of all activities of vendor's staff.

9. The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract.
10. **It is not the policy of the South San Antonio Independent School District to make awards on the basis of the lowest proposal alone, quality and suitability to purpose being the determining factors; it being understood that the District reserves the right to arrive at such a decision by whatever means it may determine.**
11. The District reserves the right to reject any and all proposals and to make awards on individual items, as they may appear to be most advantageous to the District and to waive all formalities in bidding.
12. During the performance of this contract, the contractor agrees not to discriminate against any employee or applicant for employment because of race, color, national origin, age, religion, gender, marital or veteran status or handicapping condition.
13. References: All vendors must submit a list of at least three (3) references from which vendor has provided like products or services. Educational & governmental agencies are preferred. This list may be placed in a separate envelope and labeled "Proprietary" and is not subject to public view. Failure to provide references may be cause for the proposal to be considered non-responsive.

REFERENCES:

School District:	**P.S.J.A. (Pharr-San Juan-Alamo) CISD – Pharr, Texas**	
Reference Contact:	Joe Martinez – Director of Technology	(956) 702-5984
School District:	**United ISD – Laredo, Texas**	
Reference Contact:	Hector Perez – Director of Technology	(956) 717-6370
School District:	**Edinburg ISD – Edinburg, Texas**	
Reference Contact:	George Gittins – Director of Technology	(956) 316-7421

AUTHORIZED COMPANY OFFICIAL'S NAME (printed): Jackie Arnett Executive Director

A. My firm is not owned nor operated by anyone who has been convicted of a felony.

Signature of Company Official: Jackie Arnett JACKIE Arnett Executive Director

B. My firm is a publicly-held corporation; therefore, this reporting requirement is not applicable.

Signature of Company Official:_____

C. My firm is owned or operated by the following individual(s) who has/have been convicted of a felony.

Name of Felon(s):_____

Details of conviction(s):_____

_____

_____

Signature of Company Official:_____

14. **PAYMENT:** Unless otherwise stated, payment will be thirty (30) days after receipt of correct invoice. If a cash discount is allowed for prompt payment, please indicate it on the bid form.

15. Comments and/or deviations from the specifications and conditions:

_____

_____

_____

14. **PAYMENT:** Unless otherwise stated, payment will be thirty (30) days after receipt of correct invoice. If a cash discount is allowed for prompt payment, please indicate it on the bid form.

15. Comments and/or deviations from the specifications and conditions:

_____

_____

_____

Bidder Requirements

YES **Vendor must be listed as a State of Texas General Service Commission Qualified Information System Vendor for 2003-2004.**

YES **Vendor must include their current QISV number on the Bid Form page.**

YES **Vendor must include on their company letterhead an exact list of equipment in the computer configurations that are to be delivered to the District for this RFP.**

YES **Vendor must include on their company letterhead their hourly rate for repairs not covered under warranty. i.e. – repairs caused by misuse or abuse of equipment or software/operator problems**

YES **Bidder must list USAC- Schools and Libraries Division Service Provider Information Number (SPIN) on Bid Form.**

YES **Vendor must be a Cisco Gold Certified Partner.**

Name: THE PRESIDIO CORPORATION

Address: 7601 ORA Glen DR Suite 100

City/State/Zip Greenbelt MD 20770

QISV Number ~~143019~~ 158166765300

FCC SPIN Number 143015315

Bidder hereby affirmatively states that it has not participated in any act of collusion, favoritism, gratuity or inside dealings with any member of the staff of the South San Antonio Independent School District or its Board of Trustees.

COMPANY NAME: THE PRESIDIO CORPORATION

SIGNATURE OF PERSON: Jackie Arnett

TITLE: EXECUTIVE DIRECTOR

ADDRESS: 7601 ORA Glen DR Suite 100

CITY: Greenbelt STATE: MD ZIP: 20770

PHONE #: 301-313-2000 FAX #: 301-313-0820

DATE: 2-2-05

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

HOLD HARMLESS AGREEMENT

The contractor shall defend, indemnify, and save whole and harmless, South San Antonio Independent School District and all of its officers, agents and employees from and against all suits, actions or claims of any character, name and description brought for or on account of any injuries or damages (including death) received or sustained by any person or property on account of, arising out of, or in contention with, any negligent act or omission of Contractor or any agent, employee, subcontractor or supplier of Contractor in the execution or performance of this contract.

The Contract shall also defend and indemnify the South San Antonio Independent School District against claims by any subcontractor, supplier, laborer, material-man or mechanic for payment for work or materials provided on behalf of the Contractor in the performance of the services and all such claimants shall look solely to Contractor and not South San Antonio Independent School District for satisfaction of such claims.

This hold harmless agreement shall be binding upon the undersigned and his heirs and assigns.

Dated this 2nd day of February, 2005.

Jackie Arnett

JACKIE Arnett Executive Director
(Printed Name)

STATE OF ~~TEXAS~~ INDIANA

COUNTY OF ~~BEXAR~~ BARTHOLOMEW

This instrument was acknowledged before me on the 2nd day of February, 2005.

(NOTARY'S SEAL)

Grant L Arnett

Notary Public, State of ~~Texas~~ INDIANA
GRANT L. Arnett

RFP #05-48

Pricing

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

School	Part Cost	Labor/Installation	Total
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Company		Prepared By	MARGARET MENDENHALL
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State		Greenbelt	MD 20770
Zip		Phone	301/313-2043
Phone		Fax	301/313-0820
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Email		Email	mmendenhall@presidio.com

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PRESIDIO

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State	Greenbelt	MD	20770
Zip	Phone	301/313-2043	
Phone	Fax	301/313-0820	
Ext	Mobile		
Fax	Pager		
Email	Email	mmendenhall@presidio.com	

Account Manager :MICHAEL WETZ

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WS-X6548-GE-45AF	Cat 6500 PoE 802.3af 10/100/1000 48-	4	$ 14,000.00	$ 56,000.00
WS-CAC-6000W	Cat6500 6000W AC Power Supply	8	$ 5,000.00	$ 40,000.00
CAB-AC-2500W-US1	Power Cord, 250Vac 16A, straight blade NEMA 6-20	16	$ -	$ -
WS-C3750G-24PS-E	Catalyst 3750 24 10/100/1000T PoE + 4 SFP Enhanced	11	$ 11,790.00	$ 129,690.00
WS-C3750G-48PS-E	Catalyst 3750 48 10/100/1000T PoE + 4 SFP Enhanced	4	$ 23,490.00	$ 93,960.00
CAB-AC	Power Cord,110V	15	$ -	$ -
AIR-AP1231G-A-K9	802.11g IOS AP w/Avail CBus Slot, FCC Cnfg	20	$ 899.00	$ 17,980.00
AIR-ANT4941	2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC Connect.	20	$ 19.00	$ 380.00
AIR-PWR-SPLY-NA	AIR Line Cord North America/Domestic Power Supply	20	$ -	$ -
CON-SNT-3750G24E	SMARTNET 8X5XNBD Catalyst 3750 24 10/100/1000 (This is a 3 Year contract, first year Erate is free with an additional 2 Years)	11	$ 1,664.00	$ 18,304.00
CON-SNT-3750GPE	SMARTNET 8X5XNBD Catalyst 3750 48 10/100/1001 (This is a 3 Year contract, first year Erate is free with an additional 2 Years)	4	$ 3,128.00	$ 12,512.00

Exhibit 3d

RXTECHNOLOGIES BID

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224

January 24, 2005

Contractors:

The South San Antonio Independent School District is requesting sealed proposals on **CISCO Wireless Network Systems and Network Upgrades , RFP #05-48.**

Please submit **two (2) copies** of your proposal on the appropriate enclosed forms no later than **2:00 P.M., TUESDAY, FEBRUARY 8, 2005.**

Proposals received after the indicated date and time will not be accepted.

Mail or deliver your proposals to:

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
PURCHASING DEPARTMENT
2515 BOBCAT LANE
SAN ANTONIO, TEXAS 78224

Be sure to label each proposal on the face of the envelope with the appropriate RFP number.

If you elect not to respond, return the proposal marked **"NO RESPONSE"** and we will keep your company on the vendor's list for future solicitations.

For more details contact the Purchasing Department at (210) 977-7070.

Sincerely,

Patrick J. Skees
General Accountant/Interim Director of Purchasing

PJS/ev

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

SPECIFICATIONS AND CONDITIONS

The South San Antonio Independent School District seeks sealed bid proposals for Cisco Wireless Network Systems and Network Upgrades at several campuses. These items will be performed as listed in the category of Internal Connections as defined by the Schools and Libraries Division of the Universal Services Administrative Company (the E-Rate program).

1. SSAISD is requesting cost estimates to purchase, engineer, and install wireless network systems using the Cisco 1200 wireless access points. Complete wireless infrastructure will be installed at 18 schools. Network upgrades at all schools using requested parts for Cisco 6500 series and Cisco 3750 series. Pricing will include engineering and installation.
   Wireless networks systems will installed and configured by the vendor. The engineering and installation will consist of a preliminary site visit to mark AP locations and assess any installation or coverage issues on each of the campuses. The district will provide diagrams of the locations and will work with the vendor to determine location of APs. The project will include the submission of the following documents: a wireless site visit report, a system design that denotes access point placement and configuration parameters (i.e. channel number, SSID, required accessories, etc.), labels for access points, a detailed equipment list inventory, a final report including details of access point settings with a campus diagram showing access point locations, AP name, and radio coverage, and any other design documentation deemed appropriate by the vendor. Also note that each Access Point will require a new Category 5e cable (up to 300' in length) installed that will extend between the AP and the appropriate network closet based on existing wiring boundaries to connect the AP to the switch for network access and power.

   Network Upgrades will include replacing Supervisor Engines, Power Supplies, Fan Trays, and Ethernet modules for Cisco 6500 series. These upgrades will occur in existing 6500 chassis. Equipment that is replaced will be traded in. **School along with requested equipment, lists the equipment that will be traded in.** Some areas call for new Cisco 6500s which will include all parts specified. Other areas call for Cisco 3750 series, 24 and 48 port models are specified by location. The vendor will install and configure all equipment.

2. The vendor will be responsible for a "turnkey" solution to include all hardware, cabling, engineering services, installation and configuration of all equipment per SSAISD. **The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract.**

3. The selected vendor will provide pricing on Cisco hardware, Cisco maintenance, and the Wireless installation. Important Note: The network installation will be performed outside of normal school hours. If you have special pricing for after normal business hours or weekends please bid and plan accordingly.
Below is the current school start and end times:
Elementary – 8:00 a.m. – 3:00 p.m.
Middle and High School- 8:00 a.m. - 3:30 p.m.*

4. The vendor will be required to perform the "client walkabout" survey under the direction of SSAISD staff. This involves walking the campus with a laptop to verify wireless coverage.

5. The vendor will be required to make site visits in preparation for installation, and may be required to assist in adjusting rack arrangements for the placement of new equipment.

6. There is no commitment by the District to purchase any given number of the Cisco items provided by the vendor. The number purchased will be determined based on unit price bid and funds availability. Vendor should include any price breaks for quantity purchases as requested.

7. Warranty service on this equipment shall include on-site repair and/or pick-up and delivery at no additional expense to the District. (Including "Depot Repair" components which must be returned to the manufacturer for repair.)

8. Bidder must be able to provide repair service during and beyond the warranty period. The bidder must maintain a repair facility within the greater San Antonio metropolitan area. Location of the repair facility may be considered during the bid evaluation. Bidder must be able to provide continuing support at no additional cost to the District for a minimum of twelve (12) months in the form of telephone advice and assistance to the South San Antonio ISD to answer questions and to resolve any issues which may arise. If the District selects extended warranty, the above-cited services must be provided during the extended warranty period.

9. If a vendor is located outside of the local San Antonio calling area a toll free number, i.e. "1-800", must be provided as part of their support for the District for the entire term of any contract.

10. The District reserves the right to cancel this contract with written notice if the vendor fails to comply with the terms and conditions of this bid.

11. If the manufacturer discontinues a bid product, the vendor must provide evidence, and provide an acceptable product that meets or exceeds the bid specifications at no increase in cost.

SITE LOCATION for POINT OF CONTACT:

South San Antonio ISD
2515 Bobcat Lane,
San Antonio, Texas 78224

To be provided to the following schools:

1. Roy P. Benavidez Elementary School
   8340 South IH-35
   San Antonio, TX 78224

2. Kindred Elementary School
   7811 Kindred Road
   San Antonio, TX 78224

3. Palo Alto Elementary School
   1725 Palo Alto Road
   San Antonio, TX 78211

4. Price Elementary School
   245 Price Avenue
   San Antonio, TX 78211

5. Hutchins Elementary
   1919 W. Hutchins
   San Antonio, TX 78224-1699

6. Athens Elementary
   2707 W. Gerald
   San Antonio, TX 78211-2345

7. Royalgate Elementary
   6100 Royalgate
   San Antonio, TX 78242

8. Armstrong Elementary
   7111 Apple Valley
   San Antonio, TX 78242

9. Carrillo Elementary
   500 Price
   San Antonio, TX 78211

10. Five Palms Elementary
    7138 Five Palms
    San Antonio, TX 78242

11. Abraham Kazen Middle School
    1520 Gillette
    San Antonio, TX 78224

12. Alan B. Shepard Middle School
    5558 Ray Ellison Drive
    San Antonio, TX 78242

13. Dwight Middle School
    2454 West Southcross
    San Antonio, TX 78211

14. West Campus High School
    5622 Ray Ellison Drive
    San Antonio, TX 78242

15. South San Antonio High School
    2715 Navajo
    San Antonio, TX 78224

17. South San Antonio Alternative School
    1450 Gillette
    San Antonio, TX 78224

18. Robert C. Zamora Middle School
    2515 Bobcat Lane
    San Antonio, TX 78224

TERM AND PAYMENT:

A. **The Term of the contract shall be from July 1, 2005 through June 30, 2006.**
B. Unless otherwise stated, payment will be within the guidelines of the Universal Service Discount Program. The selected vendor will need to contact the South San Antonio ISD Technology Department to discuss the receipt of pre-discounted bills once the funding request has been approved.
C. **The Universal Service Discount program, commonly known as the E-Rate, administered by the Universal Service Administrative Co. for the Federal Communications Commission, will fund this Request For Proposals. This proposal will be funded only if approved by the Schools and Library Division, and if the Universal Service Administrative Company appropriates the funds. Funding, if available, will not be expected until, or after, July 1, 2005.**
D. The selected vendor agrees to abide by all applicable policies of the Universal Service Discount program. The vendor will include its Service Provider Information Number (SPIN) in its proposal. The vendor will include its State of Texas, Texas Building and Procurement Commission (TBPC) approved Catalog Information Systems Vendor (CISV) qualified and **experienced in providing wireless network systems**.

