

RWHC ITN FCC Pilot Program Quarterly Data Report

APPENDIX D – Pages 73-75 of Federal Communications Commission FCC 07-198

1. Project Contact and Coordination Information

a. Identify the project leader(s) and respective business affiliations.

Project Coordinator:

Name: Louis Wenzlow

Affiliations: Rural Wisconsin Health Cooperative Information Technology Network (RWHC ITN) and Rural Wisconsin Health Cooperative (RWHC)

Associate Project Coordinator:

Name: David Chitwood

Affiliations: Rural Wisconsin Health Cooperative Information Technology Network (RWHC ITN) and Rural Wisconsin Health Cooperative (RWHC)

b. Provide a complete address for postal delivery and the telephone, fax, and e-mail address for the responsible administrative official.

Project Coordinator:

Name: Louis Wenzlow

Title: Chief Information Officer

Mail Address: 880 Independence Lane, Sauk City, WI 53583

Email: lwenzlow@rwhc.com

Phone: (608) 643-2343 ext 237

Associate Project Coordinator:

Name: David Chitwood

Title: IT Manager

Mail Address: 880 Independence Lane, Sauk City, WI 53583

Email: dchitwood@rwhc.com

Phone: 608) 643-2343 ext 242

c. Identify the organization that is legally and financially responsible for the conduct of activities supported by the award.

Rural Wisconsin Health Cooperative Information Technology Network

d. Explain how the project is being coordinated throughout the state or region.

This project is separate from but related to an existing rural Wide Area Network initiative that connects over 30 rural hospitals, clinics, regional providers, and others for a variety of data exchange purposes. The primary goals of the project are (1) to provide high speed, redundant WAN connectivity for facilities participating in a RWHC ITN Shared EHR Initiative, (2) to provide high speed connectivity for other Wisconsin facilities engaged in telemedicine, data exchange, and other bandwidth intensive purposes, and (3) to implement WAN security and reporting features.

As part of the initial coordination effort, project planners reached out to the following entities: (1) representatives of the 8 hospitals engaged in a Shared EHR vendor selection process (4 of these 8 ultimately decided to participate), (2) the CEOs of the then 32 rural hospitals that make up the Rural Wisconsin Health Cooperative, (3) the CIOs of 4 tertiary care centers in South

Central and Western Wisconsin, and (4) with the assistance of the Wisconsin Office of Rural Health, representatives of all Wisconsin critical access hospitals (CAHs).

At the time of Pilot Program application submission, 17 hospitals expressed potential interest in participating.

Due to the timing of the Shared EHR initiative, Year One activities focused exclusively on the project's primary goal of providing high speed, redundant connectivity for the 4 Shared EHR hospitals, 2 affiliated clinics, and 2 Shared EHR datacenters. Year Two and Three activities will be expanded to other original applicant hospitals with telemedicine, data exchange, and other bandwidth intensive use cases. Looking forward to year four and beyond, project planners look to expand participants as entity use cases align with network benefits. Likely future participants include additional shared EHR facilities and affiliate clinics, and hospitals with data exchange use cases with other entities already on the network.

2. Identify all health care facilities included in the network.

a. Provide address (including county), zip code, Rural Urban Commuting Area (RUCA) code (including primary and secondary), six-digit census tract, and phone number for each health care facility participating in the network.

- St. Joseph's Community Health SVCS. (Hillsboro, WI):
 - Address: 400 Water Avenue, PO Box 527, Hillsboro, WI (Vernon County)
 - Zip code: 54634
 - RUCA code: 10.0
 - Census tract: 960100
 - Phone number: 608-489-8000
- Memorial Hospital of Lafayette County (Darlington, WI):
 - Address: 800 Clay Street, Darlington, WI (Lafayette County)
 - Zip code: 53530
 - RUCA code: 10.0
 - Census tract: 970200
 - Phone number: 608-776-4466
- Tomah Memorial Hospital (Tomah, WI):
 - Address: 321 Butts Avenue, Tomah, WI (Monroe County)
 - Zip code: 54660
 - RUCA code: 7.0
 - Census tract: 950500
 - Phone number: 608-372-2181
- Boscobel Area Health Care (Boscobel, WI):
 - Address: 205 Parker Street, Boscobel, WI (Grant County)
 - Zip code: 53805
 - RUCA code: 7.0
 - Census tract: 960200
 - Phone number: 608-375-4112
- St Joseph's Family Clinic (Elroy, WI)
 - Address: 1705 Omaha Street, PO Box 66, Elroy, WI (Juneau County)
 - Zip code: 53929
 - RUCA code: 10
 - Census tract: 990200
 - Phone number: 608-489-8270
- St Joseph's Family Clinic (Wonewoc, WI)
 - Address: 301 Railroad Street, Wonewoc, WI (Juneau County)
 - Zip code: 53968

- RUCA code: 10
- Census tract: 990600
- Phone number: 608-464-3575
- RWHC ITN Sauk City Datacenter
 - Address: 880 Independence Lane, Sauk City WI (Sauk County)
 - Zip code: 53583
 - RUCA code: 7.3
 - Census tract: 000700
 - Phone number: 608-644-3237
- RWHC ITN Madison Datacenter
 - Address: 222 West Washington Avenue, Madison WI (Dane County)
 - Zip code: 53703
 - RUCA code: 7
 - Census tract: 001701
 - Phone number: 608-644-3237

b. For each participating institution, indicate whether it is:

i. Public or non-public;

ii. Not-for-profit or for-profit;

iii. An eligible health care provider or ineligible health-care provider with an explanation of why the health care facility is eligible under section 254 of the 1996 Act and the Commission's rules or a description of the type of ineligible health care provider entity.

- St. Joseph's Community Health SVCS. (Hillsboro, WI):
 - Non-public
 - Not-for-profit
 - Eligible health care provider (critical access hospital)
- Memorial Hospital of Lafayette County (Darlington, WI):
 - Public (county-owned)
 - Not-for-profit
 - Eligible health care provider (critical access hospital)
- Tomah Memorial Hospital (Tomah, WI):
 - Non-public
 - Not-for-profit
 - Eligible health care provider (critical access hospital)
- Boscobel Area Health Care (Boscobel, WI):
 - Non-public
 - Not-for-profit
 - Eligible health care provider (critical access hospital)
- Elroy Clinic
 - Non-public
 - Not-for-profit
 - Eligible health care provider (primary care clinic owned by critical access hospital)
- Wonewoc Clinic
 - Non-public
 - Not-for-profit
 - Eligible health care provider (primary care clinic owned by critical access hospital)
- Madison Datacenter
 - Non-public
 - Not-for-profit

- Eligible health care provider (consortium datacenter used for services necessary to the provision of healthcare by eligible healthcare providers)
- Sauk City Datacenter
 - Non-public
 - Not-for-profit
 - Eligible health care provider (consortium datacenter used for services necessary to the provision of healthcare by eligible healthcare providers)

3. Network Narrative: In the first quarterly report following the completion of the competitive bidding process and the selection of vendors, the selected participant must submit an updated technical description of the communications network that it intends to implement, which takes into account the results its network design studies and negotiations with its vendors. This technical description should provide, where applicable:

a. Brief description of the backbone network of the dedicated health care network, e.g., MPLS network, carrier-provided VPN, a SONET ring;

Rural Wisconsin Health Cooperative ITN has initially selected two carriers, CenturyTel and Charter, to provide segments of the dedicated healthcare network. Included in this network thus far is a point-to-point Charter fiber connection, 3 point-to-point CenturyTel Metro Ethernet connections, 1 combination point-to-point CenturyTel DS3 and Metro Ethernet connection, and 2 point-to-point CenturyTel T-1 connections. The network design, with all connections terminating to a common datacenter (or else to a facility that then has a connection that terminates to the common datacenter), allows the RWHC ITN network to be data transmission technology type and carrier agnostic. The benefit of this model is that we can seek out the very best and most cost-effective solutions for each location, irrespective of other wide area network connections already in place. Not only does this mean that our initial network is the most cost effective, it also means that we have flexibility to create redundancy by using various transmission means, and that we have future flexibility to add connections based on the most current best pricing information as our network grows.

