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## APPENDIX C. LOCATIONS (continued)

### Gallup Connections (continued)

EDUCATIONAL DEVELOPMENT CENTER

1000 EAST AZTEC

GALLUP, NM 87301

GALLUP CENTRAL HIGH SCHOOL

325 MARGARITE ST.

GALLUP, NM 87301

GALLUP JR. HIGH SCHOOL

680 S. BOARDMAN

GALLUP, NM 87301

GALLUP HIGH SCHOOL

P.O. BOX 39

1055 RICO STREET

GALLUP, NM 87301

GALLUP MIDDLE SCHOOL

1001 S. GRANDVIEW

GALLUP, NM 87301

INDIAN HILLS ELEMENTARY

3604 CINIZA DRIVE

GALLUP, NM 87301

JEFFERSON ELEMENTARY

300 MOLLICA DRIVE

GALLUP, NM 87301

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**APPENDIX C. LOCATIONS (continued)**

**GALLUP CONNECTIONS (continued)**

JOHN F. KENNEDY MIDDLE SCHOOL  
600 SOUTH BOARDMAN  
GALLUP, NM 87301

LINCOLN ELEMENTARY  
801 WEST HILL  
GALLUP, NM 87301

JUAN DE ONATE ELEMENTARY  
505 EAST VEGA  
GALLUP, NM 87301

RED ROCK ELEMENTARY  
1305 RED ROCK DRIVE  
GALLUP, NM 87301

ROCKY VIEW ELEMENTARY  
345 BASILLO DRIVE  
GALLUP, NM 87301

ROOSEVELT ELEMENTARY  
400 EAST LOGAN  
GALLUP, NM 87301

STAGECOACH ELEMENTARY  
725 FREEDOM DRIVE  
GALLUP, NM 87301

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**APPENDIX C. LOCATIONS (continued)**

**GALLUP CONNECTIONS (continued)**

WASHINGTON ELEMENTARY

700 WEST WILSON

GALLUP, NM 87301

GALLUP MCKINLEY COUNTY SCHOOLS ADMINISTRATIVE OFFICES

700 BOARDMAN

GALLUP, NM 87301

GALLUP MCKINLEY COUNTY SCHOOLS TRANSPORTATION CENTER

525 BOARDMAN

GALLUP, NM 87301

UNIVERSITY OF NEW MEXICO AT GALLUP

200 COLLEGE DRIVE

GALLUP, NM 87301

UNIVERSITY OF WESTERN NEW MEXICO AT GALLUP

308 EAST HILL STREET

GALLUP, NM 87301

**OTHER CONNECTIONS**

SMITH LAKE ELEMENTARY

DRAWER A CPO

HIGHWAY 371

SMITH LAKE, NM 87323

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**APPENDIX C. LOCATIONS (continued)**

**OTHER CONNECTIONS(continued)**

TWIN LAKES ELEMENTARY  
FARMINGTON STAR ROUTE 4

19 MILES N HWY 666

GALLUP, NM 87301

DAVID SKEET ELEMENTARY

GENERAL DELIVERY

RT. 45 CHICHILTAH ROAD

VANDERWAGON, NM 87326

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## APPENDIX D. EQUIPMENT

<i>Networking Electronics</i>	<i>Quantity</i>	<i>System</i>	<i>IBM Description</i>
	295	8237-003	Ethernet Stackable Hub, Host
	286	8237-002	Ethernet Stackable Hub, Slave
	82	3271	Etherstreamer Switch, ATM to Ethernet
	9	8265	ATM Switch, Large
	26	8285	ATM Switch, Small