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

PRODUCT SPECIFICATIONS

The following are detailed specifications for the equipment that is part of this bid. Mark Yes in the blank if **your** product meets the requirement, or No if it does not meet the requirement. **All blanks must be marked with a "yes" or a "no" response. An unmarked blank or any other mark besides "yes" or "no" will be considered to be a "no" (not meeting requirement).**

Example: Yes Meets the requirement.
No Does not meet the requirement.

Section A: Detailed Specifications

General Requirement for Bid Items.

Yes Cisco equipment must meet FCC Class B and UL Safety Certification requirements.

Yes All hardware must be new (not previously used).

Yes All Cisco equipment must be equipped with identical components. No substitution of Cisco components among other units concerning manufacturer and/or model number is permitted.

Yes All hardware must be currently (at the time of bid) in production. If a model is discontinued, the bidder must provide an acceptable substitute at no increase in cost. The bidder must notify the South San Antonio ISD Technology Department of the substitute before making any substitutions. FAXED notification must be sent to:

South San Antonio ISD
Department of Technology
2715 Bobcat Lane #4
San Antonio Texas 78224-1298
Phone 210-977-7375
Fax: 210-977-7378

Yes Each Cisco equipment must have a unique serial number. The method used by the bidder to derive these serial numbers is immaterial to South San Antonio ISD Technology Department, a serial number must be displayed externally on the rear of the Cisco equipment. The serial number, if not provided by the original manufacturer, must be displayed on a printed label, may be of local fabrication, and must be affixed permanently to the component.

Yes A label must be affixed to the back of each Cisco Equipment that includes the following information:

1. Name of the Vendor
2. Area code and phone number of the Vendor
3. Date of warranty expiration.

Yes All Cisco Equipment must be able to accept and employ circuit boards designed to be inserted as expansion boards that meet industry standards. All expansion boards must not degrade performance of the Cisco Equipment.

Yes Testing and verification of functionality of the newly installed equipment by the vendor will be required.

Yes Vendor must notify the Technology Department in writing the serial numbers and location of installation of all Cisco Equipment. The location information must include the campus and room number. (Data on diskette is acceptable.)

Section B: DELIVERY

Delivery is included in the price of the Cisco Equipment, but the District has the option of having the vendor install and setup the Cisco Equipment. If the District purchased this option, the **vendor** must provide the following functions at the South San Antonio ISD **point of use** at a time on a date agreed upon:

1. Unbox all equipment and set it up at the location specified,
2. Connect the equipment,
3. Turn on the unit and verify that all components are functioning correctly.
4. A series of diagnostic routines must be automatically executed upon start up of all computers. The diagnostics must verify the correct operation of all key components, which must include as a minimum the following examples: the CPU, system RAM, internal disk controllers, internal drives, sound cards, keyboard and mouse.
5. If applicable the Windows XP and Office XP and or Cisco Software **MUST** be activated prior to completion of installation.
6. **ALL** software is to be delivered to the Technology Department Office.

Section C: Environmental for Bid Items

Yes Each hardware component must be underwriters Laboratory (UL) Certified. The vendor to whom this bid is awarded must be prepared to show proof of **UL** listing.

Yes Each hardware component must operate continuously in a normal office environment without degradation within an ambient temperature range of 60 degrees Fahrenheit through at least 90 degrees Fahrenheit with the relative humidity between 20 percent and 80 percent (non-condensing).

Yes Each hardware component must operate using a power source within a range of 115 volts AC nominal +1-10%, 60 Hertz frequency +/- 1 Hertz, single phase, and supplied form the normal 3-wire grounded outlet.

Yes Each electrical component must be certified to comply with the limits for Class B computing devices pursuant to Part 15 of FCC rules.

Yes Each hardware component must possess internal power-overload protection (fuses, circuit breakers, etc.) that conforms to Underwriters Laboratory (UL) requirements for that specific component.

Section E: Maintenance Specifications for Bid Items

Yes Each Cisco Equipment must be covered by a minimum three (3) year full coverage parts and labor warranty including either on-site repair or pick-up and return maintenance. (*1st year eligible for funding the others not*)

Yes If the manufacturer does not offer a full three (3) year warranty, the bidder must provide the balance of the three (3) year warranty, with identical provisions for parts and labor.

Yes Bidder must supply one copy of all warranties that apply to items bid. One copy of all such warranties should be included with each copy of the bid response.

Yes Response time for an item returned to the local service facility must normally be three (3) working days or less, i.e., the repair for an item returned for service under this bid must normally be completed within three (3) working days of receipt by the local service facility. If the vendor is unable to complete the repairs in three (3) working days, a "Loaner" of like or

greater specifications and identical in operation to the unit brought in for repair must be made available to the South San Antonio ISD.

Yes — Any replacement loaner equipment hardware item delivered to South San Antonio ISD must meet the same conditions and standards stated in this bid for original equipment.

Yes — The bidder must agree that the use by South San Antonio ISD of after-sale added third party components will not void any of the warranty or maintenance provisions required as part of this bid. South San Antonio ISD agrees not to improperly use and/or otherwise configure the equipment in a manner that is not in accordance with the original manufacturer's warranty guidelines.

Yes — All warranty and follow-on maintenance must be performed at a location in the greater San Antonio metropolitan area. This does not preclude depot level maintenance where certain items must be shipped back to the original manufacturer (at the bidders expense); however, the majority of the maintenance performed should be within the greater San Antonio Metropolitan Area.

Worker's Compensation: The Contractor shall provide and maintain worker's compensation based on statutory limits set by the Texas Workers Compensation Law. The contractor shall also provide Employer's Liability Insurance with a limit of not less than $500,000 for property damage liability with an aggregate of $1,000,000.

General Liability: The Contractor shall provide and maintain Comprehensive General Liability Insurance protection. Policy limits must be at least $500,000 for b odily inj ury l iability a nd $500,000 for property damage liability with an aggregate of $1,000,000.

Automobile Liability: The Contractor shall provide and maintain during the life of this Contract, automobile public liability insurance in the amounts of not less than $250,000 and $500,000 for bodily injury, and $250,000 for property damage. Said insurance policy must provide protection for non-owned and hired vehicles, as well as vehicles owned by the Contractor.

PROPOSALS:

1. Proposals must be made on the enclosed bid form.
2. Facsimile proposals will not be accepted.
3. Proposals received after the time and date indicated will not be accepted and will be returned to the contractor unopened.
4. Proposal prices shall be firm for a minimum period of sixty (60) days from the date of the bid opening. A thirty (30) day minimum is usually required for approval by the Board of Trustees.
5. Questions in regards to this RFP must be submitted to the Purchasing Department for clarification US Postal Mail.
6. Vendor must include with bid a **one-page** description of the vendor's format of warranty work, i.e. from first call for assistance through resolution of problem.
7. The vendor must be able to supply a four-hour response time to perform warranty work on computer systems.
8. The vendor must have two certified computer repair technician employees at their business location. Both with CISCO Certifications that are valid. The vendor must provide a project manager who will be responsible for coordination of all activities of vendor's staff.
9. The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract.

10. **It is not the policy of the South San Antonio Independent School District to make awards on the basis of the lowest proposal alone, quality and suitability to purpose being the determining factors; it being understood that the District reserves the right to arrive at such a decision by whatever means it may determine.**
11. The District reserves the right to reject any and all proposals and to make awards on individual items, as they may appear to be most advantageous to the District and to waive all formalities in bidding.
12. During the performance of this contract, the contractor agrees not to discriminate against any employee or applicant for employment because of race, color, national origin, age, religion, gender, marital or veteran status or handicapping condition.
13. References: All vendors must submit a list of at least three (3) references from which vendor has provided like products or services. Educational & governmental agencies are preferred. This list may be placed in a separate envelope and labeled "Proprietary" and is not subject to public view. Failure to provide references may be cause for the proposal to be considered non-responsive.

Company: Northside I.S.D. Contact Person: Lori Jones Phone: 210/706-8500
Address: 5900 Evers Road
City/State:) Bryan, Texas 78238

Company: Bryan I.S.D Contact Person: Brad Goodman Phone: 979/ 209-1171
Address: 800 South Texas Ave
City/State:) Bryan, Texas 77803

Company: Southside I.S.D. Contact Person: Susan Kiesler Phone: 210/882-1600
Address: 1460 Martinez-Losoya Rd
City/State:) San Antonio, Texas 78221

13. **FELONY CONVICTION NOTIFICATION:** The following Felony Conviction Notification must be completed by all vendors submitting bids and be considered in evaluation for award.

State of Texas Legislative Senate Bill No. 1, Section 44.034, Notification of Criminal History, Subsection (a), states "a person or business entity that enters into a contract with a school district must give advance notice to the district if the person or an owner or operator of the business entity has been convicted of a felony. The notice must include a general description of the conduct resulting in the conviction of a felony."

Subsection (b) states "a school district may terminate a contract with a person or business entity if the district determines that the person or business entity failed to give notice as required by Subsection (a) or misrepresented the conduct resulting in the conviction. The district must compensate the person or business entity for service performed before the termination of the contract."

THIS NOTICE IS NOT REQUIRED OF A PUBLICLY-HELD CORPORATION

I, the undersigned agent for the firm named below, certify that the information concerning felony convictions has been reviewed by me and the following information furnished is true to the best of my knowledge.

VENDORS NAME: Major Inc dba Rx Technology

AUTHORIZED COMPANY OFFICIAL'S NAME (printed): Mark Rizzo

A. My firm is not owned nor operated by anyone who has been convicted of a felony.

Signature of Company Official:_____

B. My firm is a publicly-held corporation; therefore, this reporting requirement is not applicable.

Signature of Company Official:_____

C. My firm is owned or operated by the following individual(s) who has/have been convicted of a felony.

Name of Felon(s):_____

Details of conviction(s):_____

_____

_____

Signature of Company Official:_____

14. **PAYMENT:** Unless otherwise stated, payment will be thirty (30) days after receipt of correct invoice. If a cash discount is allowed for prompt payment, please indicate it on the bid form.

15. Comments and/or deviations from the specifications and conditions:

_____

_____

_____

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO, TEXAS 78224

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

Armstrong Elementary School

- 2 Sup 720 (Trade in 2 Sup 1A), 1 new fan kit (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules (Trade in 4 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 1 3750 48 port switch
- 1 6506 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 12 Access points

Athens Elementary School

- 4 Sup 720 (Trade in 2 Sup 2 and 2 Sup 1A), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 2 3750 48 port switch
- 1 3750 24 port switch
- 1 6506 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 10 Access points

Benavidez Elementary School

- 4 Sup 720 (Trade in 4 Sup 1A), 2 new fan kits (Trade in existing)
- 8 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 3 3750 48 port switch
- 1 6509 with 2 Sup 720, 5 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 16 Access points

Carrillo Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 1 3750 48 port switch
- 12 Access points

Five Palms Elementary School

- 2 Sup 720 (Trade in 2 Sup 1A), 1 new fan kits (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules (Trade in 4 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 1 3750 24 port switch
- 1 6509 with 2 Sup 720, 6 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 12 Access points

Hutchins Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 7 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 14 Access points

Kindred Elementary School

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 9 10/100/1000 POE 48 port 6500 modules (Trade in 7 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 1 3750 48 port switch
- 12 Access points

Palo Alto Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 6 10/100/1000 POE 48 port 6500 modules (Trade in 6 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 4 3750 48 port switch
- 16 Access points

Price Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 6 10/100/1000 POE 48 port 6500 modules (Trade in 6 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 4 3750 48 port switch
- 12 Access points

Royalgate Elementary School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 5 10/100/1000 POE 48 port 6500 modules (Trade in 5 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 3750 24 port switch
- 4 3750 48 port switch
- 16 Access points

Shepard Middle School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 8 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 2 1000 Watt and 2 1300 Watt)
- 1 6509 with 2 Sup 720, 5 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 15 Access points

Kazen Middle School

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 11 10/100/1000 POE 48 port 6500 modules (Trade in 10 10/100 48 port modules)
- 6 6000 Watt power supply (Trade in 2 1000 Watt and 4 1300 Watt)
- 2 6509 with 2 Sup 720, 4 10/100/1000 POE 48 port 6500 modules, 2 6000 Watt Power supplies, fan kit, etc. (new 6500)
- 15 Access points

Dwight Middle School

- 8 Sup 720 (Trade in 4 Sup 1A and 4 Sup 2), 4 new fan kits (Trade in existing)
- 15 10/100/1000 POE 48 port 6500 modules (Trade in 13 10/100 48 port modules)
- 8 6000 Watt power supply (Trade in 4 1000 Watt and 4 1300 Watt)
- 3 3750 48 port switch
- 20 Access points

South San High School

- 12 Sup 720 (Trade in 8 Sup 1A and 4 Sup 2), 6 new fan kits (Trade in existing)
- 24 10/100/1000 POE 48 port 6500 modules (Trade in 20 10/100 48 port modules)
- 12 6000 Watt power supply (Trade in 12 1300 Watt)
- 6 3750 24 port switch
- 18 3750 48 port switch
- 30 Access points

West Campus High School

- 4 Sup 720 (Trade in 2 Sup 1A and 2 Sup 2), 2 new fan kits (Trade in existing)
- 13 10/100/1000 POE 48 port 6500 modules (Trade in 13 10/100 48 port modules)
- 2 6000 Watt power supply (Trade in 2 1300 Watt)
- 15 Access points

Alternative School

- 6 Sup 720 (Trade in 4 Sup 1A and 2 Sup 2), 3 new fan kits (Trade in existing)
- 9 10/100/1000 POE 48 port 6500 modules (Trade in 8 10/100 48 port modules)
- 4 6000 Watt power supply (Trade in 4 1300 Watt)
- 12 Access points

Robert C. Zamora Middle School

- 25 Access points

NOTES:

Cisco 6500 Upgrades will use the following:

1. Cisco Catalyst 6500 Supervisor Card Upgrade (Listed as Sup 720 on school list)
   - WS-Sup720-3B (Catalyst 6500 Supervisor 720 Fabric MSFC3 PFC3B)
   - MEM-C6K-CPTFL128M (Cat6500 Sup720 Compact Flash Mem 128MB)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each Sup720
   - 8x5xNBD Smarnet Service

2. Cisco Catalyst 6500 Power Supply Upgrade (Listed as 6000 Watt power supply on school list)
   - WS-CAC-6000W
   - CAB-AC-2500W-US1 (2 for each power supply)
   - 8x5xNBD Smartnet Service

3. Cisco Catalyst 6500 Fan Tray Upgrade (Listed as new fan kit on school list)
   - WS-C6K-9SLOT-FAN2 (For 9 slot 6500 chassis)
   - WS-C6K-6SLOT-FAN2 (For 6 slot 6500 chassis)
   - 8x5xNBD Smartnet Service

4. Cisco 48 Port Card Upgrade (Listed as 10/100/1000 POE 48 port 6500 modules on school list)
   - WS-X6548-GE-45AF (Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card)
   - 8x5xNBD Smartnet Service

Notes: Vendor will remove all modules while installing upgraded modules.
Modules replaced will be returned to school district.
Modules that are being traded in will be give to the vendor once upgraded equipment is installed.
Vendor will use existing cables to connect new equipment to patch panel.
Vendor will be responsible for making sure all modules are installed and are working correctly.
Vendor will configure switch after communicating with school district.