Depending on the project and state there may be a number of ways to construct dedicated healthcare networks, including leveraging volume and creating simplicity by contracting with a single vendor and using one transmission technology. In rural Wisconsin, where there are dozens of vendors that are positioned to provide advanced telecommunications in certain locations but not others, so that cost fluctuations by location are extreme, the multi-vendor network design strategy we are pursuing seems to make the most sense.

b. Explanation of how health care provider sites will connect to (or access) the network, including the access technologies/services and transmission speeds;

Three hospitals (Boscobel Area Health Care, Tomah Memorial Hospital and Memorial Hospital of Lafayette County) will connect to the Madison Data Center via a CenturyTel 20 Mb Metro Ethernet connection. St Josephs Community Health Services will connect to the Madison Data Center over a combination of a 20Mb DS3 and 20 Mb Metro Ethernet. Because of St Josephs Community Health Services location, a straight 20Mb connection wasn't possible; instead St Josephs has a DS3 that terminates at the Tomah, WI CenturyTel CO, which then converts to a 20Mb Metro Ethernet connection to the Data Center. The two clinics (Wonewoc and Elroy) will connect directly to St Josephs Community Health Services via dedicated T-1 (1.5 Mg) connections. The Sauk and Madison Data Centers will connect over a 100Mb fiber connection provided by Charter. The 4 hospitals and the Sauk datacenters will also have redundant connections, selection of which is pending. The likely most cost effective means of creating redundancy is to use local Internet providers and create point-to-point VPN connections, though this has not yet been formally decided.

Each Data Center has two Fortigate 310B Multi-threat Security Appliances/Routers operating in High Availability acting as the termination equipment. Each hospital (Boscobel Area Health Care, Tomah Memorial Hospital, St Josephs Community Health Services and Memorial Hospital of Lafayette County) has two Fortigate 200A Multi-threat Security Appliances/Routers operating in High Availability acting as the termination equipment. The two clinics (Wonewoc and Elroy) have an Adtran router with a T-1 card as their terminating device with an Adtran router with two T-1 cards terminating at St Josephs Community Health Services.

c. Explanation of how and where the network will connect to a national backbone such as NLR or Internet2;

Connectivity to Internet2 was considered in our original application as a potential activity, depending on participant facility use cases and further research. If we connect to Internet2, this will likely be a year 3 activity.

d. Number of miles of fiber construction, and whether the fiber is buried or aerial;

There was a \$1500 cost of fiber construction. The distance for the construction was one city block and the cable is buried.

e. Special systems or services for network management or maintenance (if applicable) and where such systems reside or are based.

RWHC ITN will be using the SolarWinds Orion product to monitor network activity, dropped packets, and bandwidth utilization. This product will likely be based in the Sauk City location, though it may be moved to the Madison location, depending on bandwidth monitoring needs and further testing. RWHC ITN will be using the Forti-manager product to manage the Fortigate termination devices/routers; and the Forti-analyzer product for network intrusion detection and reporting. These products will be based in the Madison location. RWHC ITN will be using Citrix to manage network bandwidth utilization. Citrix will be based in the Madison location.

4. List of Connected Health Care Providers: Provide information below for all eligible and non-eligible health care provider sites that, as of the close of the most recent reporting period, are connected to the network and operational.

a. Provider name

See below

b. Eligible provider (Yes/No);

See below

c. Type of network connection (e.g., fiber, copper, wireless);

See below

d. How connection is provided (e.g., carrier-provided service; self-constructed; leased facility);

See below

e. Service and/or speed of connection (e.g., DS1, DS3, DSL, OC3, Metro Ethernet (10 Mbps);

See below

f. Gateway to NLR, Internet2, or the Public Internet (Yes/No);

See below

g. Site Equipment (e.g., router, switch, SONET ADM, WDM), including manufacturer name and model number.

See below

- a. *St. Joseph's Community Health SVCS. (Hillsboro, WI):*
- b. Eligible health care provider (critical access hospital)
- c. Copper Connectivity
- d. Leased Service (CenturyTel)
- e. 20Mb DS3 to 20Mb Metro Ethernet
- f. Gateway to NLR, Internet2, or the Public Internet: No
- g. Terminating Equipment: Fortigate 200A Multi-threat Security Appliances/Routers; and Adtran router for clinic connections

- a. *Memorial Hospital of Lafayette County (Darlington, WI):*
- b. Eligible health care provider (critical access hospital)
- c. Copper Connectivity
- d. Leased Service (CenturyTel)
- e. 20Mb Metro Ethernet
- f. Gateway to NLR, Internet2, or the Public Internet: No
- g. Terminating Equipment: Fortigate 200A Multi-threat Security Appliances/Routers

- a. *Tomah Memorial Hospital (Tomah, WI):*
- b. Eligible health care provider (critical access hospital)
- c. Copper Connectivity
- d. Leased Service (CenturyTel)
- e. 20Mb Metro Ethernet
- f. Gateway to NLR, Internet2, or the Public Internet: No
- g. Terminating Equipment: Fortigate 200A Multi-threat Security Appliances/Routers

- a. *Boscobel Area Health Care (Boscobel, WI):*
- b. Eligible health care provider (critical access hospital)
- c. Copper Connectivity
- d. Leased Service (CenturyTel)
- e. 20Mb Metro Ethernet
- f. Gateway to NLR, Internet2, or the Public Internet: No
- g. Terminating Equipment: Fortigate 200A Multi-threat Security Appliances/Routers

- a. *Elroy Clinic*
- b. Eligible health care provider (primary care clinic owned by critical access hospital)
- c. Copper Connectivity
- d. Leased Service (CenturyTel)
- e. T-1 Connection (1.5 Mb)
- f. Gateway to NLR, Internet2, or the Public Internet: No
- g. Adtran Router

- a. *Wonewoc Clinic*
- b. Eligible health care provider (primary care clinic owned by critical access hospital)
- c. Copper Connectivity
- d. Leased Service (CenturyTel)
- e. T-1 Connection (1.5 Mb)
- f. Gateway to NLR, Internet2, or the Public Internet: No
- g. Adtran Router

- a. *Madison Datacenter*
- b. Eligible health care provider (consortium datacenter used for services necessary to the provision of healthcare by eligible healthcare providers)
- c. All connections terminate at this location, so not applicable
- d. Not applicable
- e. Not applicable
- f. Gateway to NLR, Internet2, or the Public Internet: No
- g. Fortigate 310B Multi-threat Security Appliances/Routers; Citrix server and software contracted for, but not yet in place; Forti-analyzer and Forti-manager installation contracted but not yet in place

- a. *Sauk City Datacenter*
- b. Eligible health care provider (consortium datacenter used for services necessary to the provision of healthcare by eligible healthcare providers)
- c. Fiber Connectivity
- d. 100 Mb Fiber Connection
- e. Leased Service (Charter Communications)
- f. Gateway to NLR, Internet2, or the Public Internet: No
- g. Fortigate 310B Multi-threat Security Appliances/Routers; Orion Solar Winds network monitoring system installation contracted but not yet in place

h. Provide a logical diagram or map of the network.

A logical diagram of each facility's connection as well as an overall network map has been attached to this document as Exhibit A.

5. Identify the following non-recurring and recurring costs, where applicable shown both as budgeted and actually incurred for the applicable quarter and funding year to-date.

The costs identified below are from the three contracts (CenturyTel, Charter, and Digicorp) that have been signed to date and one hired WAN Specialist staff position. While build-out and services have begun, we have not yet received invoices, so only WAN Specialist costs have been thus far actually incurred.

a. Network Design

No recurring or non-recurring costs are anticipated for Network Design at this point in time.

b. Network Equipment, including engineering and installation

Network equipment (including non-recurring network termination hardware and installation; recurring network termination hardware support; non-recurring network management hardware, software, and installation; and recurring network management equipment support) costs per the Digicorp contract are **\$549,388**. Detailed breakouts will be available in our soon to be posted 466 forms and contract upload.

c. Infrastructure Deployment/Outside Plant

i. Engineering

ii. Construction

The Charter contract has a one-time **\$2,500** installation fee for infrastructure deployment.

d. Internet2, NLR, or Public Internet Connection

The public Internet will likely be used for point-to-point VPN redundant connections, but no contracts have yet been signed regarding this facet of the project.

e. Leased Facilities or Tariffed Services

Contracted monthly recurring costs for leased lines, per CenturyTel and Charter contracts, are in the amount of **\$13,880**. All CenturyTel circuits are active, though not all sites have been implemented and the first invoice has not yet been received. The Charter circuit is anticipated to go live in August.

f. Network Management, Maintenance, and Operation Costs (not captured elsewhere)

Network management, maintenance, and operation costs will be incurred for a Wide Area Network Specialist position that has been hired. The expected cost of this position for the period of 7/08-6/09 is \$97,770 which includes salary and benefits. Average monthly recurring costs will be **\$8,148**.

Incurred costs for June, 2008 (Ray's first partial month of employment) were \$3,970.

g. Other Non-Recurring and Recurring Costs

There are no other costs to date.

6. Describe how costs have been apportioned and the sources of the funds to pay them:

a. Explain how costs are identified, allocated among, and apportioned to both eligible and ineligible network participants.