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**APPENDIX D.  
EQUIPMENT**

<b>Internet Access Products</b>			
<i>Firewall Equipment</i>	<i>Quantity</i>	<i>System</i>	<i>IBM Description</i>
	1	7248-132	<b>RS/6000 Model 43P-132</b>
	2	FC 2985	Ethernet BNC/RJ-45 adapter, PCI
	1	FC 3096	2.1 GB SCSI-2 H/Disk drive select
	1	FC 4085	Two 32 MB SIMMS select
	1	FC 6152	4 GB 4mm tape drive
	1	FC 9300	Language-English
	1	FC 9310	Keyboard-English
	1	FC 9986	Power cord - US
	1	5765-393	<b>AIX 4.1 software</b>
	1	FC 3601	Server 1-16
	1	5801-AAR	<b>Program packages</b>
	1	FC 1184	Internet Connect Network Gateway
	1	5692-AIX	<b>System software</b>
	1	FC 0.5	Server 1-16
	1	FC 3410	CD-ROM

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**APPENDIX D.  
EQUIPMENT**

**Internet Access  
Products (continued)**

<i>Domain Name Server</i>	<i>Quantity</i>	<i>System</i>	<i>IBM Description</i>
	1	7248-132	<b>RS/6000 Model 43P-132 DNS</b>
	1	FC 3096	2.1 GB SCSI-2 H/Drive select
	1	FC 3612	P50 Color Monitor
	1	FC 4084	Two 16MB SIMMS select
	1	FC 6152	4 GB 4mm tape drive
	1	FC 9300	Language-English
	1	FC 9310	Keyboard-English
	1	FC 9986	Power cord - US
	1	5765-655	<b>AIX 4.2</b>
	1	FC 4004	Server 1-16
	1	FC 5809	Supply feature server 1-16
	1	5692-AIX	<b>System software</b>
	1	FC 0.8	AIX 4.2 Server 1-16
	1	FC 3410	CD-ROM

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**APPENDIX D.  
EQUIPMENT**

**Internet Access  
Products (continued)**

<i>NetVista Servers</i>	<i>Quantity</i>	<i>System</i>	<i>IBM Description</i>
	31	8639-PTW	PC Server 325 Pentium II
	31	94G6473	32 MB Memory
	31	654000N	G42 14" SVGA Monitor
	31	227-00082	M/S NT Server v4.0
	7,585	351-00223	M/S NT MOLP Client accessB-Node
	31		8 GB Tape B/U
	166		4GB 4mm tape
	31	NT-FFAR65 0EE	Cheyenne ArcServe v6.5
	31	SU70NET	APC Smart 700 UPS

<i>NetVista Software</i>	<i>Quantity</i>	<i>System</i>	<i>Description</i>
	31	84H5691	NetVista Server 1.1
	31	84H5689	NetVista Server 1.1 Program Guide
	31	84H5695	NetVista Client 1.1 (250 Clients)
	31	84H568	NetVista Client 1.1 Program Guide

Change Request  
001

# IBM Customer Agreement Project Change Authorization

Both of us agree to modify the referenced Statement of Work for Project Support Services, dated 01/05/98, and any applicable terms as follows:

1. Change the deliverable date for deliverable entitled "Design Enterprise Network for GMCS" from March 31, 1998 to April 10, 1998. This revised date is due to delays incurred by revisions to the Universal Service Fund (USF) WAN funding and the follow-up Local Exchange Carrier (LEC) modeling and pricing, which required networking equipment design changes by the IBM team.
2. Create Section 2.3.4.1 entitled Generic Model for Future Administrative Sites in the IBM Statement of Work.

Description: The objective of this task is to develop a Generic Model for Future

- o List of the LAN equipment normally used to provide service to twenty-five office stations.
- o A general physical design diagram for a twenty-five user administrative site.
- o Cable specifications for a future administrative site.

Completion: This task will be complete when IBM has delivered the Generic Model for

Deliverable: Generic Model for Future Administrative Sites document consisting of

Due Date: April 10, 1998

Total Charges: No Charge

This offer will expire on April 10, 1998

All Terms and conditions of the original contract apply to this Change Authorization

Estimated Start Date: 03/31/98

Estimated End Date: 04/10/98

Both of us agree that the complete agreement between us about these Services will consist of 1) this Change Authorization, 2) the referenced Statement of Work, and 3) the IBM Customer Agreement (or any equivalent agreement signed by both of us).

Agreed to:

Gallup McKinley County Schools.