Access points will include:

5. Cisco 1200 Series Access Point
   - AIR-AP1231G-A-K9 (802.11g IOS AP w/Avail CBus Slot, FCC Cnfg)
   - AIR-ANT4941 (2.4 GHz,2.2 dBi Dipole Antenna w/ RP-TNC)

- AIR-PWR-CORD-NA (AIR Line Cord North America)
- S11W7K9-12215XR (Cisco 1100 Series IOS WIRELESS LAN)
- 8x5xNBD Smarnet Service

Each new 3750 24/48 port switches will include the following

6. Cisco Catalyst 3750 24 Port Switch (Listed as 3750 24 port switch on school list)
   - WS-C3750G-24PS-E (24 Port 10/100/1000 with Power Over Ethernet)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each switch
   - 8x5xNBD Smarnet Service

7. Cisco Catalyst 34750 48 Port Switch (Listed as 3750 48 port switch on school list)
   - WS-C3750G-48PS-E (48 Port 10/100/1000 with Power Over Ethernet)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each switch
   - 8x5xNBD Smarnet Service

Notes: Switches will be mounted and patch cables will be connected by vendor.
Vendor will remove any existing equipment and return to school district.
Vendor will use existing cables to connect new equipment to patch panel.
Vendor will be responsible for making sure all modules are installed and are working correctly.
Vendor will configure switch after communicating with school district.

New 6500s will include:

8. Cisco Catalyst 6500 Supervisor Card (2 in each new 6500)
   - WS-Sup720-3B (Catalyst 6500 Supervisor 720 Fabric MSFC3 PFC3B)
   - MEM-C6K-CPTFL128M (Cat6500 Sup720 Compact Flash Mem 128MB)
   - GLC-SX-MM (Small Form Pluggable (SFP) Fiber Connector) 2 for each Sup720
   - 8x5xNBD Smarnet Service

9. Cisco Catalyst 6500 Power Supply (2 in each new 6500)
   - WS-CAC-6000W
   - CAB-AC-2500W-US1 (2 for each power supply)
   - 8x5xNBD Smartnet Service

10. Cisco Catalyst 6500 Fan Tray (1 in each new 6500)
    - WS-C6K-9SLOT-FAN2 (For 9 slot 6500 chassis)
    - WS-C6K-6SLOT-FAN2 (For 6 slot 6500 chassis)
    - 8x5xNBD Smartnet Service

11. Cisco 48 Port Card (Quantity listed in school list)
    - WS-X6548-GE-45AF (Cat 6500 PoE 802.3af 10/100/1000 48-port(RJ45)CEF256 card)
    - 8x5xNBD Smartnet Service

12. Cisco Catalyst 6500 (1 for each new 6500 listed)
    - WS-C6509-E (Enh C6509 Chassis, 9slot, No Pow Supply, No Fan Tray for 9 slot)
    - WS-C6506-E (Enh C6509 Chassis, 6slot, No Pow Supply, No Fan Tray for 6 slot)

Notes: 6500s will be mounted and patch cables will be connected by vendor.
Vendor will remove any existing equipment and return to school district.
Vendor will use existing cables to connect new equipment to patch panel.
Vendor will be responsible for making sure all modules are installed and are working correctly.
Vendor will configure switch after communicating with school district.

The following are not erate eligible and are required on a separate listing from the above. The district will seek internal funding to complete these projects below.

Special Programs Building
- 1 3750 48 port switch
- 2 Access points

Student Appraisal Center
- 1 3750 24 port switch
- 1 3750 48 port switch
- 3 Access points

Parent Development Center
- 2 3750 48 port switch
- 3 Access points

Food Services
- 1 3750 24 port switch
- 1 Access point

Warehouse
- 1 3750 24 port switch
- 1 Access points

Central Office
- 8 Sup 720 (Trade in 4 Sup 1A and 4 Sup 2), 4 new fan kits (Trade in existing)
- 4 10/100/1000 POE 48 port 6500 modules
- 8 6000 Watt power supply (Trade in 8 1300 Watt)
- 8 3750 24 port switch
- 4 Access points

Anna Marie Hernandez Community Learning Center
- 6 Access points

Bidder Requirements

Yes	**Vendor must be listed as a State of Texas General Service Commission Qualified Information System Vendor for 2003-2004.**
Yes	**Vendor must include their current QISV number on the Bid Form page.**
Yes	**Vendor must include on their company letterhead an exact list of equipment in the computer configurations that are to be delivered to the District for this RFP.**
Yes	**Vendor must include on their company letterhead their hourly rate for repairs not covered under warranty. i.e. – repairs caused by misuse or abuse of equipment or software/operator problems**
Yes	**Bidder must list USAC- Schools and Libraries Division Service Provider Information Number (SPIN) on Bid Form.**
No	**Vendor must be a Cisco Gold Certified Partner.**

Name: Major Inc. dba Rx Technology

Address: 3370 Nacogdoches Rd Ste 136

City/State/Zip: San Antonio, TX 78217

QISV Number 1742947189300

FCC SPIN Number 143007191

Bidder hereby affirmatively states that it has not participated in any act of collusion, favoritism, gratuity or inside dealings with any member of the staff of the South San Antonio Independent School District or its Board of Trustees.

COMPANY NAME: Mark Rizzo

SIGNATURE OF PERSON:_____

TITLE: Vice President

ADDRESS: 3370 Nacogdoches Rd Ste 136

CITY: San Antonio STATE: Texas ZIP: 78217

PHONE#: 210-828-6081 FAX #: 210-828-8419

DATE: 2/7/05

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
2515 BOBCAT LANE
SAN ANTONIO TEXAS 78224-1298

HOLD HARMLESS AGREEMENT

The contractor shall defend, indemnify, and save whole and harmless, South San Antonio Independent School District and all of its officers, agents and employees from and against all suits, actions or claims of any character, name and description brought for or on account of any injuries or damages (including death) received or sustained by any person or property on account of, arising out of, or in contention with, any negligent act or omission of Contractor or any agent, employee, subcontractor or supplier of Contractor in the execution or performance of this contract.

The Contract shall also defend and indemnify the South San Antonio Independent School District against claims by any subcontractor, supplier, laborer, material-man or mechanic for payment for work or materials provided on behalf of the Contractor in the performance of the services and all such claimants shall look solely to Contractor and not South San Antonio Independent School District for satisfaction of such claims.

This hold harmless agreement shall be binding upon the undersigned and his heirs and assigns.

Dated this 7th day of February, 2005.

Mark Rizzo
(Printed Name)

STATE OF TEXAS

COUNTY OF BEXAR

This instrument was acknowledged before me on the 7th day of February, 2005.

(NOTARY'S SEAL)

MADELYN GILLEY
Notary Public
STATE OF TEXAS
My Comm Exp 10-12-2008

Notary Public, State of Texas

RFP #05-48

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

School	Part Cost	Labor/Installation	Total
Athens Elementary	272,228.00	18,911.40	291,139.40
Carrillo Elementary	181,183.00	11,459.15	192.642.15
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Five Palms Elementary	203,404.00	16,530.20	219,934.20
Royalgate Elementary	196,825.00	18,321.25	215,146.25
Hutchins Elementary	172,651.00	16,052.55	188,703.55
Benavidez Elementary	329,712.00	17,333.69	347,045.60
Price Elementary	196,712.00	16,195.60	212,907.60
Palo Alto Elementary	205,232.00	18,741.60	223,973.60
Kindred Elementary	219,551.00	17,337.55	236,888.55
Shepard Middle School	299,314.00	22,915.70	322,229.70
Robert C. Zamora Middle School	17,200.00	13,250.00	30,450.00
Kazen Middle School	446,625.00	30,281.25	476,906.25
Dwight Middle School	366,331.00	28,916.55	395,247.55
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West Campus High School	204,187.00	18,159.35	222,346.35
South San Alternative School	217,699.00	17,244.95	234,943.95
South San Antonio ISD			
Grand Total	4,443,059.00	346,621.04	4,789,680.04

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

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Student Appraisal Center	17,813.00	2,480.65	20,293.65
Parent Development Center	41.138.00	3,646.90	44,784.90
Food Services	6,487.00	854.35	7,341.35
WareHouse	6,487.00	854.35	7,341.35
Central Office	279,424.00	16,091.20	295,515.20
Anna Marie Hernandez Community Learning Center	4,266.00	3,180.00	7,446.00
Grand Total	366,941.00	$ 32,973.75	399,914.75

ACORD CERTIFICATE OF LIABILITY INSURANCE

OP ID TB RXTEC-1 | DATE (MM/DD/YYYY) 06/03/04

PRODUCER
Brown & Brown Ins Serv of SA
dba Bailey-Gosling
334 North Park Dr
San Antonio TX 78216
Phone:210-494-3102 Fax:210-494-7529

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED
RX Technology
Major Inc. dba
3370 Nacogdoches #136
San Antonio TX 78217

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: Maryland Casualty Company	
INSURER B:	
INSURER C:	
INSURER D:	
INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A		GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT LOC	PPS43225474	05/18/04	05/18/05	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1000000 $ 1000000 $ 10000 $ Excluded $ 2000000 $ 2000000
A		AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS	SBS43224318	05/18/04	05/18/05	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
		GARAGE LIABILITY ANY AUTO				AUTO ONLY - EA ACCIDENT OTHER THAN AUTO ONLY: EA ACC AGG	$ $ $
A		EXCESS/UMBRELLA LIABILITY X OCCUR CLAIMS MADE DEDUCTIBLE X RETENTION $10,000	PPS43225474	05/18/04	05/18/05	EACH OCCURRENCE AGGREGATE	$ 1,000,000 $ 1,000,000 $ $ $
A		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below	WC43225888	05/18/04	05/18/05	WC STATU-TORY LIMITS / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1000000 $ 1000000 $ 1000000
		OTHER					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

CERTIFICATE HOLDER

FORBIDD

For Bidding Purposes Only

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 10 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE
Marc Molon

ACORD 25 (2001/08)

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SCTRCA

Small, Minority, Women Business Enterprise (S/M/WBE) Program

MAJOR, INC., DBA: RX TECHNOLOGY

has filed the appropriate affidavit with the South Central Texas Regional Certification Agency (SCTRCA) and is hereby certified in the Texas Unified Certification Program, in accordance with 49 CFR Part 26 and SCTRCA Standards, as a:

SBE **WBE**

This Certification Certificate must be updated annually by submission of a Compliance Affidavit. You are required to notify the SCTRCA within 30 days of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, or control requirements and any material change in the information provided in the submission of the business' application for DBE certification.

CERTIFICATE EXPIRES: **06/15/2007** CERTIFICATION NO.: **201-07-1983**

Certified in the following work categories:
North American Industry Classification System (NAICS) code(s):

541512	**Computer Systems Design Services**
517212	**Cellular and Other Wireless Telecommunications**
443120	**Computer and Software Stores**

Bridget Negrón Booth
EXECUTIVE DIRECTOR

RFP 05-14 RX TECHNOLOGY RESPONSE

The professional designation of

RCDD®

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER

is awarded to

Larry McNeill

by BICSI®, A Telecommunications Association, in recognition of having successfully completed BICSI's registration and examination requirements.

Issued May 8, 2000

Expires December 31, 2003

President, BICSI

Executive Director, BICSI

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER BICSI

RX TECHNOLOGY
3370 Nacogdoches, Suite 136
San Antonio, Texas 78217
Voice: 210.828.6081
Fax: 210.828.8419
http://www.rx-tech.com

Project References

Company:	South San Antonio ISD	Contact:	Sandra Soto
Address:	2515 Bobcat Lane, San Antonio, TX. 78224	Phone:	210-977-7375
Job:	Several thousand Cat5 and Cat5e drops with multimode fiber links between IDF and MDF locations. Installation of data, voice and video connections. Cisco Routers/Switches installed, configured. Installation of EMT conduit for all outside network cable runs, with some Wireless network set-ups at certain campuses.		

Company:	San Antonio ISD	Contact:	Chris Hamilton
Address:	1702 N. Alamo, San Antonio, TX. 78215	Phone:	210-299-1110
Job:	Approx. 2000 Cat5 drops with multimode fiber links between IDF and MDF locations, spread between 10 campuses within the district. Installation of Baystack switches. Installation of EMT conduit for all outside network cable runs.		