The RWHC ITN project currently includes only eligible participants. Each participant will be billed monthly for their 15% contribution of: (1) their individual telecommunications costs, (2) their individual facility termination equipment costs paid over 3 years; and (3) their portion of all other FCC Pilot Program funded costs (datacenter termination equipment, network management equipment, staffing, etc.), divided equally initially between the four hospitals.

b. Describe the source of funds from:

i. Eligible Pilot Program network participants

Eligible participants will be paying their 15% share from income from their operations.

ii. Ineligible Pilot Program network participants

The RWHC ITN project currently includes only eligible participants.

c. Show contributions from all other sources (e.g., local, state, and federal sources, and other grants).

i. Identify source of financial support and anticipated revenues that is paying for costs not covered by the fund and by Pilot Program participants.

All costs will be covered by the fund and by Pilot Program participants

ii. Identify the respective amounts and remaining time for such assistance.

N/A

d. Explain how the selected participant's minimum 15 percent contribution is helping to achieve both the selected participant's identified goals and objectives and the overarching goals of the Pilot Program.

The participants' 15% contribution is clearly helping to achieve participant goals and the overarching goals of the Pilot Program.

Regarding participant goals: with the 85%/15% formula, participant costs are significantly reduced when compared to the cost of telecommunications even when using the Universal Service Fund program. This is partly due to the fact that 15% is usually less than the urban comparable rate used by USF, and partly due to the fact that the Pilot Program requires a rigorous vendor selection process that helps find the best solution for the best price.

One example of how the Pilot Program has benefited an individual facility can be found in the St. Joseph Community Health Services connection. St. Joseph's has an existing \$13,000 a month 10 Mb DS3 connection for Radiology transmission. About \$12,000 a month of the cost of this connection is reimbursed by USF, so St Joseph's pays about \$1,000 a month as the urban comparable rate. With the Pilot Program, St. Joseph's is about to implement a 20 Mb Metro-Ethernet/DS3 connection that costs \$2,950 a month, 15% of which is \$442.50. Once their Pilot connections are fully operational and once they have disconnected the USF-funded DS3, St. Joseph's will be paying significantly less for significantly more bandwidth and redundancy. The result of this is that St. Joseph's will be able to afford to implement the high-speed redundant configuration required for them to effectively participate in the RWHC ITN shared electronic health record project, which was the primary goal of this Pilot Program initiative.

In addition, since the Pilot Program supports network management systems and staff, which the USF program does not, the small rural hospitals participating in this project can afford to develop a state of the art network required for adequately supporting mission critical healthcare related applications. In our view, this is a crucial component of this Pilot, since telecommunications support without network management support would likely mean that only large hospitals with existing network management expertise and tools would be able to adequately support robust networks. The result would be the promotion of dependency relationships between tertiary centers and their satellites, rather than the empowerment of small rural hospitals to work with other community hospital as well as tertiary partners to create networks that would meet all participants' needs equally. In our view, ongoing Pilot Program network management support will be critical to preventing the promotion of large hospital dominance over small hospitals.

Another beneficial result is that there is a significantly reduced paperwork burden for the individual facilities, even as the paper work burden for the network organization is very high.

Regarding Pilot Program goals: with the 85%/15% formula, the Pilot Program goals of expanding healthcare-related networks and improving cost-effectiveness are clearly achieved. The former goal is achieved by reducing costs and thereby incentivizing network participation, and the latter goal is achieved by (1) incentivizing choosing the most cost effective solution by requiring participants to pay a percentage rather than the urban comparable rate; and (2) requiring a rigorous vendor selection process that helps find the best solution for the best price.

Using the St, Joseph's Community Health Services example, we can already see the significant cost savings potential of the program. USAC is currently paying about \$12,000 a month for a 10 Mb DS3 through the USF program. The 20 Mb Pilot Program connection will

cost the Pilot Program \$2507.50. Once the USF-funded connection is terminated, USAC will effectively be saving about \$9492.50 a month, while providing greater bandwidth. Though it is important to point out that network management systems, support, and redundancy will be adding previously unfunded costs, it is our view that the monthly savings identified in the St. Joseph's case study, when expanded to multiple network participants and projects, will be the most cost effective model moving forward, especially as healthcare providers are faced with increased bandwidth requirements related to PACS, teleradiology, and electronic health records.

As a result of the above, we strongly encourage Pilot Program organizers and policy makers to begin planning for the transition of the Pilot Program into a permanent program.

7. Identify any technical or non-technical requirements or procedures necessary for ineligible entities to connect to the participant's network.

The RWHC ITN project currently includes only eligible participants.

8. Provide an update on the project management plan, detailing:

a. The project's current leadership and management structure and any changes to the management structure since the last data report; and

The project's leadership and management structure is essentially the same as was last reported, with Louis Wenzlow serving as Project Coordinator, and David Chitwood serving as Associate Project Coordinator. As indicated above, we have added a Wide Area Network Specialist, Ray Brown, who will be managing the Pilot Program network systems and equipment.

b. In the first quarterly report, the selected applicant should provide a detailed project plan and schedule. The schedule must provide a list of key project deliverables or tasks, and their anticipated completion dates. Among the deliverables, participants must indicate the dates when each health care provider site is expected to be connected to the network and operational. Subsequent quarterly reports should identify which project deliverables, scheduled for the previous quarter, were met, and which were not met. In the event a project deliverable is not achieved, or the work and deliverables deviate from the work plan, the selected participant must provide an explanation.

Topic	Item	Due Date	Group/Individuals Responsible
1. Network Design Study Completed	RWHC staff develop Pilot Program WAN specifications	10/07 complete	Louis Wenzlow (LW)
2. Year 1 RFP Development	Year 1 site needs identified and articulated in RFP	4/08 complete	LW
3. Year 1 Vendor Selection	RFP responses assessed and vendors selected	5/08 complete	LW and David Chitwood (DC)
4. WAN Specialist hired	WAN Specialist selection process and hiring	6/08 Ray Brown hired	LW/DC

5. Year 1 CenturyTel installations and corresponding Digicorp termination hardware installations	CenturyTel Tomah connection go-live	6/04/08 complete	DC/Ray Brown (RB)
	Corresponding Tomah Fortigate installation	6/04/08 complete	DC/RB
	Corresponding Madison Fortigate installation	6/04/08 complete	DC/RB
	CenturyTel Darlington connection go-live	6/27/08 complete	DC/RB
	Corresponding Fortigate installation	6/27/08 complete	DC/RB
	CenturyTel Hillsboro connection go-live	6/27/08 complete	DC/RB
	Corresponding Fortigate installation	6/27/08 complete	DC/RB
	CenturyTel Elroy connection go-live	6/27/08 complete	DC/RB
	Corresponding Adtran installation	6/27/08 complete	DC/RB
	CenturyTel Wonewoc connection go-live	6/27/08 complete	DC/RB
	Corresponding Adtran installation	6/27/08 complete	DC/RB
	CenturyTel Boscobel connection go-live	6/27/08 complete	DC/RB
	Corresponding Fortigate installation	7/20/08	DC/RB
6. Year 1 Charter installations and corresponding Digicorp termination hardware installations	Charter Sauk Connection go-live	8/01/08	DC/RB
	Corresponding Fortigate installation	8/01/08	DC/RB
7. Year 1 Redundant Connection installations	These will likely be Point-to-point VPN over Internet.		

(not yet contracted)	Goal for contracting	8/15/08	LW/DC
	Goal for installation	9/15/08	LW/DC
8. Year 1 Forti-manager and Forti-analyzer installation (Digicorp)	To manage Fortigates and provide security reporting (from Madison datacenter)	8/05/08	DC/RB
9. Year 1 Solar Winds (Digicorp) Installation	To provide network monitoring (from Sauk datacenter)	8/16/08	DC/RB
10. Year 1 Citrix installation (Digicorp)	Initial planning meeting	9/01/08	DC/RB/LW
	Hardware installation goal	10/1/08	RB/DC
	Software installation and rollout schedule yet to be determined: goal for completion	2/1/09	RB/DC
11. Year 2 RFP Development	Year 2 sites and site needs identified and articulated in RFP	9/1/08	LW/DC
12. Year 2 Vendor Selection	RFP responses assessed and vendors selected	11/1/08	LW/DC
13. Year 2 Installation Activities	TBD	TBD	DC/RB
14. Year 3 RFP Development	Year 3 sites and site needs identified and articulated in RFP	5/1/09	LW/DC
15. Year 3 Vendor Selection	RFP responses assessed and vendors selected	7/1/09	LW/DC
16. Year 3 Installation Activities	TBD	TBD	DC/RB

9. Provide detail on whether network is or will become self sustaining. Selected participants should provide an explanation of how network is self sustaining.

Given the 85% match, the network is already self-sustaining, since the 15% remainder is being paid by Pilot Program participants. Due to the high cost of high speed connectivity in rural areas, Universal Service Funds and/or some form of the Pilot Program support will remain important to keeping connectivity costs on par with the cost of connectivity in urban areas, so complete self-sustainability (i.e. the elimination for the need for a USF type program) in our view is not currently a reasonable goal for rural areas.