By: 

Name: David Oakes, Dir. Technology

Date: 03/31/98

Customer number: 3602033

Customer address: 701 South Boardman  
Gallup, New Mexico 87305

Project name or identifier:

Network Design and Implementation Services for  
County Gallup McKinley Schools

Agreed to:

International Business Machines Corporation

By: 

Name: Donald Ambrose, Proj. Mgr.

Date: 03/31/98

IBM Customer Agreement number: HQ12291

Referenced Statement of Work number: SC037B2

Project Change Request/Authorization number: 001

IBM Office number: NP5

IBM Office address: 1605 LBJ Freeway Dallas, Texas 75234

Change Request

002

# IBM Customer Agreement Project Change Authorization

Both of us agree to modify the referenced Statement of Work for Network Design and Implementation Services for Gallup McKinley County Public Schools (GMCS), accepted by GMCS on January 5, 1998, and any applicable terms as follows:

**Scope of Services:** This Project Change Authorization replaces, in total, the "Phase 2 - Network Implementation Services" portion of the IBM Statement of Work for "Network Design and Implementation Services for Gallup McKinley County Schools," accepted by GMCS on January 5, 1998.

- This offer will expire on April 30, 1998.
- All terms and conditions of the original contract apply to this Change Authorization.

Estimated start date: May 01, 1998

Estimated end date: Dec 31, 1998

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Both of us agree that the complete agreement between us about these Services will consist of 1) this Change Authorization, 2) the referenced Statement of Work, and 3) the IBM Customer Agreement (or any equivalent agreement signed by both of us).

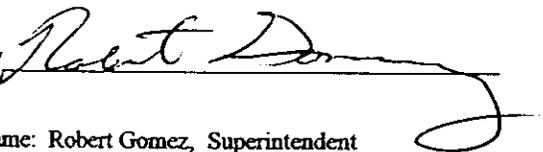
Agreed to:

Gallup McKinley County Schools.

Agreed to:

International Business Machines Corporation

By



Name: Robert Gomez, Superintendent

Date: 04/07/98

By



Name: Michael Turner, Principal

Date: 4/7/98

Customer number: 3602033

IBM Customer Agreement number: HQ12291

Customer address: 701 South Boardman  
Gallup, New Mexico 87305

Referenced Statement of Work number: SC037B2  
Project Change Request/Authorization number: 002

Project name or identifier: Network Design and Implementation  
Services for Gallup McKinley County Schools

IBM Office number: TDC

IBM Office address: 1605 LBJ Freeway  
Dallas, TX 75234

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## **1.0 Executive Overview**

IBM is pleased to present Gallup McKinley County Public Schools (GMCS) with this Project Change Request to the IBM Statement of Work for "Network Design and Implementation Services for Gallup McKinley County Public Schools" (original Statement of Work), accepted by GMCS on January 5, 1998. This Project Change Request results from IBM's Detailed Design Services, as performed over approximately the past ninety (90) days. During the Detailed Design Services phase of this project, IBM sought to validate or invalidate the primary solution scenarios as set forth in Phase 2, Network Implementation Services, of the original Statement of Work as well as to provide component level specifications for the District's desired network environment. This Project Change Request contains IBM's proposed modifications to Phase 2 of the original Statement of Work.

Our proposed modifications are based upon data gathered from a variety of sources during the Detailed Design Services phase. These sources included:

- Principals or their designees at each school
- Site walk through of each location
- Members of your Information Systems Staff
- Members of your facilities/engineering department
- Implementation firms
- IBM's intellectual capital databases

During this approximately ninety (90) day period, IBM reviewed a number of key networking areas in order to Design a solution for the District's networking needs. These areas included:

- Campus Cabling
- Local Area Networking
- Wide Area Networking
- Internet Access
- Voice Communications
- Support

Based upon our findings, IBM designed a network to address the District's computing needs. This Project Change Request is based upon IBM's design revisions and provides revised scope and pricing items for Phase 2, Network Implementation Services.

IBM understands the District's reliance on an outside source of funding (Universal Service Fund) to execute on Phase 2 of this project. Should Gallup McKinley County Public Schools not receive the requested funding for Phase 2, or should GMCS receive only partial funding, IBM will work with GMCS, through the Project Change Control Procedure, to incorporate those portions of Phase 2 that can be accomplished based upon available funding.