Company:	Southside ISD	Contact:	Joe Chmielewski
Address:	1016 Martinez-Losoya San Antonio, TX. 78221	Phone:	210-882-1600
Job:	Approx. 500 Cat5 drops with multimode fiber links between IDF and MDF locations. Cisco wireless network connection installed between 4 campuses.		

Company:	Harlandale ISD	Contact:	Lloyd Kirkpatrick
Address:	632 West Vestal, San Antonio, TX. 78221	Phone:	210-921-4357
Job:	Approx. 2100 Cat5 drops spread between 9 different campuses. Wiremold metal raceway system utilized at all campuses.		

Company:	Sharyland ISD	Contact:	Hector Reyna
Address:	1106 N. Shary Rd., Mission, TX. 78572	Phone:	956-580-5200
Job:	Installation of Cat5e data drops and multimode fiber among 4 different campuses. Installation and configuration of Cisco Routers & Switches.		

Company:	Alamo Community College District	Contact:	John Childers
Address:	201 W. Sheridan St, San Antonio, TX 78204	Phone:	210-220-1513
Job:	Installed approx. 1200 data, voice and video drops in new ACCD Technology building located at Kelly USA. Have installed Cat5e data drops in several different ACCD campuses locally.		

Company:	Weslaco ISD	Contact:	Jeff Harris
Address:	312 W. Fifth St, Weslaco, TX 78599	Phone:	956-969-6545
Job:	Installation of 250 Cat5e data drops and 1600 ft of multimode fiber in new wings of Garza Elementary school. (project currently in progress)		

Company:	Alamo Area Council of Governments	Contact:	Cindy Krueger
Address:	8626 Tesoro Dr. Suite 700 San Antonio, TX 78217	Phone:	210-362-5252
Job:	Awarded c ontract t o r elocate dat a and v oice dr ops. 180 dat a and 150 voice with multimode fiber runs between floors and connecting building. Siemon mfg product installation.		

Rx Technology Vendor Detail

CMBL/HUB Vendor Contact Information	
Vendor ID / Number:	1742947189300 / 86727
HUB Status:	A (HUB on CMBL)
Vendor Name:	RX TECHNOLOGY
Vendor Address:	STE 136 3370 NACOGDOCHES SAN ANTONIO, TX 78217-4702
County:	BEXAR
Contact:	MARK RIZZO
Phone / Fax:	210-828-6081 / 210-828-8419
Email Address:	mrizzo@rx-tech.com
Ethnicity / Gender:	WO / F
Business Description:	COMPUTER SALES, SERVICE, NETWORKING & FIBER OPTIC CABLING
HUB Category:	COMMODITIES MANUFACTURERS (08)
Texas Office:	Y
QISV:	Catalog
Small Business:	Y
CMBL Expire Date:	03/25/2005
HUB Expire Date:	03/27/2007

State of Texas

Historically Underutilized Business
Certification and Compliance Program

The Texas Building & Procurement Commission (TBPC), hereby certifies that

RX TECHNOLOGY

has successfully met the established requirements of the State of Texas Historically Underutilized Business (HUB) Certification and Compliance Program to be recognized as a HUB.

This certificate, printed 29-MAR-2003, supersedes any registration and certificate previously issued by the TBPC's HUB Certification and Compliance Program. If there are any changes regarding the information (i.e., business structure, ownership, day-to-day management, operational control, addresses, phone and fax numbers or authorized signatures) provided in the submission of the business' application for registration/certification as a HUB, you must immediately (within 30 days of such changes) notify the TBPC's HUB program in writing. The Commission reserves the right to conduct a compliance review at any time to confirm HUB eligibility. HUB certification may be suspended or revoked upon findings of ineligibility

Paul A. Gibson

Certificate/VID Number:	1742947189300	Paul A. Gibson
File/Vendor Number:	86727	HUB Certification & Compliance Supervisor
Approval Date:	27-MAR-2003	Texas Building & Procurement Commission
Expiration Date:	27-MAR-2005	(512) 305-9071

Note: In order for State agencies and institutions of higher education (universities) to be credited for utilizing this business as a HUB, they must award payment under the Certificate/VID Number identified above. Agencies and universities are encouraged to validate HUB certification prior to issuing a notice of award by accessing the Internet (http://www.tbpc.state.tx.us) or by contacting the TBPC's HUB Certification and Compliance Program at (888) 863-5881 or (512) 463-5872

WARRANTY POLICY

REFUNDS: 100% refunds are issued within seven(7) days.
IN-STORE CREDIT: Credits are issued within (30) days at the CURRENT Rx Technology selling price (on the day of return).
WARRANTIES:

Assembled Systems:	1 year parts & labor warranty
CPU Chips:	30 day exchange warranty
Monitors:	With original packaging, 1 year exchange. Without original packaging, 1 year repair.
All other products:	1 year exchange warranty.
Note:	Longer manufactures' warranties may apply beyond Rx Technology's warranty term(s).

GENERAL CONDITIONS: Returns must include original packaging and all accessories. For expedient service, an original invoice copy must be included.

Rx Technology makes no warranty that the products sold are fit for a particular purpose and disclaims such warranties to the extent that they may be implied by law. In the event of product failure, purchaser's sole remedy shall be repair or replacement as provided above. Under no circumstances will Rx Technology be liable for incidental or consequential damages arising out of the use, or inability to use, products purchased from Rx Technology.

This warranty covers ONLY hardware and software purchased from Rx Technology by the original purchaser. This warranty is non-transferable.

No warranty or guarantee exists for damage or destruction of a willful nature, caused deliberately by any person or arising from the use of the product for any reason other than it's intended use by the manufacturer.

No warranty exists for any damage resulting from modifications made by any person other than an Rx Technology Technician. (Modifications to include installation and altering of software and/or hardware.)

No warranty exists for repairs of damages due to natural causes, including electrical surges, fire, flooding, etc. No payment will be made for any data or software lost for any reason.

RX TECHNOLOGY
3370 Nacogdoches, Suite 136
San Antonio, Texas 78217
Voice: (210) 828-6081
Fax: (210) 828-8419

After normal business hours our hourly rate is 75.00

CISCO WIRELESS NETWORK SYSTEMS AND NETWORK UPGRADES
RFP #05-48

School	Part Cost	Labor/Installation	Total
Athens Elementary	272,228.00	18,911.40	291,139.40
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Central Office	279,424.00	16,091.20	295,515.20
Anna Marie Hernandez Community Learning Center	4,266.00	3,180.00	7,446.00
Grand Total	366,941.00	$ 32,973.75	399,914.75

Exhibit 4

Bid Scoring Worksheet

RFP 05-48 CISCO Wireless Network Systems and Network Upgrades

Company	Sub contracting	Product Specifications	One Page description of Warranty	CISCO GOLD	CISV	Company Letterhead list of equipment	SPIN	Hourly rate outside of warranty	Hold Harmless notary	Total of Erate Projects	Total of Non-erate projects
SBC	Yes	yes	No multiple on Cisco only	Yes	yes	yes	Yes	Yes /122	yes	4,287,773.47	723,170.29
RX Tech	No	yes	yes	No	yes	no	Yes	Yes/ 75	yes	4,789,680.04	399,914.75
Avnet	No	yes	yes	yes	yes	yes	yes	Yes/120	yes	11,788,648.65	5,442,403.74
Presidio	No response	yes	no	yes	yes	yes	yes	no	yes	4,778,997.63	623,406.00 w/o install

Exhibit 5

To: Gloria Steremberg
Manager | Advisory Services KPMG
gsteremberg@kpmg.com
Fax 866.302.7507

From: Sandra A. Soto SASoto
Administrator for Career & Technology South San Antonio ISD
sasoto@southsanisd.net
Fax 210.977.7356

Date: February 9, 2009

Subject: Information on RFP 05-48

I have been asked by the Superintendent of South San Antonio ISD, Mr. Ron Durbon to answer the following question. "What were your justifications for selecting Avnet for this particular project ? Help us to understand why they were chosen, based on the price difference between the other three vendors.?" I am unclear of the origins of the question, however I have supplied the following information from the time I was assigned to the Technology Department. I am no longer in my former position nor in the Technology Department as of November 13, 2008.

To the best of my recollection this is what I remember:

The bid calculation scoring worksheet reflects the vendors that submitted proposals. The necessary requirements, of which the district was seeking from each vendor at that time, are listed on page 17 and throughout the document RFP #05-48.

The items on page 17 included;
Vendor must be listed as a State of Texas General Service Commission Qualified Information System Vendor for 2003-2004, Vendor must include their current QISV number on the Bid Form page, Vendor must include on their company letterhead an exact list of equipment in the computer configurations that are to be delivered to the District for this RFP, Vendor must include on their company letterhead their hourly rate for repairs not covered under warranty. i.e. – repairs caused by misuse or abuse of equipment or software/operator problems, Bidder must list USAC- Schools and Libraries Division Service Provider Information Number (SPIN) on Bid Form, Vendor must be a Cisco Gold Certified Partner.

Other requirements throughout the document included;
Completing information on the hold harmless agreement set by the purchasing department of South San ISD, The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract, The selected vendor agrees to abide by all applicable policies of the Universal Service Discount program. The vendor will include its Service Provider Information

Universal Service Discount program. The vendor will include its Service Provider Information Number (SPIN) in its proposal. The vendor will include its State of Texas, Texas Building and Procurement Commission (TBPC) approved Catalog Information Systems Vendor (CISV) qualified and experienced in providing wireless network systems, Vendor must include with bid a one-page description of the vendor's format of warranty work, i.e. from first call for assistance through resolution of problem, The vendor must have two certified computer repair technician employees at their business location both with CISCO Certifications that are valid, and The vendor must provide a project manager who will be responsible for coordination of all activities of vendor's staff.

The Purchasing Department also requires RFP's to have the following factors in awarding a contract; Purchase price, The reputation of the vendor and of the vendor's goods and Services, The quality of the vendor's goods or services, The extent to which the goods or services meet the District's needs. The vendor's past relationship with the District. The impact on the ability of the District to comply with laws relating to historically underutilized businesses, The total long-term cost to the District to acquire the goods or services , and Any other relevant factor specifically listed in the request for bids or proposals. CH(Legal)-P

According to the SLD website entities must also comply with all state and local procurement rules and entities can set some requirements for bidders. From the Train-the-Trainer Workshop September 27-29, 2004.

Also, all vendors had the opportunity on page 10 question number 15 to provide "comments and/or deviations from the specifications and conditions" of which some vendors did so in their submitted proposals. Also as stated in item 5, "Questions in regards to this RFP must be submitted to the Purchasing Department for clarification US Postal Mail," this opportunity was available to all vendors during the posting of the RFP to obtain equitable information through this format.

The backup that was provided to the board was a recommendation based on each vendor meeting the requirements stated above. This recommendation was forwarded to the Purchasing Department for review. The governing body that has the final decision, based on all documents provided to decide on the vendor, is the board of trustees. A matrix of price is included and if requested a copy of the submitted proposals are available as well as the matrix of requirements met in the RFP.

The recommendation was given based on the complete proposal of CISCO WIRELESS NETWORK SYSTEMS & NETWORK UPGRADES. These proposals were reviewed by the System Specialist at the time Adam Shafer.

The proposal from SBC did not meet the following requirements:

As stated in item 2. The vendor will be responsible for a "turnkey" solution to include all hardware, cabling, engineering services, installation and configuration of all equipment per SSAISD. The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract. This was also found on line item 9.

SBC sub-contracts cabling portions of projects, which this one was requiring.

As stated in item 10. It is not the policy of the South San Antonio Independent School District to make awards on the basis of the lowest proposal alone, quality and suitability to purpose being the determining factors; it being understood that the District reserves the right to arrive at such a decision by whatever means it may determine.

Quality and suitability to purpose being the determining factors. In past performance on Erate years 2000,2001, and 2002 there was a failure to provide design and configurations in documented format to district staff. This has presented problems currently for staff to diagnosis the network accurately. These projects were under the direction of Parker Hager and Paul Cassey and were not completed with proper customer service. To date (3/21/05) no formal document of design has been provided from these projects by SBC engineers.

The RX Technology proposal did not meet the following requirements:

a. As stated in item 8. The vendor must have two certified computer repair technician employees at their business location. Both with CISCO Certifications that are valid. The vendor must provide a project manager who will be responsible for coordination of all activities of vendor's staff. The Vendor must be a Cisco Gold Certified Partner. The district was requesting that the vendor must be a Cisco Gold Certified Partner given that the following standards have been established as a partner already by CISCO:

    a. That a minimum number of 16 certified personnel be on staff. Including CSE/CCNA/CCDA/CCNP/CCDP/CCSP/CCIP/CCIE.
        1. South San Antonio ISD is a midsize district of 18 campuses and 30 different departments. The district is warranting a vendor to provide assistance with a number of highly qualified personnel and that they are full-time employees and in good standing with CISCO.
    b. That a required purchase/or lease at least US$100,000 and US$40,000 respectively, in lab equipment annually. Gold level warranting 4 chassis products from either a switch or router family.
        1. If the vendor has this available to conduct training and/or partner site demonstration, then South San ISD would welcome the gold level status in order to make sound purchases in CISCO products
    c. That a set of core requirements apply to all gold level partner that must be met:
        - Customer service 24x7 (over internet, phone, fax, pager, email)
        - Call back 1 hour (must make contact of receiving notification of a problem)
        - Presales support required
        - Escalation process required
        - Connectivity capabilities and tools required
        - Hiring and Training Staff required

1. If the vendor has this available, South San ISD would be aware of the security of the CISCO products within the projects.

b. They did not produce a list of the equipment on company letterhead.

These items were documented in March 2005 with the Purchasing Department Director at the time Luis Dueno.

Although these items were requirements of South San ISD bid proposal and were so noted on the matrix for the RFP, these companies did not met these standards and Avnet met all standards in the CISCO WIRELESS NETWORK SYSTEMS & NETWORK UPGRADES for the district, when the review was done by the system specialist Adam Shafer.

The requirements set in the matrix were created prior to any recommendations from the audit conducted in May 2005. At which, in the June 2007 audit responses, the district created templates for evaluation of submitted bids from vendors. The district is, at this date awaiting the USAC's determination if the information provided within the June 2007 report meets compliance and if the explanations are sufficient.