10. Provide detail on how the supported network has advanced telemedicine benefits:

a. Explain how the supported network has achieved the goals and objectives outlined in selected participant's Pilot Program application;

The following were the goals listed in our application:

1. Using the current RWHC WAN as a starting point, create a fully redundant/ expanded WAN for those facilities participating in the Shared EHR Project
2. Expand the current network to include additional rural facilities and urban tertiary centers, with the goal of creating a larger regional network and more connectivity and data exchange options for WAN participants
3. Enhance WAN security features for new and existing WAN participants
4. Enhance distance education and video-conferencing capabilities between WAN participants, especially those engaged in Shared EHR
5. Promote flexible flow of data/information between WAN participants, as opposed to a proprietary referral-based network configuration

Regarding goal #1: the RWHC ITN is well along the way to creating a fully redundant WAN for facilities participating in the Shared EHR project. Four hospitals, two clinics, and two collaborative datacenters are initially participating. Two of the four hospitals (Tomah and Darlington) have 20 Mb high speed connections implemented and in use for the Shared EHR project. Both clinics have T1 connections implemented and in use for the Shared EHR Project. Two hospitals (Hillsboro and Boscobel) have a 20 Mb connection implemented but not yet in use.

The Shared EHR project has proceeded according to plan, with 3 hospitals (Tomah, Darlington, and Hillsboro) and the two clinics having started to share the same hospital information system/ electronic health record and use commonly owned servers and datacenters in June and early July. The 4th hospital (Boscobel) will be going live in August.

Redundant termination hardware has been implemented at Tomah, Darlington, and Hillsboro, and is being configured for the Boscobel implementation.

Low cost redundant connections were part of the year 1 RFP and are in the process of being chosen.

Regarding goal #2: the RWHC ITN will be focusing on adding facilities as part of year 2 and 3 activities.

Regarding goal #3: the RWHC ITN is in the process of implementing termination equipment and network management hardware and software with a variety of advanced security features that will protect the network. Security features include: intrusion detection, heuristic virus

detection at the router level, VPN capabilities, network monitoring, security reporting, as well as a variety of other security features and functions.

Regarding goal #4: The RWHC ITN connections will serve to enhance distance education and video-conferencing capabilities by providing more bandwidth for these functions. Facility focus is currently on shared EHR, but we hope to have some case studies relating to this in the future.

Regarding goal #5: The RWHC ITN network has been designed to promote the flexible flow of information between participants.

b. Explain how the supported network has brought the benefits of innovative telehealth and, in particular, telemedicine services to those areas of the country where the need for those benefits is most acute;

The implementation of EHRs in the rural setting involves a number of well-documented challenges. 2006 reports by the Flex Monitoring Team (“The Current Status of Health Information Technology Use in CAHS”), as well as by the National Advisory Committee on Rural Health and Human Services (“2006 Report to the Secretary: Rural Health and Human Service Issues”) identify a variety of adoption barriers, such as financing, lack of sufficient HIT professionals, greater physician resistance to HIT than in urban settings, and limited expertise to facilitate appropriate workflow redesign. Additional barriers in rural healthcare environments include the following: (1) Due to low transaction volumes, financial ROI on clinical HIT investments can be significantly lower—in some cases producing significant negative financial results—for small rural organizations (reference “Implementations of Hospital Computerized Physician Order Entry Systems in a Rural State: Feasibility and Financial Impact” in JAMIA); and (2) The problem of lack of sufficient HIT professionals (and for that matter clinical HIT workflow transformation professionals) is primarily a financial issue rather than an access issue: our smallest rural providers simply cannot afford to hire the number of specialists required to appropriately implement and support an advanced EHR environment (often we see one or two FTEs attempting to support environments analogous to what in larger facilities scores of FTEs might support).

One of the most effective strategies for our smallest rural providers to overcome these barriers is to engage in collaborative HIT arrangements that provide comprehensive, integrated solutions, and pooled staffing to provide appropriate support and education. In order to access these solutions at an affordable cost, the four hospitals participating in year 1 activities have formed an innovative electronic health record consortium that shares datacenters, servers, and systems over the advanced telecommunications lines supported by the Pilot Program.

Without the shared model and the network, several of these low volume rural facilities would likely not have access to the wide range of EHR systems being implemented, such as Lab, Radiology, Pharmacy, Nurse Charting, E-MAR, CPOE, and others, with contraindication checking and decision support tools that will reduce medication errors, facilitate the practice of evidence-based medicine, and improve care quality.

c. Explain how the supported network has allowed patients access to critically needed medical specialists in a variety of practices without leaving their homes or communities;

The network does not currently have use-cases in which patients access medical specialists, though this may be a future use-case.

d. Explain how the supported network has allowed health care providers access to government research institutions, and/or academic, public, and private health care institutions that are repositories of medical expertise and information;

The supported network does not currently have use-cases in which health care providers have access to government research institutions, etc., though this may be a future use case.

e. Explain how the supported network has allowed health care professional to monitor critically ill patients at multiple locations around the clock, provide access to advanced applications in continuing education and research, and/or enhanced the health care community's ability to provide a rapid and coordinated response in the event of a national crisis.

The supported network does not currently have use-cases in which health care providers monitor critically ill patients at multiple locations around the clock, etc., though these may be future use cases.

11. Provide detail on how the supported network has complied with HHS health IT initiatives:

a. Explain how the supported network has used health IT systems and products that meet interoperability standards recognized by the HHS Secretary;

Healthcare Management Systems (HMS) and Medinotes are both vendor members of HITSP. More detail on their positions on HITSP interoperability work has been requested but is not available in time for submission. Both vendors do comply with HL7 interoperability standards.

b. Explain how the supported network has used health IT products certified by the Certification Commission for Healthcare Information Technology;

The primary applications being used over the network are (1) Healthcare Management Systems (HMS), which was one of only 4 inpatient system vendors initially certified by CCHIT (recently expanded to 9) and (2) Medinotes, which is also CCHIT certified.

c. Explain how the supported network has supported the Nationwide Health Information Network (NHIN) architecture by coordinating activities with organizations performing NHIN trial implementations;

The supported network is aware of NHIN related trial activities, but is currently not coordinating activities with NHIN trial sites.

d. Explain how the supported network has used resources available at HHS's Agency for Healthcare Research and Quality (AHRQ) National Resource Center for Health Information Technology;

As 2005 AHRQ THQIT Planning grant Project Coordinator and current HRSA CAHHIT Network grant Principle Investigator, Louis Wenzlow, the Pilot Program project coordinator, uses the AHRQ NRC Health IT Portal, and has attended a variety of conferences related to both projects.

e. Explain how the selected participant has educated themselves concerning the Pandemic and All Hazards Preparedness Act and coordinated with the HHS Assistant Secretary for Public Response as a resource for telehealth inventory and for the implementation of other preparedness and response initiatives; and

Representatives of the supported network have not to date educated themselves concerning the Pandemic and All Hazards Preparedness Act, etc. The selected participants will be polled re this question for the next quarterly report.

f. Explain how the supported network has used resources available through HHS's Centers for Disease Control and Prevention (CDC) Public Health Information Network (PHIN) to facilitate interoperability with public health and emergency organizations.