Accomplishing the tasks described in this Project Change Request by the requested date of December 31, 1998, will require strong project leadership from IBM and GMCS. Our joint success in this endeavor will require our joint adherence to an aggressive schedule. During the month of April, IBM will create the Network Systems Plan, as outlined in the Phase 1 portion of the original Statement of Work. This Network Systems Plan will provide GMCS with IBM's schedule for the execution of the activities as outlined in this Project Change Request.

It is specifically understood by IBM and GMCS that no Phase 2 (Implementation) activity will occur prior to IBM's receipt from GMCS of written authorization to proceed.

We look forward to assisting the District in creating a network that will improve the delivery of educational services to your students as well as enhance the District's capability to deliver administrative services to your teachers and staff.

---

### **3.0 Statement of Work, Phase 2 - Network Implementation Services**

This Phase of the Statement of Work (Phase 2) defines the scope of work to be accomplished by IBM, during Phase 2, under the terms and conditions of the *IBM Customer Agreement (Agreement)*. The tasks to be performed by IBM are defined and an estimated schedule is provided. In addition, the responsibilities of GMCS are listed.

Changes to this Statement of Work will be processed in accordance with the procedure described in Appendix B, "Project Change Control Procedure." The investigation and the implementation of changes may result in modifications to the Estimated Schedule, Charges, or other terms of this Statement of Work.

The following are incorporated in and made part of this Statement of Work:

- Appendix A, "Deliverable Guidelines"
- Appendix B, "Project Change Control Procedure"
- Appendix C, "Locations"
- Appendix D, "Equipment"

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## **3.2 Key Assumptions**

This Statement of Work and IBM's estimates to perform the Statement of Work are based on the following key assumptions. Deviations that arise during the proposed project will be managed through the procedure described in Appendix B, "Project Change Control Procedure."

### **System Environment**

- The networking system environment consists of GMCS school campuses and supporting facility, in total, numbering thirty-three (33).

### **GMCS Personnel**

- GMCS personnel who will be assigned to this project will have the technical skills necessary to participate in the Network Implementation effort.
- GMCS Information Systems (IS) and user personnel will be available as described in 3.4, "GMCS Responsibilities."

### **IBM and Subcontractor Personnel**

- Work under this Statement of Work will be performed at GMCS locations in New Mexico and at IBM facilities.
- GMCS will be charged for travel time as time worked.
- Some IBM activities on this project may be performed on IBM premises. IBM will provide the IBM consultant with access to IBM tie lines, networks, and databases. The time spent on these contract-related IBM activities will be billable to GMCS.
- IBM will provide services under this Statement of Work during normal business hours, 8:30 am to 5:15 pm Monday through Friday, except holidays, unless other times are mutually agreed to.

### **Task Specific Assumptions**

- Only those components detailed in this Statement of Work are to be supplied and installed by IBM.
- Provision, installation, and integration of any hardware and software not specified in this Statement of Work is the responsibility of GMCS.
- This Statement of Work contains products that are not manufactured by IBM (OEM products). All OEM products must comply with IBM's safety standards. Should IBM deem that any of the proposed OEM products do not meet IBM's safety standards, IBM reserves the right to substitute alternative products.
- IBM and our subcontractors must have unlimited, unrestricted access to all buildings. Any security requirements inclusive of guards, security codes/access codes, lighting and internal access and/or central monitoring are the responsibility of GMCS.
- IBM is not responsible under this Statement of Work for the identification or correction of any existing safety and/or code violations, whether federal, state or local, including but not limited to fire and electrical codes. If IBM should discover any safety and/or code violations

during the course of this project, IBM will notify GMCS of the problem. IBM will not be required to proceed with its work under this Statement of Work until GMCS remedies such violation, nor will IBM be responsible for delays to the work caused by such violation.