Again, I am providing this information at the request of the Superintendent of South San Antonio ISD. If I can be of any further assistance please email me at sasoto@southsanisd.net. Thank you for your attention in this matter.

BOARD AUTHORITY

The Board may adopt rules and procedures for the acquisition of goods and services. *Education Code 44.031(d)*

DELEGATION OF AUTHORITY

The Board may delegate its authority regarding an action authorized or required to be taken by the District by Education Code Chapter 44, Subchapter B, to a designated person, representative, or committee.

The Board may not delegate the authority to act regarding an action authorized or required to be taken by the Board by Education Code Chapter 44, Subchapter B.

Education Code 44.0312

INJUNCTION

A court may enjoin performance of a contract made in violation of Education Code Chapter 44, Subchapter B. A county attorney, district attorney, criminal district attorney, citizen of the county in which the District is located, or any interested party may bring an action for an injunction. A party who prevails in an action brought under this subsection is entitled to reasonable attorney's fees as approved by the court. *Education Code 44.032(f)*

PURCHASES VALUED AT OR ABOVE $25,000

All District contracts, except contracts for the purchase of produce or vehicle fuel, valued at $25,000 or more in the aggregate for each 12-month period, shall be made by the method that provides the best value for the District:

1. Competitive bidding.
2. Competitive sealed proposals.
3. A request for proposals for services other than construction services.
4. An interlocal contract.
5. The reverse auction procedure as defined by Government Code 2155.062(d).
6. The formation of a political subdivision corporation under Local Government Code 304.001.

Education Code 44.031(a)

Note: Regarding construction of school facilities, see CV generally; CVA for competitive bidding; CVB for competitive sealed proposals; CVC for design/build contracts; CVD, CVE for contracts using a construction manager; and CVF for job order contracts for minor repairs/alterations.

FACTORS

In awarding a contract, the District shall consider:

1. Purchase price.
2. The reputation of the vendor and of the vendor's goods and services.
3. The quality of the vendor's goods or services.
4. The extent to which the goods or services meet the District's needs.
5. The vendor's past relationship with the District.
6. The impact on the ability of the District to comply with laws relating to historically underutilized businesses.
7. The total long-term cost to the District to acquire the goods or services.
8. Any other relevant factor specifically listed in the request for bids or proposals.

Education Code 44.031(b)

In awarding a contract by competitive sealed bid under Education Code 44.031, a district that has its central administrative office located in a municipality with a population of less than 250,000 may consider a bidder's principal place of business in the manner provided by Local Government Code 271.9051. This section does not apply to the purchase of telecommunications services or information services, as those terms are defined by 47 U.S.C. Section 153. *Education Code 44.031(b-1)*

The factors listed above are the only criteria that may be considered by the District in its decision to award a contract. *R.G.V. Vending v. Weslaco Indep. Sch. Dist., 995 S.W.2d 897 (Tex. App.—Corpus Christi 1999, no pet.).*

CONTRACT WITH PERSON INDEBTED TO DISTRICT

The Board may, by resolution, establish regulations permitting the District to refuse to enter into a contract or other transaction with a person indebted to the District. The District may refuse to award a contract to or enter into a transaction with an apparent low bidder or successful proposer that is indebted to the District.

The term "person" includes an individual, sole proprietorship, corporation, nonprofit corporation, partnership, joint venture, limited liability company, and any other entity that seeks to enter into a contract or other transaction with the District requiring Board approval.

Education Code 44.044

SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT

2715 Bobcat Lane, #4 • San Antonio, Texas 78224-1298 • (210) 977-7375 • Fax 977-7378

TECHNOLOGY DEPARTMENT

Sandra A. Soto
Director of Technology

Bruce Melcher
Hardware Support Specialist

Adam Shafer
Systems Specialist

Mary Welch
Network Administrator

Isabel G. Leiva
Help Desk/Secretary

To: Luis Dueno
Purchasing Agent

From: Sandra A. Soto
Director of Technology

Re: Written Response to SBC

Date: March 21, 2005

In reference to the concern over the bid process on the RFP#05-48 Wireless Network Systems and Network Upgrade contract for South San Antonio ISD the following items were listed in the scope of work:

a. As stated in item 2. The vendor will be responsible for a "turnkey" solution to include all hardware, cabling, engineering services, installation and configuration of all equipment per SSAISD. The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract. This was also found on line item 9.
   SBC sub-contracts cabling portions of projects, which this one was requiring.

b. As stated in item 5. Questions in regards to this RFP must be submitted to the Purchasing Department for clarification US Postal Mail.
   Opportunity was available for SBC to obtain equitable information through this format.

c. As stated in item 10. It is not the policy of the South San Antonio Independent School District to make awards on the basis of the lowest proposal alone, quality and suitability to purpose being the determining factors; it being understood that the District reserves the right to arrive at such a decision by whatever means it may determine.
   Quality and suitability to purpose being the determining factors. In past performance on Erate years 2000,2001, and 2002 there was a failure to provide design and configurations in documented format to district staff. This has presented problems currently for staff to diagnosis the network accurately. These projects were under the direction of Parker Hager and Paul Cassey and were not completed with proper customer service. To date no formal document of design has been provided from these projects by SBC engineers.

d. As stated in item 11. The District reserves the right to reject any and all proposals and to make awards on individual items, as they may appear to be most advantageous to the District and to waive all formalities in bidding.

e. As stated in item C. This proposal will be funded only if approved by the Schools and Library Division, and if the Universal Service Administrative Company appropriates the funds. Funding, if available, will not be expected until, or after, July 1, 2005.

While this contact bid was not successful for SBC, their past service to South San Antonio ISD is appreciated. SBC is encouraged to make future bids with the district and we look forward to future business.

Cc: D. Landeros
School Attorney

To Luis Dueno
Purchasing Agent

From: Sandra A. Soto
Director of Technology

Re: Written Response to RX Technology

Date: March 21, 2005

In reference to the concern over the bid process on the RFP#05-48 Wireless Network Systems and Network Upgrade contract for South San Antonio ISD the following items were listed in the scope of work:

a. As Stated in item 2. The vendor will be responsible for a "turnkey" solution to include all hardware, cabling, engineering services, installation and configuration of all equipment per SSAISD. The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract. This was also found on line item 9.
b. As stated in item 8. The vendor must have two certified computer repair technician employees at their business location. Both with CISCO Certifications that are valid. The vendor must provide a project manager who will be responsible for coordination of all activities of vendor's staff. The Vendor must be a Cisco Gold Certified Partner.
The district was requesting that the vendor must be a Cisco Gold Certified Partner given that the following standards have been established as a partner already by CISCO:
    a. That a minimum number of 16 certified personnel be on staff. Including CSE/CCNA/CCDA/CCNP/CCDP/CCSP/CCIP/CCIE.
        1. South San Antonio ISD is a midsize district of 18 campuses and 30 different departments. The district is warranting a vendor to provide assistance with a number of highly qualified personnel and that they are full-time employees and in good standing with CISCO.
    b. That a required purchase/or lease at least US$100,000 and US$40,000 respectively, in lab equipment annually. Gold level warranting 4 chassis products from either a switch or router family.
        1. If the vendor has this available to conduct training and/or partner site demonstration, then South San ISD would welcome the gold level status in order to make sound purchases in CISCO products
    c. That a set of core requirements apply to all gold level partner that must be met:
        1. Customer service 24x7 (over internet, phone, fax, pager, email)
        2. Call back 1 hour (must make contact of receiving notification of a problem)
        3. Presales support required
        4. Escalation process required
        5. Connectivity capabilities and tools required
        6. Hiring and Training Staff required
    d. If the vendor has this available, South San ISD would be aware of the security of the CISCO products within the projects.

A bid bond would not have addressed the employee resources set forth by a vendor that has a CISCO GOLD Certified Partner status.

While this contact bid was not successful for RX Technology , their past service to South San Antonio ISD is appreciated. RX Technology is encouraged to make future bids with the district and we look forward to future business.

Cc: D. Landeros
School Attorney

Exhibit 6

South San Antonio Independent School District
2515 Bobcat Lane
San Antonio, Texas 78224-1298

6:30 p.m.
West Campus High School

To: Board Member Addressed

Date: March 04, 2005

Subject: **Minutes of Regular Called Board Meeting for Wednesday, February 16, 2005**

BOARD MEMBERS PRESENT:
David E.Carreon, President
Manuel R. Lopez, - Vice-President
Jaime A. Gallegos, Secretary
Homer S. Flores – Trustee
Trinidad T. Mata – Trustee
Connie Prado – Trustee
Cyndi A. Ramirez - Trustee

PLEDGE OF ALLEGIANCE
Mr. Homer Flores led the Pledge of Allegiance

STAFF PRESENT:
Mrs. Beverly W. Stephens, Attorney
Dr. Nabor F. Cortez, Jr. Superintendent of Schools
Dr. Harry Baker, Executive Director for Student Support Services
Mr. David Landeros, Executive Director for Business & Financial Services
Mr. Ruben Flores, Executive Director for School Support Services
Mr. Yuhunter Woodard, Executive Director for Human Resources & Student Services
Ms. Sandra Soto, Director of Technology
Mr. Steve Tovar, Director of Budget & Fiscal Services
Mr. Patrick Skees, General Accountant
Mr. Ed Suarez, Communications & Community Relations Officer
Mr. Thomas Wherry, Director of Food Services
Mrs. Jenny Arrendondo, Assistant Director of Food Services
Mr. Max Garcia, Chief of Police
Mr. Jesse Aldana, Director of Human Resources
Ms. Linda Ziegler, Coordinator for Library Services & Record Management
Mr. Gary Durbon, Director of Athletics
Mrs. Blanca Gonzalez. Supervisor, Title I
Mr. Roosevelt Chase, Special Projects, Transportation & Bond Projects

PRINCIPALS/VP'S PRESENT

Mr. Mark Rodriguez, Vice-Principal, Hutchins Elementary School

SUPERINTENDENT'S CELEBRATIONS

Dr. Cortez, welcomed the Board of Trustees to the new renovated West Campus High School Cafeteria. He said he wanted the Board to experience what the Kids did when they first saw their new renovated Cafeteria. He invited the Board to tour other renovated facilities such as the Library. He also acknowledged and thanked Mr. Wherry and Mrs. Arrendondo for their hard work.

CITIZENS TO BE HEARD

Mr. Tony Buentello, representing The Benefits Source Inc. talked about how his company could help the administrators to identify district goals such as better rates and to design specifications for a request for proposal.

Mr. Ram R. Mugili, asked the Board of Trustees for permission to obtain a beer license for his store located across Miguel Carrillo Elementary School.

Ms. Norma Hernandez, cafeteria manager at Price Elementary School and leader of the Southwest Workers' Union talked about the Living Wage for School Workers. Ms. Hernandez said the minimum wage of $5.15 per hours is not enough to support a family. She asked the Board of Trustees to adopt a Living Wage Resolution as a first step towards the implementation of the Living Wage.

Mr. Nicholas Charles, president of the Board of Director for Southwest Public Workers' Union asked the Board of Trustees and administration to adopt a Living Wage Resolution and to abolish the mid-point system.

Mr. Robert Hernandez, representing the South San Federation of Teachers addressed two topics, first vouchers. He asked that we all unite together in the battle against vouchers. He believes quality education can be master in our public schools. He urged everybody to contact the State Legislature and our representatives in Austin. Second, he asked for a well rounded curriculum not one that focus only on passing the test.

CONSENT AGENDA

1. Action — **Approval of Board Minutes:**

Regular Called Board Meeting
December 15, 2004 – 6:30 p.m.

Regular Called Board Meeting
January 19, 2005 – 6:30 p.m.

2. Action	**Consider approval of Bid 05-42 Purchase of Volleyball Equipment – MS**
3. Action	**Consider approval of Bid 05-43 Purchase of Volleyball Equipment – HS**
4. Action	**Consider approval of Bid 05-44 Purchase of Football Equipment – MS**
5. Action	**Consider approval of Bid 05-45 Purchase of Football Equipment – HS**
6. Action	**Consider approval of Bid 05-46 Purchase of Charter Bus Services**
7. Action	**Consider approval of Bid 05-48 Cisco Wireless Network Systems & Network Upgrades**
8. Action	**Consider approval of Bid 05-49 Contract for Network Infrastructure Maintenance**
9. Action	**Consider approval of Nutrikids Point of Sale Proposal (Lunchbyte Systems)**
10. Action	**Consider approval of proposal for new bleachers for Shepard Gym**
11. Action	**Consider approval of: Resignations, Leave of Absence, Retirement, Employment of New Personnel, and Personnel Returning from Leave of Absences (see attachment)**

Upon motion by Mr. Mata, seconded by Mr. Lopez, the Board of Trustees voted unanimously to approve items #1 thru #11 all part of a consent agenda and approved with one motion, no discussion and one vote. ***Motion Passes***

WRITTEN REPORTS

12. Written Report	**Cafeteria Report – January 2005**

Mr. Wherry was available to answer all related questions

13. Written Report — **2002 Bond Projects Report – January 2005**

Mr. Jim Deslatt was available to answer all questions related to work completed for Phase I and Phase II. The Board requested for Principals to sign off on completion of projects as well as the contractor.

14. Written Report — **Maintenance Report – January 2005**

Mr. Chase was available to answer all related questions.

15. Written Report — **Police Department – January 2005**

No questions

16. Written Report — **Public Property Finance Fund and School Facilities Assistance Fund January 2005**

No questions

17. Written Report — **Instructional Facilities Allotment-Series 1999 and Series 2002 Construction Fund – January 2005**

No questions

18. Written Report — **Tax Collection – January 2005**

No questions

19. Written Report — **Workers Compensation Fund – January 2005**

No questions

20. Written Report — **Curriculum, Instruction and Counseling Report – January 2005**

No questions

REGULAR AGENDA

21. Action — **Discussion and Possible Action to Approve Resolutions of Bexar County School Boards Presidents' Coalition**

Two representatives from the Bexar County School Boards Presidents' Coalition made a brief presentation on the subject matter.