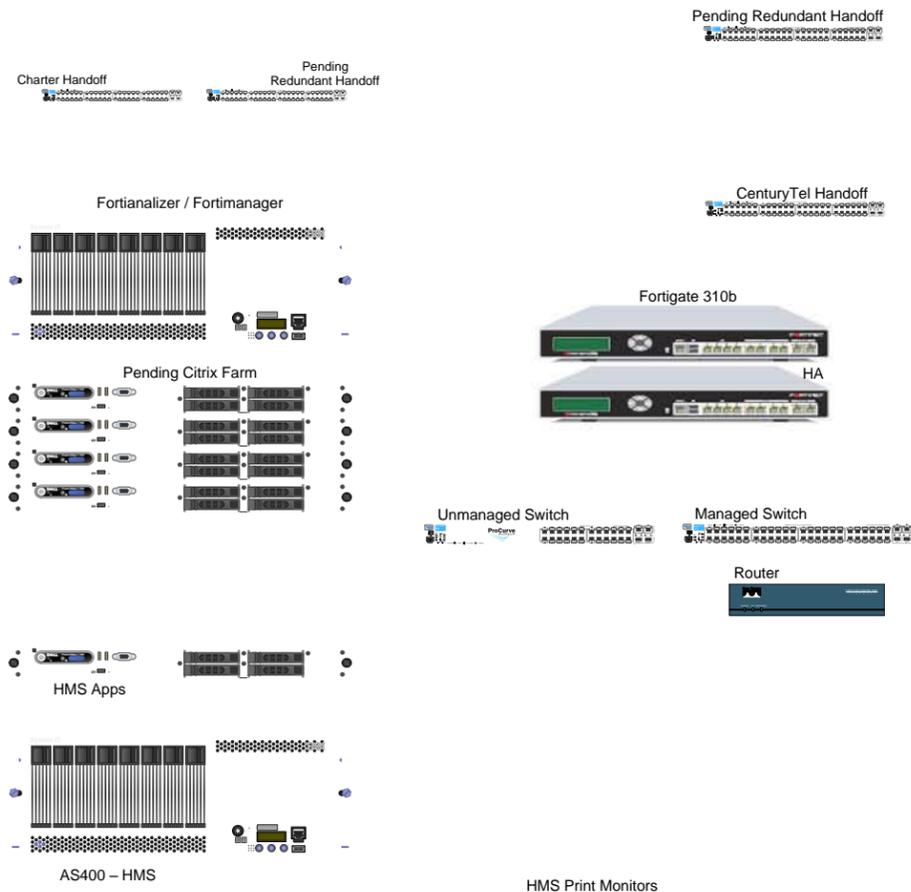
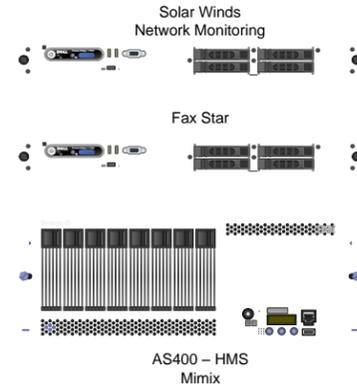
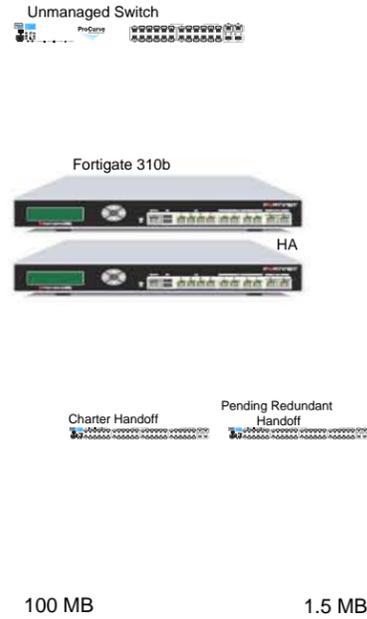
The supported network has not to date used resources available through HHS's CDC PHIN to facilitate interoperability with public health and emergency organizations.

12. Explain how the selected participants coordinated in the use of their health care networks with the Department of Health and Human Services (HHS) and, in particular, with its Centers for Disease Control and Prevention (CDC) in instances of national, regional, or local public health emergencies (e.g., pandemics, bioterrorism). In such instances, where feasible, explain how selected participants provided access to their supported networks to HHS, including CDC, and other public health officials.

As stated earlier, the selected participants work closely with HHS's HRSA division, as well as with the Wisconsin Office of Rural Health (also HRSA supported). But no coordination has occurred relating to national, regional, or local public health emergencies.

Exhibit A (Network Diagram) to follow:

RWHC Information Technology Network Enhanced Network for Shared EHR



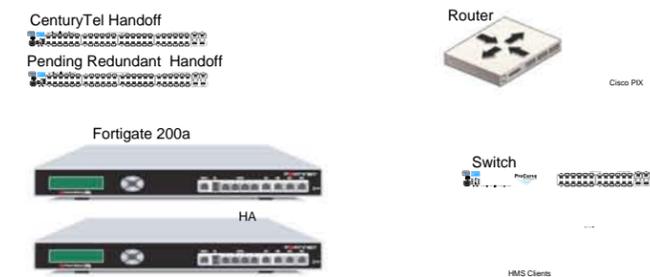
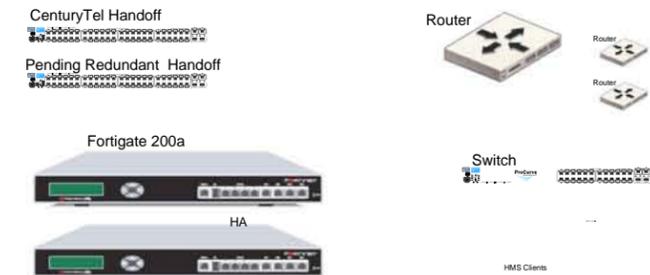
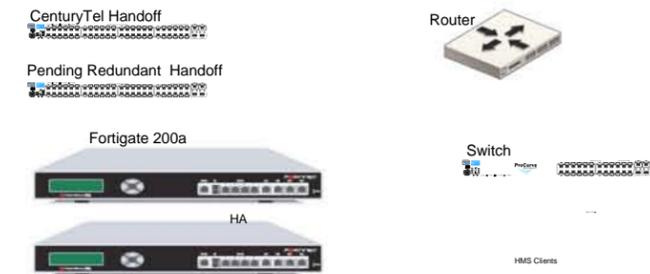
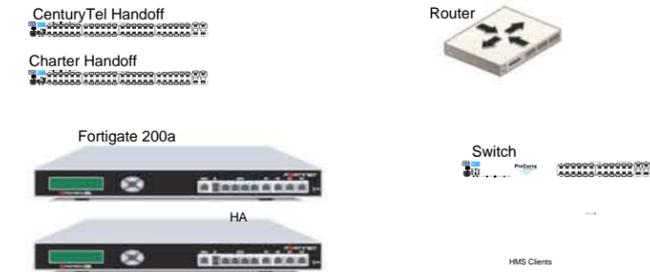
Pending Redundant Connections

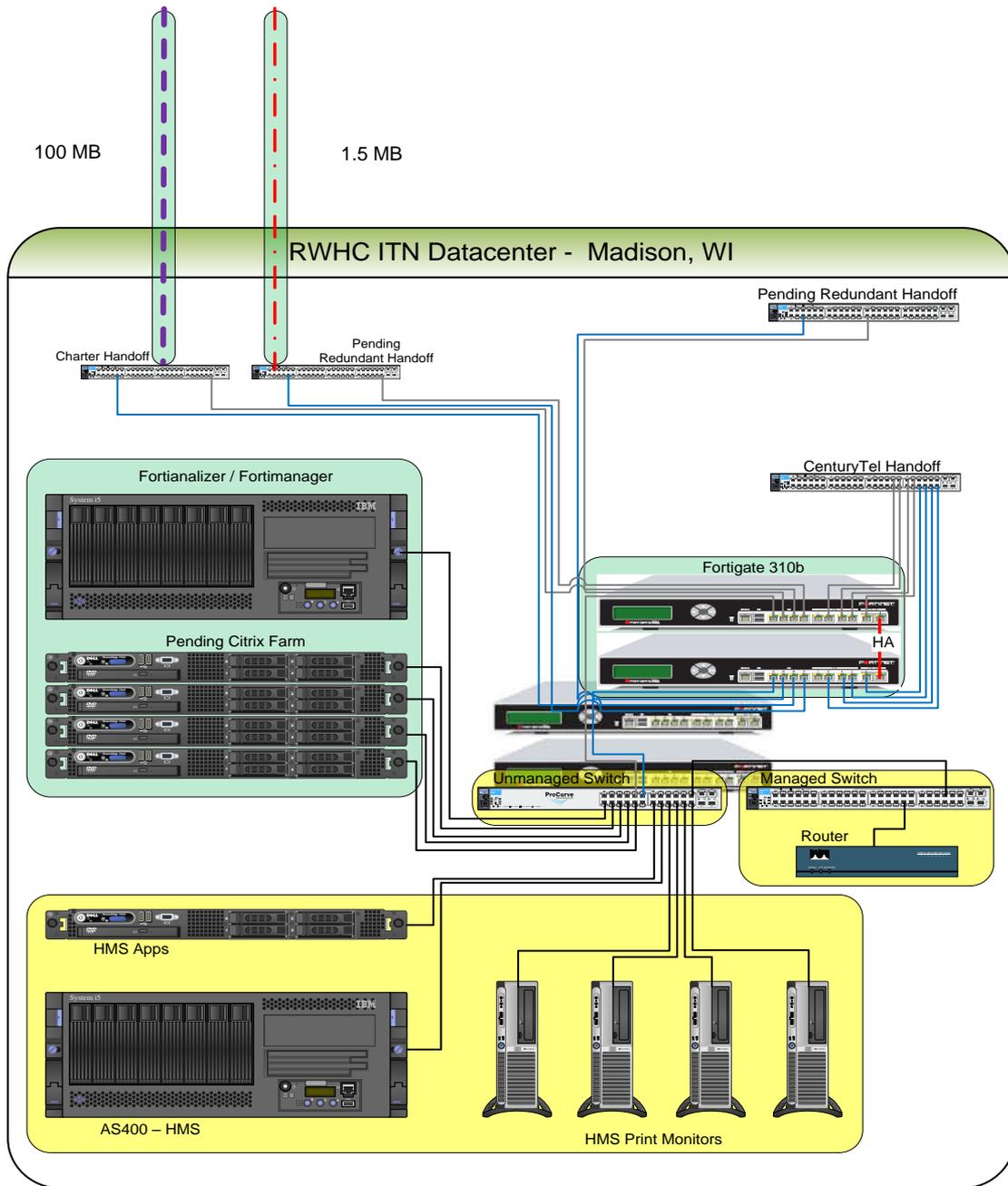
CenturyTel VLAN

20 MB

LEGEND

- Metro Ethernet:
- DS3/T-1:
- Point-to-Point VPN:
- Fiber Optic:
- Primary Cat5 Patch Cable:
- Redundant Cat5 Patch Cable:
- Cat5 Patch Cable:
- Non FCC Funded:
- FCC Funded:

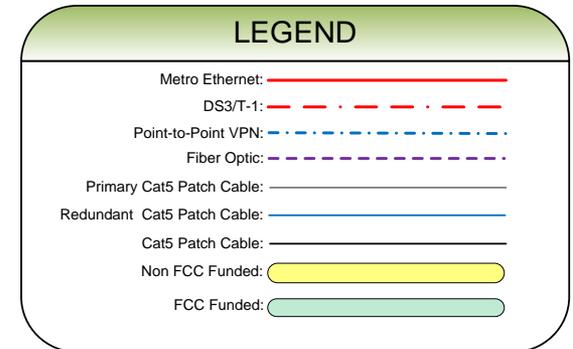




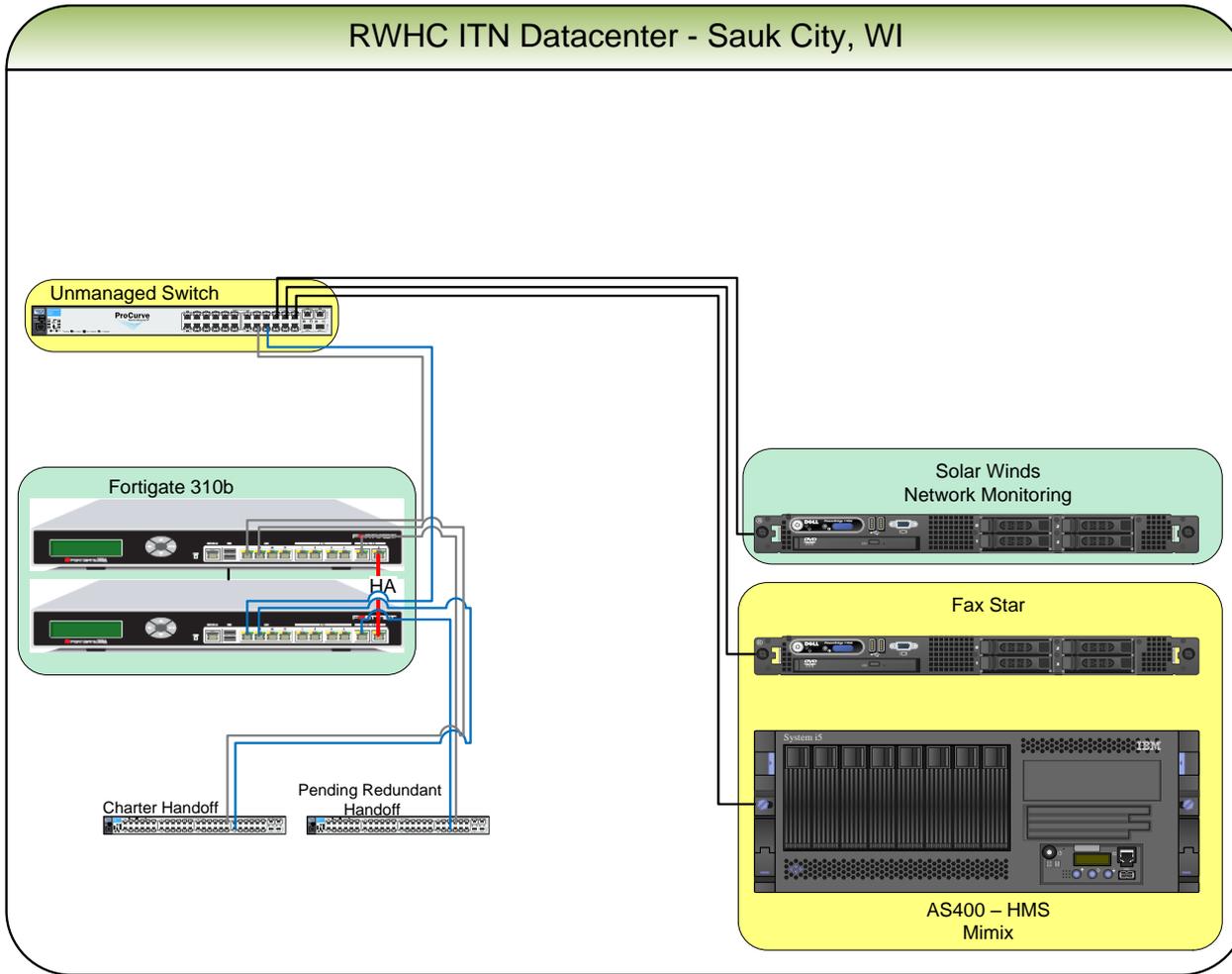
10 MB

20 MB

Primary and Redundant
links to the remote facilities

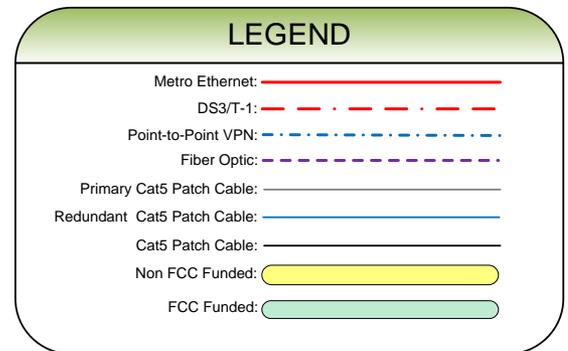


RWHC ITN Datacenter - Sauk City, WI



100 MB

1.5 MB



Primary and Redundant links To RWHC ITN Datacenter - Madison, WI.



Tomah Memorial Hospital

Tomah, WI

Primary and Redundant links to the RWHC Madison DC.

20 MB

2 to 5 MB

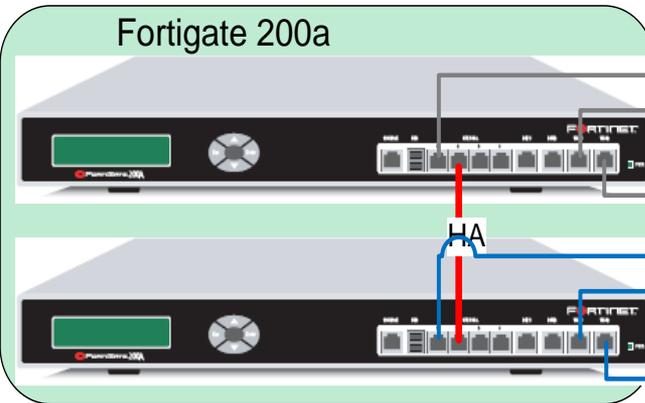
CenturyTel Handoff



Charter Handoff



Fortigate 200a



Router



Switch



HMS Clients

LEGEND

Metro Ethernet:

DS3/T-1:

Point-to-Point VPN:

Fiber Optic:

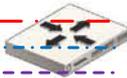
Primary Cat5 Patch Cable:

Redundant Cat5 Patch Cable:

Cat5 Patch Cable:

Non FCC Funded:

FCC Funded:



Boscobel Area Health Care

Boscobel, WI

Primary and Redundant links to the RWHC Madison DC.