- IBM will not be responsible for the detection or removal of asbestos, hazardous waste or other pollutants.
- It is specifically understood by GMCS and IBM that all matters relating to detection and or abatement or removal of asbestos, hazardous waste or other pollutants are beyond the scope of this contract and that IBM shall not be liable for any delay or additional cost incurred as a result of such detections and/or abatement. If asbestos, hazardous waste or other pollutants are uncovered during the course of the work on the contract, then GMCS shall be responsible for retaining the experts necessary to remove such asbestos, hazardous waste or pollutants from the site. GMCS shall also be responsible for any testing and corresponding with appropriate government authorities.
- GMCS will be responsible for all through-wall penetrations and attachments in all buildings where asbestos is or has been present.
- Relocation and testing of existing telecommunications or CCTV equipment(s) or systems is not required as part of this project.
- Rerouting and testing of existing telecommunications or CCTV wiring is not required as part of this contract.
- Removal of existing telecommunications or CCTV cabling is not required as part of this project.
- IBM will be provided with access badges, keys and combinations or escorts to perform the work described in this Statement of Work. Any delay encountered due to unavailability of buildings may result in additional charges being incurred by GMCS.
- Adequate wall and floor space will be made available to IBM for the purpose of placing MDF/IDF products and equipment provided under this agreement. It is understood by IBM and GMCS that any delay encountered due to insufficient wall and floor space being available may result in time delays and additional charges being incurred by GMCS.
- It is understood by GMCS and IBM that this Statement of Work and associated pricing is based upon the following estimated dates. In the event these dates are not achieved, IBM reserves the right to restructure this Statement of Work to incorporate only those tasks that can be successfully completed by IBM prior to December 31, 1998.
  - May 1, 1998 - IBM receives written approval from District to proceed with Phase 2, Network Implementation Services (Universal Service Fund funding approval received by District).
  - December 31, 1998 - IBM Completes Phase 2, Network Implementation Services, portion of the Statement of Work.
- GMCS is responsible for the timely physical construction of new wiring closets/equipment locations and retrofits for existing wiring closets/equipment locations (general construction buildout, HVAC, electrical, lighting, construction permits).
- GMCS is responsible for the timely installation of electrical wiring and supporting components.

- GMCS is responsible for the timely establishment of true earth ground in locations requiring grounding.
- GMCS is responsible for providing, through telecommunications carriers, connectivity to each school campus according the project plan.
- Intra-campus cabling will be supported according to industry standards. Cabling will be run in the ceilings/walls where conducive to the running of cables. Where ceilings/walls are not conducive to the running of cable, cable will be installed in a surface mounted raceway. All necessary couplers and corners will be provided and installed where surface mounted raceway is concerned. Where cable is installed in plenum areas, plenum rated cable will be used.
- The twenty-nine (29) portable buildings at Gallup High School will not be connected to the GMCS network.

### **Exclusions from Phase II of this Statement of Work**

- The provision, installation, and configuration of telecommunications services (lines), distance learning components, network management products, training, systems management tools and processes are not included in Phase 2 of this Statement of Work.
- Ongoing operations and maintenance are not included in this Statement of Work.

### **3.2.1 Year 2000 Capabilities**

- This Service does not address the capability of GMCS systems to handle date data within and between the twentieth and twenty-first centuries. You acknowledge that it is your responsibility to assess your current systems and take appropriate action to migrate to Year 2000 ready systems.

---

## 3.3 IBM Responsibilities

### 3.3.1 Project Management

**Description:** The objective of this task is to provide technical direction and control of project personnel and to provide a framework for project communications, reporting, and procedural and contractual activity. The subtasks are:

- Maintain project communications through the GMCS Project Manager.
- Establish documentation and procedural standards for the deployment of the project.
- Prepare a detailed Project Plan for performance of this Statement of Work which defines the detailed task and schedule responsibilities.
- Measure and evaluate progress against the Project Plan.
- Resolve deviations from the Project Plan.
- Conduct regularly scheduled project status meetings.
- Prepare and submit a Status Report bi-weekly to the GMCS Project Manager.
- Review and administer the Project Change Control Procedure with the GMCS Project Manager.
- Coordinate and manage the technical activities of project personnel.