Upon motion by Mrs. Ramirez, seconded Mr. Mata, the Board of Trustees voted unanimously to approve Resolution of Bexar County School Boards Presidents' Coalition. ***Motion Passes***

22. Information — **Review and discussion of modified TASB Pay structure for Clerical/Technical and Manual Trades Personnel**

Dr. Cortez along with Ms. Woodard, were available to answer all related questions.

23. Information — **Review and discussion of the current Campus Administrator Pay Scale**

Dr. Cortez along with Ms. Woodard, were available to answer all related questions

24. Information — **Review and discussion on restructuring of the District Technology Department**

Dr. Cortez called Ms. Soto and Ms. Woodard, to answer all related questions.

25. Oral — **Presentation on Health and Dental Benefit Survey**

Ms. Ziegler presented a power point presentation and was available to answer all related questions.

26. Action — **Consider approval of Bid 05-41 Insurance Consultant-Health & Benefits Program**

Mrs. Ziegler was available to answer all related questions.

Upon motion by Mr. Flores, seconded by Mrs. Prado, the Board of Trustees voted unanimously to approve Bid 05-41 Turnkey Solution as the Insurance Consultant-Health & Benefits Program. ***Motion Passes***

27. Action — **Discuss and consider approval of Amendment to 2004-2005 Official Budget**

Dr. Cortez called on Mr. Landeros to answer all related questions.

Upon motion by Mr. Lopez, seconded by Mr. Flores, the Board of Trustees voted unanimously (Mrs. Pradro stepped out momentarily, did not vote) to approve Amendment(s) to 2004-2005 Official Budget. ***Motion Passes***

28. Action — **The Board will select a time and date for Custodial grievances**

Upon motion by Mr. Lopez, seconded by Mr. Mata, the Board of Trustees voted unanimously to meet and hear Custodial grievances on March 2nd and March 9th from 6:30 p.m. to 9:30 p.m. ***Motion Passes***

29. Action — **Discussion and Possible action regarding Proposed Interview Dates, Timelines and other matters concerning s election of Superintendent.**

Mr. Landeros along with Ms. Beverly Stephen, attorney discussed and answered all questions related to subject matter.

Upon motion by Mr. Lopez, seconded by Mr. Flores, the Board of Trustees voted unanimously to approve February 28, set date to conduct interviews for the position of Superintendent and March 7th set date to discuss a salary package and the Board wishes to interview all candidates. ***Motion Passes***

30. Action — **Consider approval of moving the March 16, 2005 Regular Called Board Meeting to March 23, 2005 because of The Spring Break Holidays**

Upon motion by Mr. Flores, seconded by Mr. Gallegos, the Board of Trustees voted unanimously to approve moving the March 16, 2005 Regular Called Board Meeting to March 23, 2005 because of the Spring Break Holidays. ***Motion Passes***

31. Executive session pursuant to the Texas Open Meeting Act, Texas Government Code §§ 551.071, 551.072, and 551.074.

The Board of Trustees goes into closed Executive Session at 8:45 p.m.

The Board of Trustees reconvenes to Open Session at 9:40 to take action , if any, on items discussed in closed session .

a. **Discussion of Personnel: Consideration of Superintendent's recommendation and appointment of Director of Purchasing**

Upon motion by Mr. Flores, seconded by Mrs. Ramirez, the Board of Trustees voted unanimously to approve the Superintendents' recommendation to appoint Luis Dueno to the position of Director of Purchasing. ***Motion Passes***

b. **Discussion of Personnel: Consideration of Superintendent's recommendation and appointment of a District Technologist**

Upon motion by Mrs. Prado, seconded by Mr. Gallegos, the Board of Trustees voted unanimously to approve the Superintendents' recommendation to appoint Gloria Garcia to the position of District Software Technologist. ***Motion Passes***

c. **The Board of Trustees will hear, consider, and make an appropriate recommendation of an employee grievance – Laura Escalera**

No Action

d. **The Board of Trustees will hear, consider, and make an appropriate recommendation on an employee grievance – Rosario Garcia**

No Action

ADJOURNMENT:

Upon motion by Mrs. Ramirez, seconded by Mr. Mata, the Board of Trustees voted unanimously to adjourn meeting at 9:42 p.m. ***Motion Passes***

ATTEST:

David E. Carreon, President ***Jaime A. Gallegos, Secretary***

South San Antonio ISD

Department of Technology
Memorandum

To: Patrick Skees
Interim Purchasing Agent

From: Sandra A. Soto
Director of Technology

Date: January 6, 2005

Re: **CISCO WIRELESS NETWORK SYSTEMS & NETWORK UPGRADES RFP#05-48**

These are E-Rate proposal projects for July 1, 2005 through June 30, 2006. The Universal Service Administrative Company (USAC) will fund 90% of these cabling projects under the E-Rate program, if funds are made available, after July 1, 2005.

Under the federal E-Rate rules, these RFPs had to be posted on a Form 470 on the Schools and Library's Division (SLD) web site for twenty-eight days. The District was not allowed to select a vendor until the twenty-eight days had elapsed.

The SLD informed us that the Allowable Vendor Selection/Contract Date is: February 9, 2005.

The window for the 2005-2006 E-Rate window will close on February 17, 2005, so Forms 471 noting the selected vendor for **CISCO WIRELESS NETWORK SYSTEMS & NETWORK UPGRADES RFP#05-48,** must be posted to the SLD web site before February 17, 2005.

The Board will need to select the vendor and approve the purchase **contingent on Federal E-Rate funding,** knowing that:

1) the District has to set aside 10% of the project costs as the District's commitment to these E-Rate projects and reflect them within the district's approved Technology Plan by TEA, and
2) the expectation that these funds will become available on/before/or after July 1, 2005, and/or
3) the E-Rate funds may not become available from the federal level, so the projects may not even be considered for development or purchase.

For the E-rate portion the Technology Department is recommending **Avnet N Loop 1604 E, San Antonio, 78232,** with a total yearly price of **$11,788,648.65.**

For the non-E-rate portion the Technology Department is recommending **Avnet N Loop 16-04 E, San Antonio, 78232,** with a total yearly price of **$5,442,403.74.**

If and when funds become available, Budget Account Code numbers will need to be assigned from the 2004-2005 **or** the 2005-2006 budget before these projects can be started.

Exhibit 7

Confidential

Proposal Acceptance

Proposal Number:	**SSAISD 010501A**
Date:	**February 8, 2005**
Service Provider:	**Avnet Enterprise Solutions**
Client Name:	**South San Antonio ISD**
Project Name:	**SSAISD E-Rate Round 8 Internal Connections RFP # 05-48 Proposal**

By signing below, South San Antonio ISD acknowledges:

1) Travel and living expenses for Avnet Enterprise Solutions personnel are included in the Avnet Enterprise Solutions' Proposal. Should travel be required, South San Antonio ISD will be billed for the actual and reasonable expenses incurred.
2) Prices are valid for 30 days from the date of this Proposal.
3) Avnet Enterprise Solutions is selling the Avnet Enterprise Solutions services to South San Antonio ISD and shall bill South San Antonio ISD each month for services completed during the month unless otherwise indicated.
4) South San Antonio ISD shall indicate its acceptance of the service or deliverable by signing the Work Approval Form within five business days from presentation of the completed service or deliverable. Services and deliverables will be deemed accepted if South San Antonio ISD fails to respond within this five-day period and South San Antonio ISD will be billed.
5) South San Antonio ISD by signing below agrees that the terms of this Proposal shall apply to orders South San Antonio ISD places for services described in this Proposal.
6) South San Antonio ISD's signature is not a commitment to place an order.

To place an order you must sign this Proposal and submit a purchase order which references this Proposal. All orders are subject to acceptance by Avnet Enterprise Solutions.

Offered by:
Avnet Enterprise Solutions

Signature	Jim Tetel
Name (Print)	Jim Tetel
Title	President AES
Date	2/18/05

Accepted by:
South San Antonio ISD

Signature	
Name (Print)	Nabor F. Cortez
Title	Superintendant of Schools
Date	

Exhibit 8

Notification of Commitment Adjustment Letter

Funding Year 2005: July 1, 2005 - June 30, 2006

June 21, 2017

Jesus Salazar
SOUTH SAN ANTONIO IND SCH DIST
5622 Ray Ellison Blvd
San Antonio, TX 78242

Re: Form 471 Application Number:	**482920**
Funding Year:	**2005**
Applicant's Form Identifier:	**Wireless yr05 internal con**
Billed Entity Number:	**141548**
FCC Registration Number:	**0009753955**
SPIN:	**143030052**
Service Provider Name:	**Insight Public Sector Inc**
Service Provider Contact Person:	**Cathi Whelan**

Our routine review of Schools and Libraries Program (SLP) funding commitments has revealed certain applications where funds were committed in violation of SLP rules.

In order to be sure that no funds are used in violation of SLP rules, the Universal Service Administrative Company (USAC) must now adjust your overall funding commitment. The purpose of this letter is to make the required adjustments to your funding commitment, and to give you an opportunity to appeal this decision. USAC has determined the applicant is responsible for all or some of the violations. Therefore, the applicant is responsible to repay all or some of the funds disbursed in error (if any).

This is NOT a bill. If recovery of disbursed funds is required, the next step in the recovery process is for USAC to issue you a Demand Payment Letter. The balance of the debt will be due within 30 days of that letter. Failure to pay the debt within 30 days from the date of the Demand Payment Letter could result in interest, late payment fees, administrative charges and implementation of the "Red Light Rule." The FCC's Red Light Rule requires USAC to dismiss pending FCC Form 471 applications if the entity responsible for paying the outstanding debt has not paid the debt, or otherwise made satisfactory arrangements to pay the debt within 30 days of the notice provided by USAC. For more information on the Red Light Rule, please see https://www.fcc.gov/encyclopedia/red-light-frequently-asked-questions.

TO APPEAL THIS DECISION:

If you wish to appeal the Commitment Adjustment Decision indicated in this letter to USAC, your appeal must be received or postmarked within 60 days of the date of this letter. Failure to meet this requirement will result in automatic dismissal of your appeal. In your letter of appeal:

1. Include the name, address, telephone number, fax number, and email address (if available) for the person who can most readily discuss this appeal with us.

2. State outright that your letter is an appeal. Identify the date of the Notification of Commitment Adjustment Letter and the Funding Request Number(s) (FRNs) you are appealing. Your letter of appeal must include the
- Billed Entity Name,
- Form 471 Application Number,
- Billed Entity Number, and
- FCC Registration Number (FCC RN) from the top of your letter.

3. When explaining your appeal, copy the language or text from the Notification of Commitment Adjustment Letter that is the subject of your appeal to allow USAC to more readily understand your appeal and respond appropriately. Please keep your letter to the point, and provide documentation to support your appeal. Be sure to keep a copy of your entire appeal including any correspondence and documentation.

4. If you are an applicant, please provide a copy of your appeal to the service provider(s) affected by USAC's decision. If you are a service provider, please provide a copy of your appeal to the applicant(s) affected by USAC's decision.

5. Provide an authorized signature on your letter of appeal.

We strongly recommend that you use one of the electronic filing options. To submit your appeal to USAC by email, email your appeal to appeals@sl.universalservice.org or submit your appeal electronically by using the "Submit a Question" feature on the USAC website. USAC will automatically reply to incoming emails to confirm receipt.

To submit your appeal to us by fax, fax your appeal to (973) 599-6542.

To submit your appeal to us on paper, send your appeal to:

Letter of Appeal
Schools and Libraries Program - Correspondence Unit
30 Lanidex Plaza West
PO Box 685
Parsippany, NJ 07054-0685

For more information on submitting an appeal to USAC, see "Appeals" in the "Schools and Libraries" section of the USAC website.

FUNDING COMMITMENT ADJUSTMENT REPORT

On the pages following this letter, we have provided a Funding Commitment Adjustment Report (Report) for the Form 471 application cited above. The enclosed Report includes the Funding Request Number(s) from your application for which adjustments are necessary. See the "Guide to USAC Letters" posted at http://www.usac.org/sl/tools/samples.aspx for more information on each of the fields in the Report. USAC is also sending this information to your service provider(s) for informational purposes. If USAC has determined the service provider is also responsible for any rule violation on the FRN(s), a separate letter will be sent to the service provider detailing the necessary service provider action.

Note that if the Funds Disbursed to Date amount is less than the Adjusted Funding Commitment amount, USAC will continue to process properly filed invoices up to the Adjusted Funding Commitment amount. Review the Funding Commitment Adjustment Explanation in the attached Report for an explanation of the reduction to the commitment(s). Please ensure that any invoices that you or your service provider(s) submits to USAC are consistent with SLP rules as indicated in the Funding Commitment Adjustment Explanation. If the Funds Disbursed to Date amount exceeds your Adjusted Funding Commitment amount, USAC will have to recover some or all of the disbursed funds. The Report explains the exact amount (if any) the applicant is responsible for repaying.

Schools and Libraries Program
Universal Services Administrative Company

cc: Cathi Whelan
Insight Public Sector Inc

Funding Commitment Adjustment Report for
Form 471 Application Number: 482920

Funding Request Number:	1337701
Services Ordered:	INTERNAL CONNECTIONS
SPIN:	143030052
Service Provider Name:	Insight Public Sector Inc
Contract Number:	rfp05-48
Billing Account Number:	rfp05-48
Site Identifier:	141548
Original Funding Commitment:	$12573,620.39
Commitment Adjustment Amount:	$12573,620.39
Adjusted Funding Commitment:	$0.00
Funds Disbursed to Date	$9026,130.97
Funds to be Recovered from Applicant:	$9026,130.97

Funding Commitment Adjustment Explanation:

Violation 1 Competitive Bidding 28 day violaton
After multiple requests for documentation and application review, it has been determined that this funding commitment must be rescinded in full. During the course of follow-up audit and the Special Compliance review, it was noted that RFP 05-48 cited in FRN 1337701 was issued on 01/24/2005 with bid responses due on 02/05/2005. The RFP was only available to potential bidders for 14 days instead of 28 days as required by FCC Rules. Since RFP 05-48 was not available for at least 28 days before selecting a vendor, the commitment has been rescinded in full and USAC will seek recovery of any disbursed funds.

Violation 2 Price not Primary factor
After multiple requests for documentation and application review, it has been determined that this funding commitment must be rescinded in full. During the course of the follow-up audit and the Special Compliance review, it could not be determined if the price of eligible products and services was the primary factor in the vendor selection process related to FRN 1337701. This determination was based on the format of the bid evaluation sheet provided by the SSAISD which scored each proposal with a "yes or no" based on if the bids met the requirements listed in the RFP #05-48. The bid worksheet or the RFP did not disclosed the weighted evaluation factors which indicate that price of the eligible products and services was the primary factor considered in selecting the winning service providers proposal. The bid evaluation worksheet indicated that there four proposals. Three of the four proposals were disqualified for not meeting the following specifications listed in the RFP: (1) no sub-contractor usage; (2) CISCO Gold certification and (3) warranty requirements. That action resulted with one bid (Avnet) to be evaluated. Further review of the Avnet proposal indicated that the bid was not complete (required questions were not completed as requested in the RFP #05-48 specifications). The Avnet proposal also took exception to the following sections of RFP #05-48 which would have also disqualified their proposal: (1)Specifications and Conditions #2 and Proposals #9 and its deletion "The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract"; (2) Specifications and Conditions #8 Avnet does not hereby extend the annually renewable maintenance agreement beyond 12 months and (3) the Hold Harmless Agreement Avnet replaced it with alternative language. In addition, correspondence was reviewed from SBC to SSAISD stating that they would not be using sub-contractors for the project (which was the reason for their disqualification). Therefore, the SBC bid should not have been disqualified from the bidding evaluation process. FCC rules require that applicants select the most cost-effective product and/or service offering with price of the eligible products and services being the primary factor. Applicants may take other factors into consideration, but in selecting the winning bid, price must be given more weight than any other single factor. Since price of the eligible products and services was

not the primary factor in the vendor selection process and the district did not properly evaluate the proposals to make sure each bid met the RFP requirements before selecting the most cost effective product/service offering, the commitment has been rescinded in full and USAC will seek recovery of any disbursed funds.

Violation 3 Ineligible Entity
After multiple requests for documentation and application review, it has been determined funds were improperly disbursed on this funding request. During the course of follow-up audit and the Special Compliance review, it was determined that services were installed at an ineligible entity. FCC rules dictate that discounts are to be provided only to entities eligible to receive funding. The service providers work approval form dated December 18, 2006 indicated that SSAISD received E-Rate funded Internal Connections equipment at Antonio Olivaries Elementary School location. On December 20, 2006, SSAISD and Texas A & M signed a multi-year lease to use the elementary school for university purposes and all of the SSAISD students were transferred to another location while all equipment remained at the location. This transaction resulted in Antonio Olivaries Elementary School becoming an ineligible entity according to Program rules. Accordingly, USAC is seeking recovery of $523,473 for services that were not utilized in accordance with program rules.

Exhibit 9

FY 2005 E-rate Application Intent to Deny

Date: 11/8/13
Jane Kellogg
Kellogg & Sovereign Consulting, LLC
Applicant Name: South San Antonio Independent School District (BEN 141548)
FCC Form 471 Application Number(s): 482920 **Response Due Date: 11/15/13**

Dear Applicant,

After a thorough investigation, it has been determined that this funding commitment FCC 471 482920, FRN 1337701 must be rescinded in full for the following reasons:

(1) During the course of the follow-up audit and the Special Compliance review, it could not be determined if the price of eligible products and services was the primary factor in the vendor selection process related to this FRN. This determination was based on the format of the bid evaluation sheet provided by the SSAISD which scored each proposal with a "yes or no" based on if the bids met the requirements listed in the RFP #05-48. The bid worksheet or the RFP did not disclosed the weighted evaluation factors which indicate that price of the eligible products and services was the primary factor considered in selecting the winning service provider's proposal. The bid evaluation worksheet indicated that there four proposals. Three of the four proposals were disqualified for not meeting the following specifications listed in the RFP: (1) no sub-contractor usage; (2) CISCO Gold certification and (3) warranty requirements. That action resulted with one bid (Avnet) to be evaluated. Further review of the Avnet proposal indicated that the bid was not complete (required questions were not completed as requested in the RFP #05-48 specifications). The Avnet proposal also took exception to the following sections of RFP #05-48 which would have also disqualified their proposal: (1)Specifications and Conditions #2 and Proposals #9 and its deletion "The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract"; (2) Specifications and Conditions #8 – Avnet does not hereby extend the annually renewable maintenance agreement beyond 12 months and (3) the Hold Harmless Agreement – Avnet replaced it with alternative language.

In addition, correspondence was reviewed from SBC to SSAISD stating that they would not be using sub-contractors for the project (which was the reason for their disqualification). Therefore, the SBC bid should not have been disqualified from the bidding evaluation process. FCC rules require that applicants select the most cost-effective product and/or service offering with price of the eligible products and services being the primary factor. Applicants may take other factors into consideration, but in selecting the winning bid, price must be given more weight than any other single factor. Since price of the eligible products and services was not the primary factor in the vendor selection process and the district did not properly evaluate the proposals to make sure each bid met the RFP requirements before selecting the most cost effective product/service offering, the commitment has been rescinded in full and USAC will seek recovery of any disbursed funds.

(2) During the course of follow-up audit and the Special Compliance review, it was noted that RFP 05-48 cited in FRN 1337701 was issued on 01/24/2005 with bid responses due on 02/05/2005. The RFP was only available to potential bidders for 14 days instead of 28 days as required by FCC Rules. Since RFP 05-48 was not available for at least 28 days before selecting a vendor, the commitment has been rescinded in full and USAC will seek recovery of any disbursed funds.

(3) During the course of follow-up audit and the Special Compliance review, it was determined that services were installed at an ineligible entity. FCC rules dictate that discounts are to be provided only to entities eligible to receive funding. The service provider's work approval form dated December 18, 2006 indicated that SSAISD received E-Rate funded Internal Connections equipment at Antonio Olivaries Elementary School location. On December 20, 2006, SSAISD and Texas A & M signed a multi-year lease to use the elementary school for university purposes and all of the SSAISD students were transferred to another location while all equipment remained at the location. This transaction resulted in Antonio Olivaries Elementary School becoming an ineligible entity according to Program rules. Accordingly, USAC is seeking recovery of $523,473 for services that were not utilized in accordance with program rules.

If you disagree with our determination and you have alternative information, please provide the supporting documentation.

If you fail to respond to this email within 7 days, we will perform the action(s) listed above.

Response Reminders
Please fax or email the requested information to my attention. If you have any questions or you do not understand what we are requesting, please feel free to contact me.

It is important that we receive all of the information requested **within 7 calendar days** so we can complete our review. **Failure to respond may result in a reduction, denial, or rescinding of funding. If you need additional time to prepare your response, please let me know as soon as possible.**

Should you wish to cancel your Form 471 application(s), or any of your individual funding requests, please clearly indicate in your response that it is your intention to cancel an application or funding request(s). Include in any cancellation request the Form 471 application number(s) and/or funding request number(s), and the complete name, title and signature of the authorized individual.

Thank you for your cooperation and continued support of the Universal Service Program.

Jeff Walsh
Manager of PIA Operations
Universal Service Administrative Company
Phone: 202-776-0200
Fax: 202-776-0080
E-mail: jwalsh@usac.org

Exhibit 10

Jane Kellogg

From: Jane Kellogg <jkellogg@kellogglc.com>
Sent: Friday, November 22, 2013 3:13 PM
To: 'Jeff Walsh'
Cc: debi sovereign (dsovereign@kellogglc.com); Paul Briseno (pbriseno@southsanisd.net)
Subject: RE: South San Antonio ISD FY 2005 Application 482920 FRN 1337701 Request Extension

Importance: High

Tracking:

Recipient	Read
'Jeff Walsh'	
debi sovereign (dsovereign@kellogglc.com)	Read: 11/22/2013 3:30 PM
Paul Briseno (pbriseno@southsanisd.net)	

Jeff,

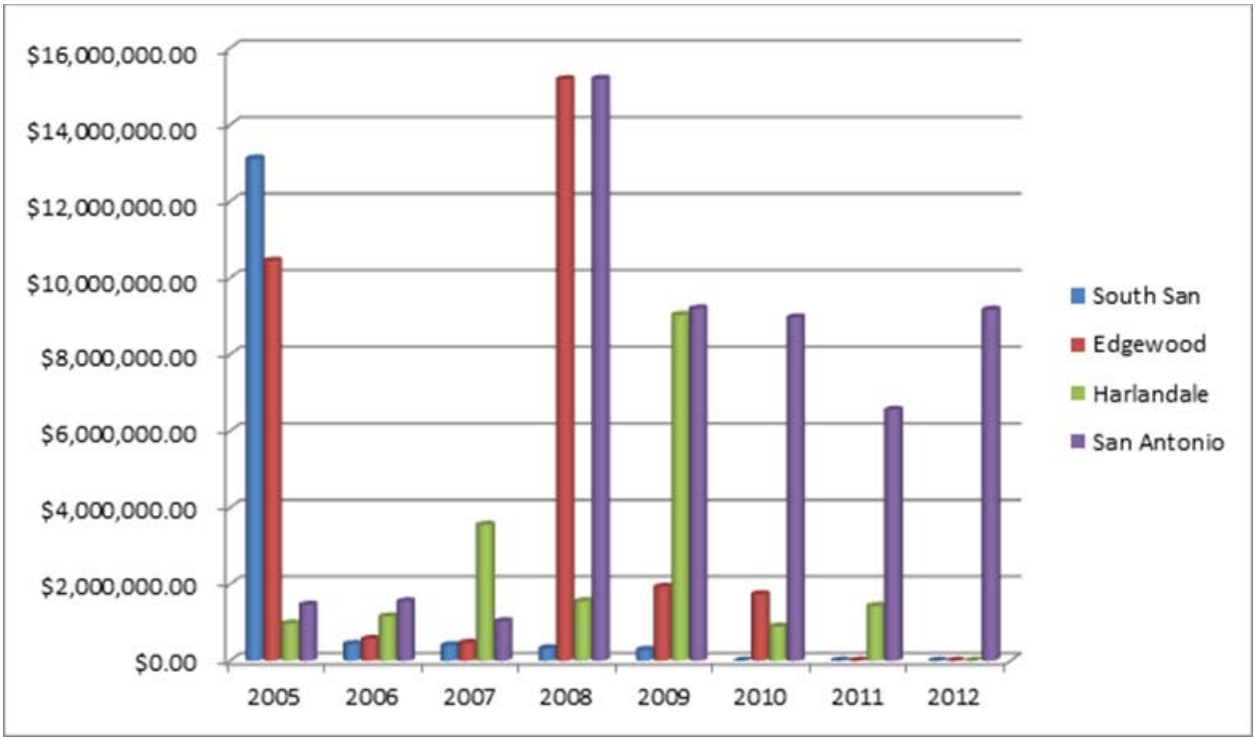
We strongly believe that USAC should not seek recovery of the funding for FRN 1337701 from Application #482920 for the following reasons:

It has been nine years since the application was filed, six years beyond the time the school has had to retain all documents pertaining to the 2005-2006 application and in this time, they have been severely limited in what they can provide to the 10,000 students attending their 16 schools from the standpoint of connectivity and Internet Access due to a single person who made mistakes during a few months when filing their applications for 2005-06.

In comments filed in response to the July, 2013, FCC Notice of Proposed Rulemaking Docket WC 13-184 requesting comments on a variety of topics including the recovery of funds from previous years. A number of states, associations, consultants, and service providers provided comprehensive comments and many made reference to the problems created for schools by attempting to recover funds.

The commenters believe as we do that recovery of funds would be an excessive penalty for simply not understanding the E-rate program. In South San Antonio's situation **great financial hardship has already been endured** in that the district has had to operate many years with no funding at all even for basic services. The recovery of funds would definitely be excessive in this case like "pouring salt on an open wound." The single individual at the district was overwhelmed with managing a wide range of responsibilities for a very large and extremely poor district in the South side of San Antonio and there is simply no reason to bankrupt the district and further deprive the students in the district from the opportunities given to the neighboring districts all for this single incident nine years ago.

Neighboring districts in San Antonio were able to greatly benefit from the E-rate program while South San Antonio did without.
See the chart below:



Below I have extracted the comments that are pertinent to this response:

State of Pennsylvania

We strongly support considerations to lesser recovery actions for rule violations. For those applicants that have committed fraud on the program, we have little sympathy. But with so many rules, is nearly impossible for applicants to know every one of these rules and thus the chances that a rule will be broken inadvertently are high. Full or even partial recovery for most rule infractions is overkill.

State of West Virginia

For the majority, committing waste, fraud and abuse of the E-rate program is not an intended action. In some instances, we would hope that the FCC would look at each situation carefully and judiciously to determine if there are means by which the applicant can cure the issue to avoid funding recovery.

New York State

NYSED agrees that full funding recovery is an excessive penalty for funds disbursed in error under non-fraudulent conditions. COMADs, and the associated recovery of funds, are particularly troublesome for public budgeted schools and libraries. Being unbudgeted, a funding recovery is much worse than not having been funded in the first place.

E-Rate Central

E-Rate Central agrees that full funding recovery is an excessive penalty for funds disbursed in error under non-fraudulent conditions, particularly for errors found on applications previously having undergone thorough USAC review.

There is already E-rate applicant concern about the extended "statutory limitation" on E-rate funding subject to potential COMADs. As indicated in a discussion below, COMADs for public schools and libraries, subject to annual budgets — as tight as they are — are worse than not getting funded at all. Subjecting applicants to COMADs over the current — are worse than not getting funded at all.

Summary

It is obvious from the commenters above that nationally there is no support from states, schools, libraries, or associations for funding recovery from applicants after funding if no fraudulent activities occurred within the mandatory five year period of time for document retention much less for recovery nine years after the infraction. In this case the types of errors committed are indicative of someone who simply does not know the USAC rules.

The recurring theme in all commenters was that "*a funding recovery is much worse than not having been funded in the first place."*

The district received no funding from 2009-2013 until October 23, 2013. In this case, not only are you indicating that you will be denying the application after nine years, during which three years they did not receive any funding at all, then you funded them for the years without funding on October 23, 2013 and now one short month later, you want to take it back.

This is the first chance in nine years they have had to begin upgrading their circuits, implementing wireless to the classroom, and implementing a Voice Over IP network after seven years of no P2 funding and three years of no P1 funding.

According to the FCC at http://www.fcc.gov/guides/universal-service-program-schools-and-libraries,

> *"The Schools and Libraries program, also known as the E-rate program, makes telecommunications and information services more affordable for schools and libraries in America. Congress mandated in 1996 that the Federal Communications Commission use the federal Universal Service Fund (USF) to provide discounted eligible telecommunications, Internet access, and internal connections to eligible schools and libraries.*
>
> *Innovative digital learning technologies and the growing importance of the Internet in connecting students, teachers, and consumers to jobs, life-long learning, and information, are creating increasing demand for bandwidth in schools and libraries. "*
>
> ***What Benefits Are Available Under the E-Rate Program?***
>
> - *Eligible schools and libraries may receive discounts on eligible telecommunications, telecommunications services, Internet access and internal connections (for example, wiring and Wi-Fi routers to provide wireless connections in classrooms), and basic maintenance of internal connections.*
> - *The discounts range from 20 to 90 percent, with higher discounts for higher poverty and more rural schools and libraries. Schools and libraries are always responsible for paying at least some part of the cost of service.*

This district has not benefitted from these discounts it so badly needs for many years, as detailed above. It is hard to believe that USAC can justify the irreparable harm already done to the students enrolled at South San Antonio that are still forced to use equipment that is woefully out of date when their competing districts are receiving funding for the latest equipment and services, much less than fund them one month then in the space of one month notify them that you are taking it all back just because one person unknowingly violated some basic rules.

All you have to do is look at Harlandale ISD, San Antonio ISD, Edgewood, and other Bexar County schools and what they are able to provide to their students as compared to South San Antonio. Looking at it from the parents and students standpoint this appears to really be a form of discrimination.

If you were the parent of these students I venture you would have sold your house and moved to one of these other communities that was getting millions of dollars each year to improve their districts. Unfortunately, since South San Antonio is an impoverished district, the USAC target group for the program, the parents likely cannot afford to move.

We believe is time to quit punishing one district for the wrongs one person committed nine years ago.

Thanks for listening.

Jane

From: Jeff Walsh [mailto:jwalsh@usac.org]
Sent: Friday, November 08, 2013 2:03 PM
To: Jane Kellogg (jkellogg@kellogglc.com)
Subject: South San Antonio ISD FY 2005 Application 482920 FRN 1337701

Responses due: 11/15/13

Jane,

Enclosed is the South San Antonio ISD letter related to Fund Year 2005 FCC 471 Application 4822920, FRN 1337701. If you have any questions, please contact me.

Regards,

Jeff Walsh
Manager of PIA Operations
Universal Service Administrative Company
(202) 776-0200 (voice) - 202-776-0080 (fax)
jwalsh@usac.org - www.usac.org

The information contained in this electronic communication and any attachments and links to websites are intended for the exclusive use of the addressee(s) and may contain confidential or privileged information. If you are not the intended recipient, or the person responsible for delivering this communication to the intended recipient, be advised you have received this communication in error and that any use, dissemination, forwarding, printing or copying is strictly prohibited. Please notify the sender immediately and destroy all copies of this communication and any attachments.

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Exhibit 11

Universal Service Administrative Company
Schools & Libraries Division

Administrator's Decision on Appeal – Funding Year 2005-2006

August 29, 2017

Gina Spade
Broadband Legal Strategies
1629 K Street, NW, Ste 300
Washington, DC 20006

Re: Applicant Name: SOUTH SAN ANTONIO IND SCH DIST
Billed Entity Number: 141548
Form 471 Application Number: 482920
Funding Request Number(s): 1337701
Your Correspondence Dated: August 17, 2017

After thorough review and investigation of all relevant facts, the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC) has made its decision in regard to your appeal of USAC's Funding Year 2005 Commitment Adjustment Letter for the Application Number indicated above. This letter explains the basis of USAC's decision. The date of this letter begins the 60 day time period for appealing this decision. If your Letter of Appeal included more than one Application Number, please note that you will receive a separate letter for each application.

Funding Request Number(s): 1337701
Decision on Appeal: **Denied**
Explanation:

- According to the Commitment Adjustment Letter Decision Letter dated June 21, 2017 three violations were found: Competitive Bidding 28 day violation; Price not Primary factor; and ineligible entity. You have not demonstrated on appeal that USAC's determination was incorrect. Consequently, USAC denies your appeal.

- You selected your vendor for new products prior to the expiration of the 28-day posting period. FCC rules require that except under limited circumstances, all Forms 470 received be posted on the USAC web site for 28 days, and that applicants carefully consider all bids received before selecting a vendor, entering into an agreement or signing a contract, and signing and submitting a Form 471. 47 C.F.R. §§ 54.504; 54.511(a) and (c). FCC rules further require that the Administrator send the applicant a confirmation when the Form 470 has been posted, and inform the applicant of the earliest date upon which they may sign a contract with the vendor it selects. 47 C.F.R. § 54.504(b)(4).

These competitive bidding requirements help to ensure that applicants receive the lowest pre-discount price from vendors. *See* Federal-State Joint Board on Universal Service, CC Docket No. 96-45, *Order on Reconsideration*, 12 FCC Rcd 10095, p. 10098; FCC 97-246 ¶ 9 (rel. Jul. 10, 1997). New products include tariff telecommunications services that are NOT subject to an existing, binding, written contract.

- FCC rules require that applicants select the most cost-effective products offering with price being the primary factor. 47 C.F.R. § 54.511(a). Applicants may take other factors into consideration, but in selecting the winning bid, price must be given more weight than any other single factor. 47 C.F.R. § 54.511(a); *Request for Review by Ysleta Independent School District, et. al., Federal State Joint Board on Universal Service, Changes to the Board of Directors of the National Exchange Carrier Association, Inc.,* CC Docket Nos. 96-45, 97-21, Order, FCC 03-313 ¶ 50 (rel. Dec. 8, 2003). Ineligible products and services may not be factored into the cost-effective evaluation. *See* Common Carrier Bureau Reiterates Services Eligible for Discounts to Schools and Libraries, CC Docket No. 96-45, *Public Notice*, 13 FCC Rcd. 16,570, DA 98-1110 (rel. Jun. 11, 1998).

- Your Form 471 application included costs for the following ineligible entity to receive products: Antonio Olivaries Elementary School. FCC rules provide that "[o]nly schools meeting the statutory definitions of "elementary school," as defined in 20 U.S.C. 7801(18), or "secondary school," as defined in 20 U.S.C. 7801(38) . . . shall be eligible for discounts." 47 C.F.R. § 54.501(b)(1). The FCC has defined a "school" as including "individual schools, school districts, and consortia of schools and/or school districts." Federal-State Joint Board on Universal Service, CC Docket No. 96-45, *Report and Order* , 12 FCC Rcd 8776, FCC 97-157, ¶ 425, n.1087 (rel. May 8, 1997). 20 U.S.C. 7801(18) defines an elementary school as "a nonprofit institutional day or residential school, including a public elementary charter school, that provides elementary education, as determined under State law." 20 U.S.C. 7801(38) defines a secondary school as "a nonprofit institutional day or residential school, including a public secondary charter school, that provides secondary education, as determined under State law, except that such term does not include any education beyond grade 12." 47 C.F.R. § 54.500(c), (k).

Since your appeal was denied in full, dismissed or cancelled, you may file an appeal with the FCC. Your appeal must be postmarked within 60 days of the date on this letter. Failure to meet this requirement will result in automatic dismissal of your appeal. You should refer to CC Docket No. 02-6 on the first page of your appeal to the FCC. If you are submitting your appeal via United States Postal Service, send to: FCC, Office of the Secretary, 445 12th Street SW, Washington, DC 20554. Further information and options for filing an appeal directly with the FCC can be found under the Reference Area/"Appeals" of the SLD section of the USAC website or by contacting the Client Service Bureau. We strongly recommend that you use the electronic filing options.

We thank you for your continued support, patience and cooperation during the appeal process.

Schools and Libraries Division
Universal Service Administrative Company

cc: Scott Laleman

Exhibit 12

Received 1/21/05

CISCO UPGRADE	#05-48	COMPUTER EQUIPMENT BID LISTING			1
COMPANY NAME	ADDRESS	CITY/STATE	ZIP CODE	PHONE #	FAX #
ANYWARE INC.	919 CONGRESS AVENUE, #1130	AUSTIN, TX	78701	512-477-0700	512-477-0701
AVNET	1130 RUTHERFORD LN, BLDG 2, #208	AUSTIN, TX	78753	800-369-9130	512-691-9480
GRANDE COMM./CHARLES GARIBAY	11603 CROSSWINDS WAY, #100	SAN ANTONIO, TX	78230	210-340-4000	210-320-4010
GRANDE COMMUNICATION NETWORKS	401 CARLSON CIRCLE	SAN MARCOS, TX	78666	512-878-5222	512-878-4286
PRESIDIO CORPORATION, THE	7601 ORA GLEN DRIVE, #100	GREENBELT, MD	20770	301-313-2000	301-313-0820
RX TECHNOLOGY	3370 NACOGDOCHES, #136	SAN ANTONIO, TX	78217	210-828-6081	210-828-8419
SIEMENS/ATTN: TIJERINA	613 N.W. LOOP 410, SUITE #360	SAN ANTONIO, TX	78216	210-525-7887	210-525-7808
SOUTHWESTERN BELL	4119 BROADWAY, ROOM 460	SAN ANTONIO, TX	78209	210-633-5630	210-804-2941
SPRINT/STEVE LAIN	400 WEST 15TH STREET	AUSTIN, TX	78701	512-784-3554	512-472-0524

South San Antonio ISD Fax 210-5200

BIDS MAILED 9 BIDS RECEIVED 5 NO BIDS 1

UPDATE: 1/21/2005

Exhibit 13

SAN ANTONIO EXPRESS NEWS
AFFIDAVIT OF PUBLICATION

STATE OF TEXAS:

COUNTY OF BEXAR:

Before me, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared: URAI CHOKEDEE, who after being duly sworn, says that she is the BOOKEEPER of THE HEARST CORPORATION (SAN ANTONIO EXPRESS-NEWS DIVISION), a daily newspaper published in Bexar County, Texas and that the publication, of which the annexed is a true copy, was published to wit:

Date(s) ad published:

01-22-05 01-23-05

#05-49

THE SOUTH SAN ANTONIO INDEPENDENT SCHOOL DISTRICT
is requesting sealed pro posals for the following item at the time and date indicated:
CISCO WIRELESS NETWORK SYSTEMS & NETWORK UPGRADES, RFP #05-48
until 2:00 P.M. Tuesday, February 8, 2005.

NETWORK INFRASTRUC-TURE MAINTENANCE, RFP #05-49
until 2:30 P.M., Tuesday, February 8, 2005.

For more details contact the Purchasing Depart ment at 977-7070 or view these RFP's at www.southsanisd.net.

RECEIVED
2005 FEB -3 P 3:44
S.A. SAN ANTONIO ISD
PURCHASING

apps: 02 ad number: 04015521

customer: SOUTH S A I S D account: 047762002

Urai Chokedee

URAI CHOKEDEE
Bookeeper

Sworn and subscribed to before me, this the 31st

day of January A.D. 2005

MONICA C. MARTINEZ
Notary Public, State of Texas
My Commission Expires
April 27, 2008

Monica C. Martinez

Notary public in and for the State of

SAN ANTONIO EXPRESS-NEWS
P.O. BOX 2171
SAN ANTONIO, TEXAS 78297

VENDOR ID
1-130433120-7

ADVERTISING REQUEST - INVOICE BILL

047762002
SOUTH S A I S D
2515 BOBCAT LANE

SAN ANTONIO , TX 782241226

AD#	PUB	RUN DATE	CLASS	PURCHASE ORDER#	LINES	AMOUNT
#40155	ENGT	1/22	600	053164	30	169.80
		THE SOUTH SAN A				
#40155	ENGT	1/23	600	053164	30	166.80
		THE SOUTH SAN A				
#40155	ENIL	1/22	600	053164		1.90
		THE SOUTH SAN A				
#40155	ENIL	1/23	600	053164		1.85
		THE SOUTH SAN A				
#40155	ENIL	1/24	600	053164		1.85
		THE SOUTH SAN A				
#40155	ENIL	1/25	600	053164		1.85
		THE SOUTH SAN A				
#40155	ENIL	1/26	600	053164		1.85
		THE SOUTH SAN A				
#40155	ENIL	1/27	600	053164		1.85
		THE SOUTH SAN A				
#40155	ENIL	1/28	600	053164		1.85
		THE SOUTH SAN A				
					60	349.60

RECEIVED
2005 FEB -3 P 3:44
SO. SAN ANTONIO ISD
PURCHASING

Exhibit 14

(2)

Janna K. Kloss
Senior Account Manager
4119 Broadway, Room 460
San Antonio, Texas 78209

January 27, 2005

Patrick J. Skees
General Accountant/Interim Director of Purchasing
South San Antonio Independent School District
2515 Bobcat Ln.
San Antonio, Texas 78224

Dear Patrick,

We have received a copy of your RFP #05-48, Cisco Wireless Network Systems and Network Upgrades and our intention is to respond to this RFP.

In reading through the RFP, under Specifications and Conditions, Section 2, it states "The vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract." To be more competitive, SBC Datacomm normally subcontracts the cabling portion of a project. The remainder of the project would be implemented by SBC Datacomm personnel.

When using subcontractors SBC manages the entire project, including the cabling, and the use of a subcontractor is transparent to the customer. Your single point of contact, as always, will be a member of your account team. In addition, our contractors are subjected to a stringent qualification process in order to become an SBC approved contractor. These contractors continuously deliver high quality, timely implementations for our projects.

Since the cabling portion of the project is approximately 2% of the entire project, we respectfully request that SBC's proposal be considered.

We await your response regarding this matter.

Sincerely,

Janna K. Kloss
Senior Account Manager
Southwestern Bell Telephone, L.P.