20 MB

2 to 5 MB

CenturyTel Handoff

Pending Redundant Handoff

Fortigate 200a

HA

Router

Cisco PIX

Switch

HMS Clients

LEGEND

Metro Ethernet: 

DS3/T-1: 

Point-to-Point VPN: 

Fiber Optic: 



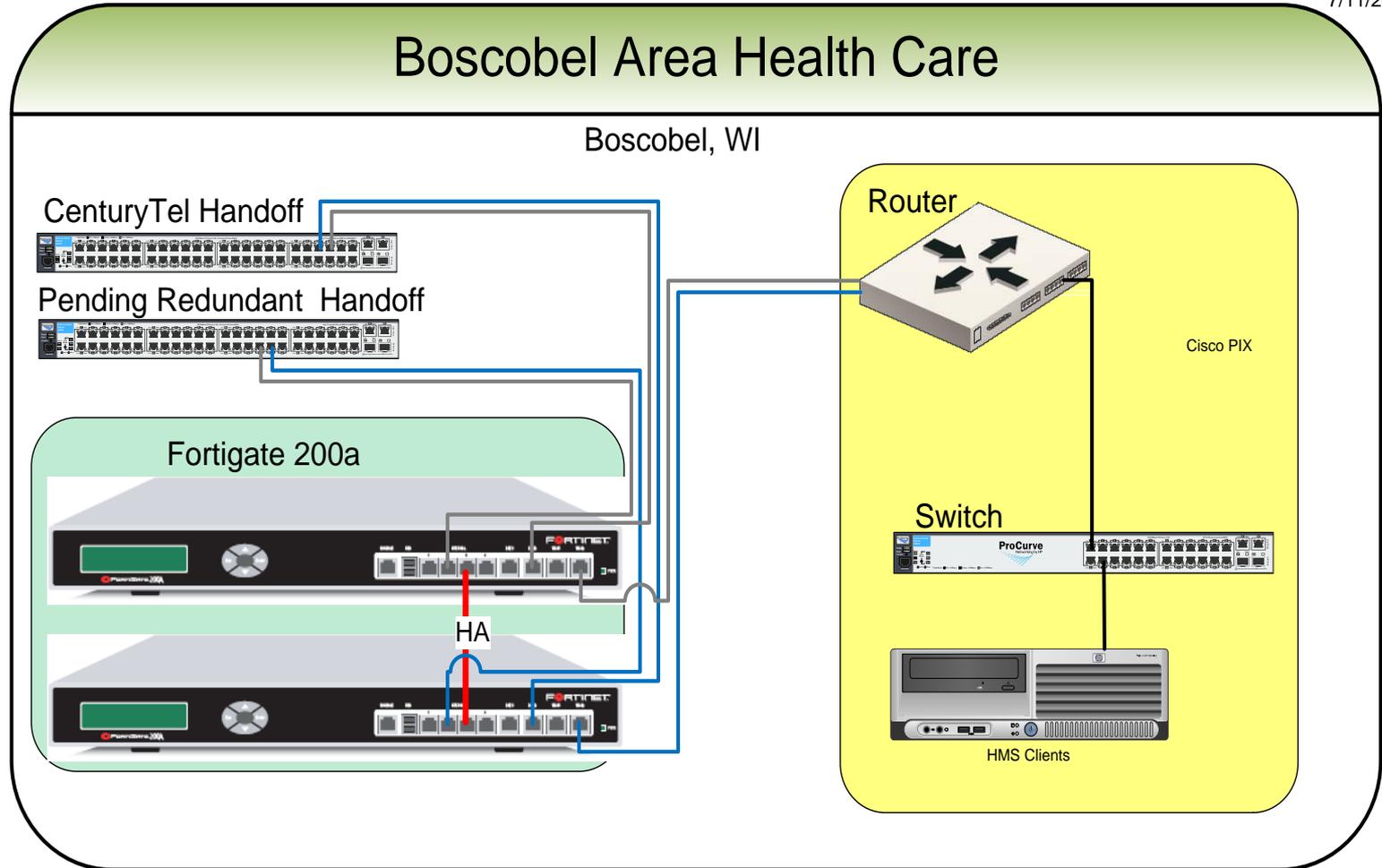
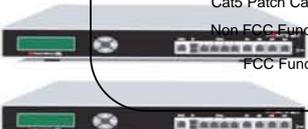
Primary Cat5 Patch Cable: 

Redundant Cat5 Patch Cable: 

Cat5 Patch Cable: 

Non-FCC Funded: 

FCC Funded: 



Memorial Hospital of Lafayette County

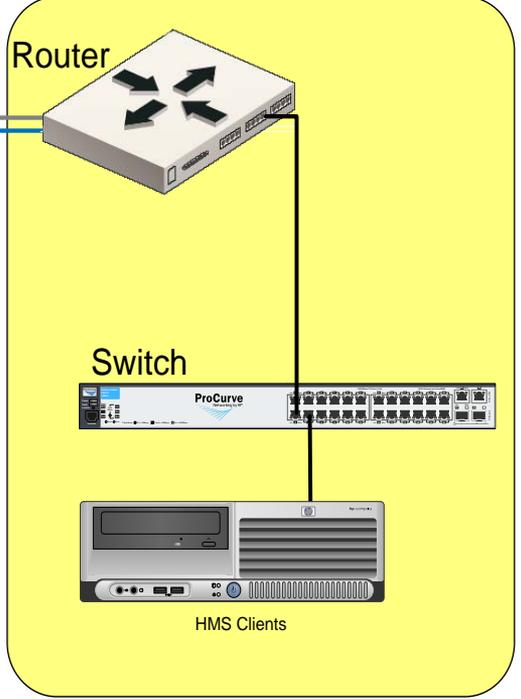
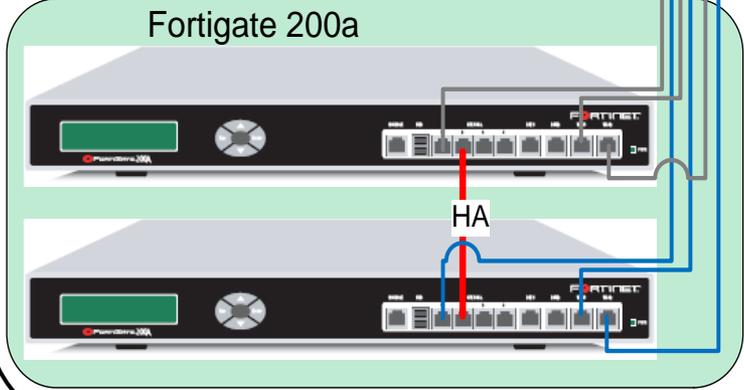
Darlington, WI

Primary and Redundant links to the RWHC Madison DC.



20 MB

2 to 5 MB



LEGEND

Metro Ethernet:

DS3/T-1:

Point-to-Point VPN:

Fiber Optic:

Primary Cat5 Patch Cable:

Redundant Cat5 Patch Cable:

Cat5 Patch Cable:

Non FCC Funded:

FCC Funded:



St. Josephs Community Health Services

Hillsboro, WI

Primary and Redundant links to the RWHC Madison DC.

20 MB

2 to 5 MB

CenturyTel Handoff

Pending Redundant Handoff

Fortigate 200a

HA

Router

Router

Router

Switch

HMS Clients

T-1 links to remote clinics

LEGEND

Metro Ethernet: 

DS3/T-1: 

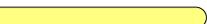
Point-to-Point VPN: 

Fiber Optic: 

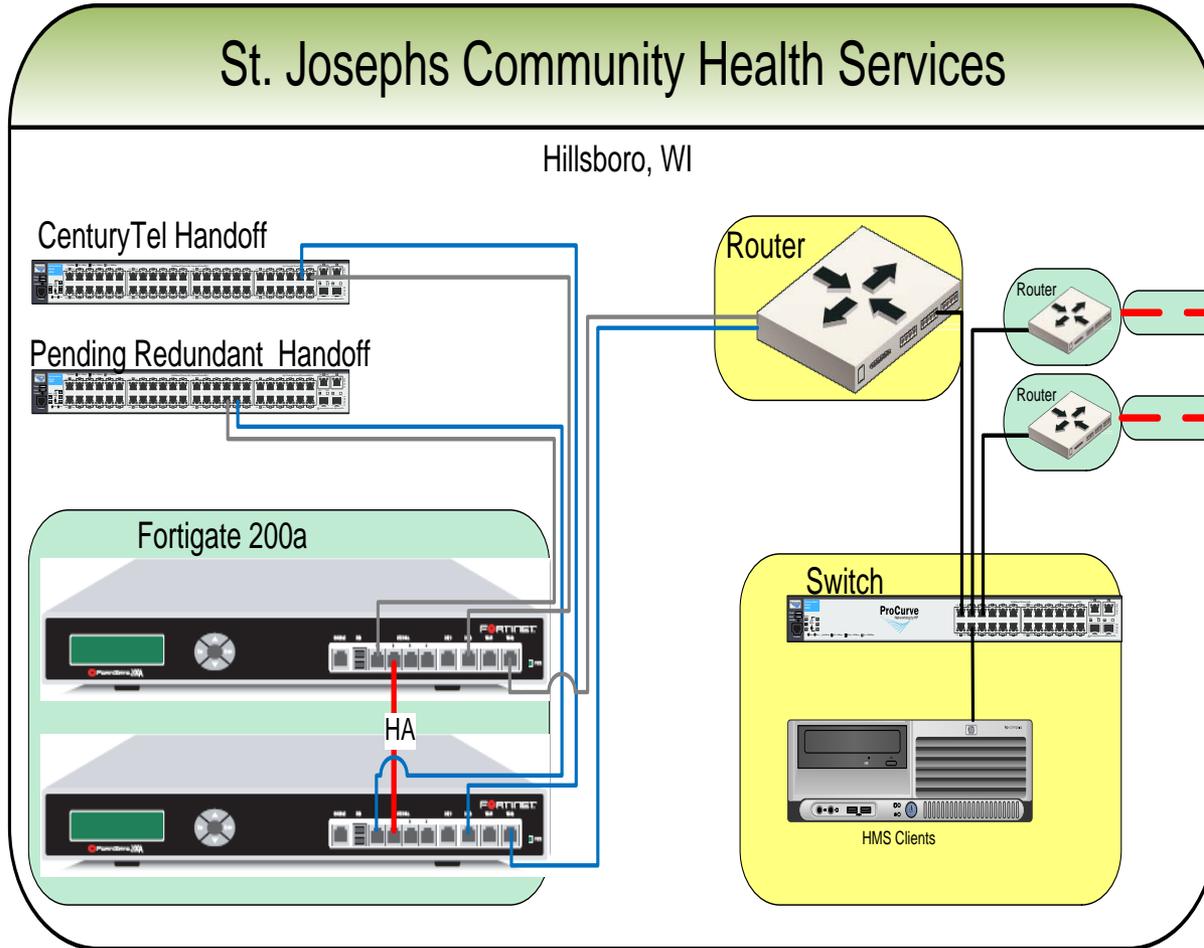
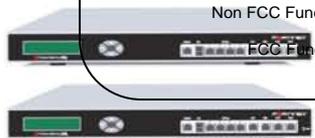
Primary Cat5 Patch Cable: 