**Completion:** This task will end when the project ends.

**Deliverable:** Bi-weekly Status Reports.

### 3.3.2 Provide and Install Campus Cabling

**Description:** The objective of this task is to provide physical connectivity within a total of thirty-three (33) GMCS locations through a combination of Category 5 and fiber optic cable. Cables will be distributed between fixed classrooms, portable classrooms and supporting facilities. The subtasks may include:

- Provide and install a total of ten thousand, eight hundred twenty-nine (10,829) cable drops consisting of one (1) each, Category 5, 4-pair cable. Cables to be installed to end-user locations in fixed and portable buildings to support student, teacher, and administration network connections.
- Provide and install a total of one hundred forty-seven (147) fiber optic cable runs consisting of six (6) each, 62.5/125 micron, multi-mode fibers to connect a total of one hundred forty-seven (147) portable buildings to the nearest fixed-building intermediate distribution frame (IDF) or main distribution frame (MDF).
- Provide and install a total of forty-two (42) fiber optic cable runs consisting of six (6) each, 62.5/125 micron, multi-mode fibers to connect MDFs to IDFs in fixed school buildings.
- Provide and install the following in a total of seventy-five (75) GMCS-provided Distribution Frames (Main Distribution Frames or Intermediate Distribution Frames):
  - 3/4" Plywood Backboard
  - One (1) or more 19" Equipment Racks, with grounding hardware, to support IBM-provided copper and fiber optic termination
  - Fiber optic and copper cabling termination and mounting hardware sufficient to terminate IBM-installed cable drops
- Terminate all Category 5 cables in single or multi-position faceplates or surface-mounted boxes at end-user locations.
- Terminate all fiber optic runs in SC or ST connectors within fiber optic termination cabinets or termination panels in MDF/IDF and portable building locations.
- Provide sufficient 3', 5', 7', and 10' Category 5 patch cables for each IBM-installed Category 5 cable run.
- Provide two (2) 3', 62.5/125 micron, multi-mode fiber optic patch cables to support each portable building.
- Provide two (2) 3' 62.5/125 micron, multi-mode fiber optic patch cables to support each MDF to IDF connection.
- Functionally test each intra-building Category 5 cable drop (data) for EIA/TIA 568B Category 5 compliance.
- Functionally test each inter-building voice cable drop for continuity.
- Functionally test each fiber optic cable using either a light meter or an Optical Time Domain Reflectometer (OTDR).
- Create a Campus Cabling Test Results document and an As-Built Campus Cabling document for IBM-installed and tested Category 5 and fiber optic cables.
- Label all Category 5 cable drops at closet and end-user ends.

- Label wall faceplates.
- Seal all coring and punch throughs using industry standard and recognized methods (caulk, foams, putties). In cases where fire-stopping is required, IBM will provide materials to meet code.
- Cables (up to a total of ten thousand eight hundred twenty-nine (10,829) Category 5 cable drops) will be installed in approximate quantities as indicated in the following table:

Location Type	Student Drops	Teacher Drops	Printer Drops	Qty of Cat 5 Cables
Fixed Classroom	5	3	1	9
Portable Classroom	5	3	1	9
Special Education Rm.	1	3	0	4
Gymnasium	0	3	0	3
Library	15	9	1	25
Computer Lab	25	3	1	19
Science Lab	1	3	1	5
Business Tech. Lab	1	3	1	5
Drafting Lab	25	3	1	29
Home Ec. Lab	1	3	1	5
Ag. Lab	1	6	1	8
Tech 2000 Lab	15	6	1	22
Executive Desks	0	3	0	3
Staff Desks	0	1	0	1

**Completion:** This task will be complete when IBM has installed the specified Campus Cabling and has provided the Cable Test Results document and the As-Built Campus Cabling document to the GMCS Project Manager.

**Deliverables:** Campus Cabling Test Results document.

As-Built Campus Cabling document.

### **3.3.3 Provide, Install, and Configure Network Electronics**

**Description:** The objective of this task is to install, and configure IBM-provided Network Electronics equipment. Network Electronics provided in this Statement of Work are outlined in Appendix D in this Statement of Work. The subtasks may include:

- Take receipt of Network Electronics at loading docks or staging area.
- Unpack products and label each asset with asset identification tags provided by GMCS.
- Remove the appropriate system covers, front panels, module blank from units.
- Insert/install required modules, options, and attachments into their designated slot or position.
- Re-install system covers, front panels, module blanks from the unit.
- Secure Network Electronics in IBM-provided Equipment Racks.
- Power on each device and visually verify operations through observing device indicators.
- Install patch and connection cables between various Network Electronic devices and patch panels, as needed.
- For fiber optic cables, install external transceiver and cable, if required.
- Develop process for configuring Network Electronics.
- Configure devices with all appropriate data (including, but not limited to, name address(es), subnet mask(s), time, date, SNMP information, assign blade(s) and/or ports to backplane circuits, set up port characteristics), save configuration and restart unit.
- Document configuration in a Network Electronics Configuration Parameters document.
- Functionally test unit, replace defective components, as needed.

**Completion:** This task will be complete when the Network Electronics components can communicate to its own network and the Network Electronics Configuration Parameters document has been delivered to the GMCS Project Manager.

**Deliverable:** Network Electronics Configuration Parameters document.

### 3.3.4 Provide, Install, and Configure Server Products

**Description:** The objective of this task is to provide, install, and configure IBM-provided Server products. Server products provided in this Statement of Work are outlined in Appendix D to this Statement of Work. The subtasks include:

- Take receipt of Server products at loading docks or staging area.
- Unpack products and label each asset with asset identification tags provided by GMCS.
- Remove the appropriate system covers and panels from units.
- Insert/install required hardware and options.
- Re-install system covers and panels from units.
- Perform power-on system test.
- Install the operation environment appropriate for each Server family. Servers will be configured as set outlined in Appendix D.
- Develop process for configuring Server products.
- Tailor the Server product configurations, as appropriate. This may include, but is not limited to, TCP/IP address(es), subnet mask(s), DHCP values, DNS configuration and firewall values. This does not include individual mail server or user IDs. Save configurations and restart the unit.
- Establish server physical connection to respective campus Ethernet network.
- Perform server network connection verification.
- Install and configure NetVista Client (NetVista Client software is not provided in this Statement of Work) on up to two hundred fifty (250) GMCS-provided end-user workstations (appropriately configured with Windows 95 or MacOS 7.5+ and Ethernet connectivity).
- Configure NetVista Clients to run with NetVista Servers.
- Perform network connection verification between NetVista Clients and NetVista server.
- Backup system at completion of product installation.
- Document configurations in an Internet Access Products Configuration Parameters document.
- Functionally test unit, replace defective components, as needed.

**Completion:** This task will be complete when the Internet Access Products have been installed and configured and the Internet Access Products Configuration Parameters document has been delivered to the GMCS Project Manager.

**Deliverable:** Server Products Configuration Parameters document.

### 3.3.5 Provide, Install, and Configure Private Branch Exchanges (PBX)

**Description:** The objective of this task is to provide, install, and configure IBM-provided PBXs for voice services. PBX Products provided in this Statement of Work are outlined in Appendix D in this Statement of Work. The subtasks include:

- Unpack products and label each asset with asset identification tags provided by GMCS.
- Insert/install required hardware and options.
- Perform power-on system test.
- Establish physical connection to respective cabling termination and mounting hardware and T-1 cable connectors within the Main Distribution Frame (MDF).
- Configure PBX to individual site and network requirements.
- Perform network connection verification.
- Document configurations for each site in a PBX Configuration Parameters document.
- Functionally test unit, replace defective components, as needed.
- Design and implement a five (5) digit dialing plan.
- Re-deploy existing PBX equipment located in the Administrative office to the Network Operations Center (NOC) at GMCS.

**Completion:** This task will be complete when the PBX products have been installed and configured and the Private Branch Exchange Configuration Parameters document has been delivered to the GMCS Project Manager.

**Deliverable:** Private Branch Exchange Configuration Parameters document.