Redundant Cat5 Patch Cable: 

Cat5 Patch Cable: 

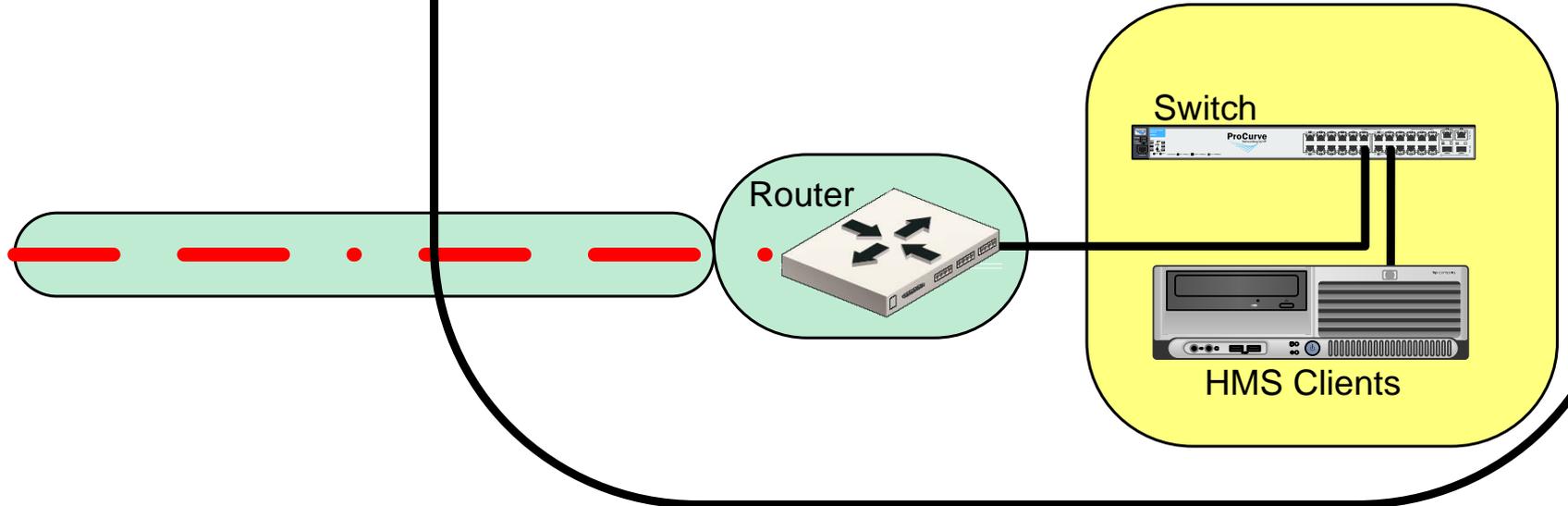
Non FCC Funded: 

FCC Funded: 



Elroy Clinic

T-1 Link to St. Joseph Community Health Services

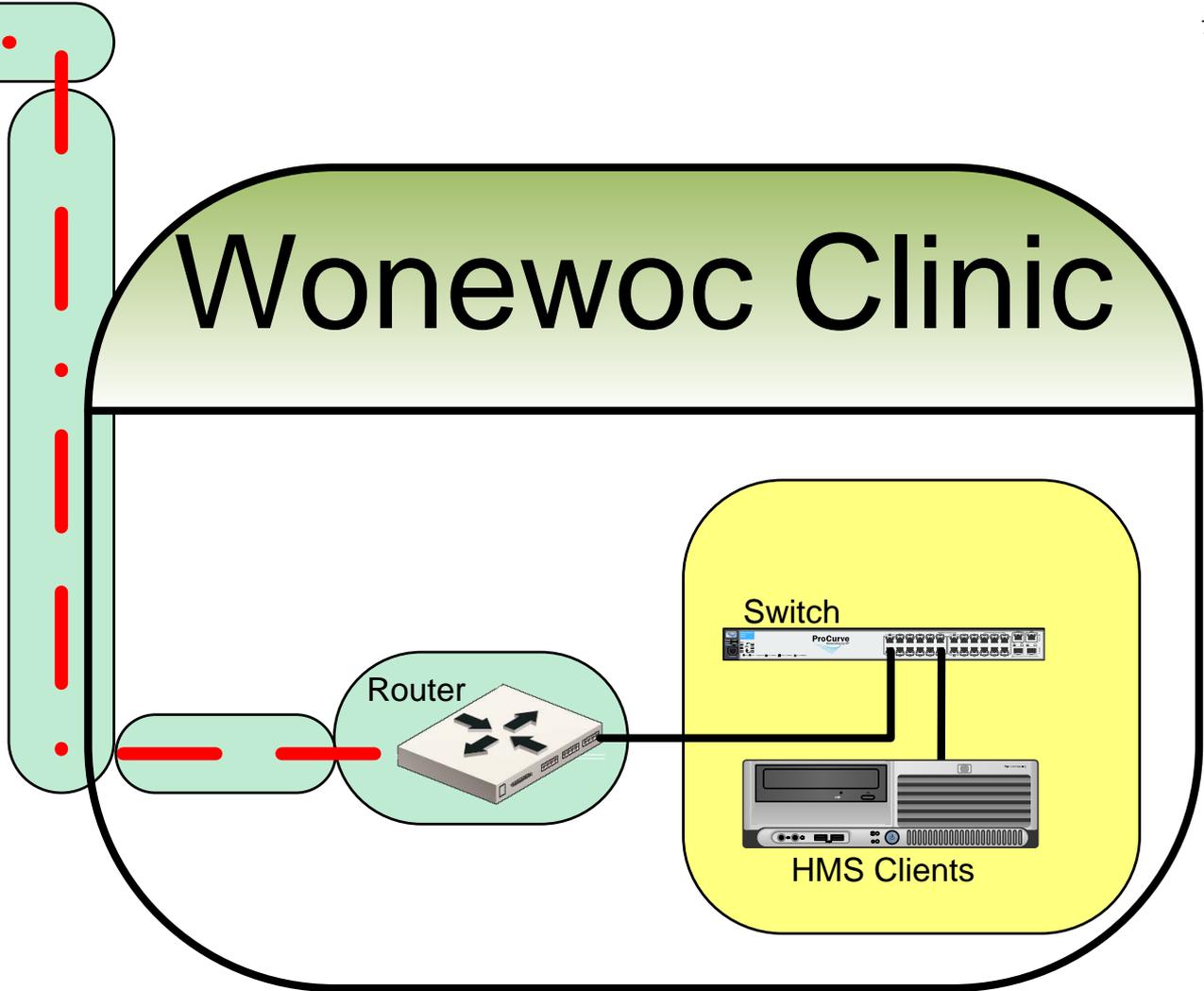


LEGEND

- Metro Ethernet:
- DS3/T-1:
- Point-to-Point VPN:
- Fiber Optic:
- Primary Cat5 Patch Cable:
- Redundant Cat5 Patch Cable:
- Cat5 Patch Cable:
- Non FCC Funded:
- FCC Funded:

Wonewoc Clinic

T-1 Link to St. Joseph Community Health Services



LEGEND

- Metro Ethernet:
- DS3/T-1:
- Point-to-Point VPN:
- Fiber Optic:
- Primary Cat5 Patch Cable:
- Redundant Cat5 Patch Cable:
- Cat5 Patch Cable:
- Non FCC Funded:
- FCC Funded: