The Restructuring of a Network Architecture

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The Restructuring of a Network Architecture

The network is the key infrastructure to successful computing and applications. Infrastructure is the collection of building blocks required to make an information system function, including the PCs, servers, software, and network, but the network is the core data center. It is a company’s security blanket for all essential, mission-critical data. (Cappel, Galup, Horgan, et al, 1998, p. 1).

As noted expert Melissa A. Cook states in Building Enterprise Information Architectures, (1996) a well developed network architecture can serve to simplify, streamline, and control business information and automated processes (p.xviii). This is my goal in restructuring the network architecture of the Human Service Agency. I want to improve the speed and efficiency of the network, while hopefully making it more financially sound.

The Human Service Agency

The Human Service Agency is a non-profit corporation that serves as both a community health center and an adjustment-training center. Divided into two main branches, Behavioral Health and ATCO, over 2000 people are cared for by the agency in one way or another. Individuals affected by mental illness, exhibiting chemical dependency or compulsive behaviors, and/or in need of counseling services can find assistance through the agency. Approximately 250 qualified professionals make up the agency staff, which includes the administrative team, psychiatrists, licensed psychologists, social workers, counselors, nurses, and support staff.

Extending quality services has been the overriding goal of the past forty years. The Human Service Agency began as the sole branch of ATCO in 1962 and was called
the Lake Region Mental Health Center. As more services were added, including the Kampeska Homes program, which is a residential care program for those with special needs, the corporation took the name Human Service Agency. ATCO presently services individuals with developmental disabilities, in various settings and manners, to enable self-reliance and control over one's own life. The Behavioral Heath Division focuses on mental health issues on an out patient basis, as well as through transitional residential programs. All services are offered for children, adolescents, and adults and are strictly confidential, in accordance with state and federal guidelines. Today as the Human Service Agency, the corporation has evolved into an umbrella-like agency, offering help for life's biggest problems, in a wide spectrum of ways.

With the important responsibility of servicing the region's patrons in their times of greatest need, the daily operations of the agency must be efficient, reliable, and confidential. Computers are relied upon extensively to meet this expectation. Client records are nearly entirely electronic, with the exception of medical records. Doctors' notes and recommendations, clients' histories, and present plans of intervention and action are housed and maintained on the server. Three years ago, a Lotus Notes software package was customized to manage the agency's clientele records, to record interaction with patients, and to outline collaboration amongst professionals on specific cases. AS 400 is also used, primarily for billing purposes. The network architecture of the Human Service Agency is a critical factor in the equation of how effectively and successfully staff professionals offer help for their clients. Rapid and secure accessibility to the information housed on the network is critical.
Goal and Impact

The goal of this project, therefore, is to improve the speed and efficiency of the network architecture at the Human Service Agency. Presently, the network infrastructure relies on Frame Relay technology with a Committed Information Rate, or C.I.R. of .28 kilobits per second. (See Appendix A) This system connects eleven remote sites with the main office location. Frame relay is a way of sending information over a wide area network, or WAN, that divides the information into frames or packets. Each frame has an address that the network uses to determine the destination of the frame. The frames travel through a series of switches within the frame relay network and arrive at their destination. The measurement of C.I.R. is the description of the bandwidth of this system. Bandwidth is a term used to describe the rate at which information can be sent through a channel. As bandwidth increase, more information can be sent through that channel at one time. On a Frame Relay network, the bandwidth can measure between .28 kbps and 1.544 megabits per second, or mbps. To obtain a C.I.R. speed of 1.544 mbps, T1 lines must be used. T1 is a term coined by AT&T for a system that transfers signals at the previously stated rate. Each of the twelve sites that make up HSA needs access to the Lotus Notes Software package database. However, with the 28k bandwidth, accessing one simple record could virtually take minutes. Hence, local copies of the database were created for each site. Every ten minutes the system replicates back and forth to update the database. The remote sites are accessing this critical information at the lowest speed available on the market. As a result, double bookings sometimes occur and in-house communications and operations are slowed. The network architecture must be improved.
The described Frame Relay network was designed for eighty users and one server. Today HSA runs nearly 150 personal computers with six servers. In order to decrease traffic on the network, the Information Technology staff installed two servers off-site. While this helped for a short time, once again, information was being bottlenecked due to the slow network speeds. An alternative system had to be looked at to increase the overall efficiency of the technology infrastructure.

The successful completion of this project will leave virtually no one unaffected. With a faster connection, all sites can work off one database, and we will in effect get rid of the eleven local databases. This will end double bookings of patient appointments and staff agendas, while improving and increasing communication. In completing this task, I will have met the expectation set forth by Jessica Keyes, (1993) author of Infotrends; real success lies in “wrapping technology around a company, much like a glove, so that the company can more flexibly extend its reach and take advantage of the new market opportunities it finds there” (p. 8).

**Alternative Systems**

After discovering the bandwidth problem, resulting in slow communication across the agency, I began actively looking for alternative solutions to improve the network architecture's performance. With 250 users, 28k of bandwidth is inadequate in terms of effective information processing. To begin the process of finding an alternative, I first analyzed our current and future network needs. I identified several factors which needed to be considered as we made our final decision. The network had to be upgradeable to accommodate continued increase in use.
... in the world of information processing, if you base the foundation of your information architecture on current technology, you are taking a very myopic viewpoint. Technology is a tactical tool for information processing -- no more, no less. It is much more important that we clearly understand our information and processing needs so that we have a framework to quickly apply whatever the future holds for us. (Cook, 1996, pg. 10)

Secondly, reliability was an issue. The network must perform without loss or corruption of data. Building the New Enterprise, published in 1998, stresses the importance of the network being RAS—Reliable, Available, and Serviceable (Cappel, Galup, Horgan, et al., p. 1). Thirdly, we wanted the network to offer a substantial increase in transmission speed. Next, the network must remain secure at all times. The data housed on this system is confidential by law. The next issue to consider was ease of installation. Implementation steps must be fully understood by the IT staff. The agency's ideal description in the category of cost would be low cost with high performance. And finally, time was a high priority with fast and accurate implementation desired. With the criteria in mind, I contacted three telecommunications companies.

After explaining the present network architecture of the Human Service Agency, I eagerly awaited the three companies' solutions. Mid-continent Communications, Qwest, and South Dakota Networks submitted possible solutions. Mid-continent Communications suggested keeping the frame relay system and installing fiber T1 lines into the host site, with copper T1 lines running to the remote locations. Mid-continent Communication's proposal did not include price estimates. Qwest, the former telecommunications giant US West, gave three possible solutions. Option 1 involved a
full T1 Point-to-Point system with copper T1 lines. Option 2 kept the present Frame Relay design of the agency but upgraded the bandwidth from .28 mbps to copper T1 lines. Lastly, Option 3 from Qwest posed a Hybrid Network with a Point-to-Point System using copper T1 lines for Human Service Agency locations within Watertown, and a Frame Relay system with copper T1 lines for those sites located outside the city limits. Finally, South Dakota Network, a telecommunications company located in Sioux Falls, South Dakota, recommended a Frame Relay system using fiber optic T1 lines. Upon receiving the quotes, the Vice President of Finance and I reviewed the packages to make a recommendation to the Board of Directors.

Based on our previously determined criteria, we strongly recommended Qwest's Option 3, Hybrid Network Design. As Smith (1965) stated, no two systems boast the same contents or make-up; henceforth, each system comes with a different set of advantages and disadvantages (p.120). Taking this into consideration, we studied each proposal separately and then made our final decision based on our assessments. This proposal from Qwest, Option 3, appeared to cover the agency's needs most effectively by increasing the speed and efficiency of the infrastructure. The submitted quote fell within our allotted budget. In addition, the time table presented to us was satisfactory. Qwest was our desired partner.

The Presentation to the Board

My first formal presentation to the board required creating, reflecting, and preparing. First, I compiled a summary report containing the following overviews of information: our present system and needs, the companies' proposals and quotes, our criteria for making the decision, and the IT Department's recommendation. (See
Appendix B) In preparation for the presentation, I focused on two main aspects of working with others. First, I strived to make my explanations easy for others to understand. Comprehending material presented leads to educated decision making. Secondly, before the presentation, I focused on possible questions board members may have, as well as alternative perspectives others may see on the proposed plan. Anticipating questions and using foresight to analyze the project from other sides made me better prepared for the presentation. Clear, concise, informed presentations are typically more positively received.

The presentation to the Board of Directors was successful. The Vice President of Finance placed my presentation on the agenda and submitted copies of the Summary Report to each of the members, prior to the meeting. The brief oral presentation was followed by a short question and answer session. The Board expressed their appreciation of the Summary Report with the information in writing, prior to the presentation. The following day, I was informed of the Board's approval of Qwest's Hybrid Design plan, which we had recommended. Our next step was to arrange successful, timely implementation.

**Implementation**

Though explicit efforts were made to ensure successful implementation of Qwest's plan, their less than satisfactory complete bid eventually forced us to void all contracts with them. Prior to signing the contract, I invited a representative from Qwest to our company, HSA, for a surveying tour of our present network architecture and off-site locations. Following the exploratory tour, the representative assured me of our compatibility with Qwest's proposed design and of their ability to carry out
implementation in the time projected at the proposed bid cost. No alterations to the presented proposal from Qwest were suggested or demanded by the representative. At this point, we then signed the contract with Qwest for installation. (See Appendix C) Outlined tasks included upgrading the firmware on our routers and physically running cable where needed between the sites. The allotted time frame was four weeks.

One week before Qwest's installations began, I was contacted about an overlooked expense---a $12,000 dollar frost charge for digging in January. Though the Qwest representative had visited in December and knew of the projected time frame, a frost charge was never mentioned. This new information put us over budget and concerned us in regards to our working relationship with Qwest. We wondered what other unmentioned expenses would surface as the installations progressed. At this point we voided all contracts with Qwest. Forced to begin the process of finding a network solution, I invited Qwest to re-submit a bid, with all costs included.

After ten days, I analyzed the new bids submitted for improving our network architecture. Qwest returned an incomplete bid, only outlining the monthly fee after installation. South Dakota Network sent a representative to the agency to present a solution, which totaled nearly $80,000 dollars a year. This bid was too expensive. We needed another option.

The New Solution

The Hybrid Design plan I created would save the agency money and effectively increase speed at several remote sites. I proposed a Virtual Private Network/Frame Relay system. (See Appendix D) The over-riding concept behind VPN communications is the use of public networks and security technologies to increase connectivity across wide
area networks. A Virtual Private Network creates a tunnel into a system, which enables the computer to operate at a faster speed without physically laying cable. This innovative successor to long distance dial-in, leased-line and Frame Relay connections, enables reductions in telecommunications costs by routing business traffic over the publicly owned Internet lines by way of secure tunnels. The International Systems Group states that the use of virtual private networks can decrease site to site costs from 60-80% (http://www.go-isg.com/). From a desktop or laptop, the VPN client offers encrypted tunnels for transferring mission-critical information securely, via the Internet, while maintaining overall network performance. Broken down, virtual private network can be defined and described in these ways. Virtual means that the connection is dynamic and changeable as the organization, HSA, needs it, regardless of the underlying physical network architecture. Private or privacy evokes the standard of data being untampered or accessed. Establishing this type of security is of utmost importance when using an unprotected network such as the Internet as the backbone. IP Security will be used in this project for authentication and encryption, making the VPN as secure and strong as the internal network. The packets of information flowing on the circuit are encrypted so that the user can recognize them. However, IP Security doesn’t contain a provision for user-based authentication. The IT Department will trust the users at each site. This is a benefit because it doesn’t require users to learn another password or process for authentication, thereby hopefully increasing support and buy in for the VPN project. The downside to this fact is that the IT Department cannot control who logs on and uses the computer without further security steps implemented.
Several steps were projected to make this solution a reality. First, T1 Internet access would need to be laid for use by the main office site. Cable Internet access would be obtained for the residential and remote sites. Four sites would remain on the 28k Frame Relay system. And finally, the houses and other remote sites would then be connected to the main office using VPN Client software. The solution I created would actually cut the agency's expenses; cable Internet access is presently cheaper than the present Frame Relay system being used.

After thorough explanation to the Vice-President of Finances, we agreed to go forward with the VPN/Frame Relay Network Solution. The vice president and I were confident it would meet our goal of improving the speed and efficiency of our system.

**Implementation II**

As Network Administrator and liable creator of this design, I was responsible for initiating and selecting all contacts, contracts, and follow-up. Although I preferred using one company to complete our upgrade goal, a combination of three companies provided us with services. First, a T1 Internet cable line running into the main office was ordered from South Dakota Network. (See Appendix E) Mid-continent Communications was selected for installing cable modem access in each of the residential sites. (See Appendix F) Mid-continent Communications could not be used for the T1 Internet line because they did not possess a close enough trunk. Data Truck, a wireless Internet access connection company, was required for the Serenity Hills location, as it is outside of Watertown's city limits. (See Appendix G) This completed our outside contracts.

These contracts either were fulfilled or are in the process. South Dakota Network laid the T1 line promptly. Mid-continent Communications is in the process of installing
the cable modems at each site. Projected completion of all sites is in late June. McLeod USA, another Internet access provider, is presently working to expand their service capabilities to all areas of Watertown, hence encompassing our residential sites. If they succeed at this before Mid-continent Communications completes the installation process, our remaining sites will be serviced by them to expedite our solution. And lastly, Data Truck successfully connected our rural site, Serenity Hills, after having to replace its tower following a wicked ice storm in late April. We are pleased with the services thus far provided.

Next, changes needed to be made at the main office location and at each remote site. The main site required a VPN capable firewall. (See Appendix H) I personally installed this $2500 dollar purchase. This enabled the remote sites to tunnel into the agency's database using the VPN Client software. At each site, the VPN Client had to be added and properly configured to access the main server. Through inductive and deductive reasoning, trouble-shooting, and trial and error, I successfully identified the precise port numbers for the software to create the tunnels for each site. My solution to increase the speed and improve the efficiency of our network architecture was and is in place.

The Virtual Private Network possesses both advantages and disadvantages. On the positive side, it was the cheapest way the agency could get the most speed for the budgeted amount. On the flip side, in using cable modems, speed is a variable. In times of heavy usage by users with cable modems, the bandwidth is spread thinly, leaving less room for transmissions. Depending on the volume of usage, the cable modems may not
prove to be faster on a consistent basis. These concerns taken into consideration, we still feel the VPNs are our best option at this time.

**Necessary Security Acquired through the Linux Router Project Firewall System**

As protection and confidentiality of the agency's records and data are essential, security issues had to be addressed. With the newly created Virtual Private Network tunnels, firewalls had to be considered. As Anni Birgitte Moeller (2000), a product line manager for Intel, recognized, “...‘always on’ connectivity leaves users open to hostile attacks via the Internet. If a remote PC has access to the corporate network, there is the potential for an attack on that PC to also have access to the network,” for these connections are active around the clock (http://www.intel.com/network/idc/products/vpn_gateway.htm). As an exploratory project and in effort to minimize cost, I researched and analyzed the Linux Router Project based floppy disk firewall concept, originally developed and maintained by David Cinege. The Linux Router Project is defined on one informative website linked to LRP's official site as a networking-centric micro-distribution of Linux (http://lrp.ramhb.co.nz/). LRP is small enough to fit on a single 1.44MB floppy disk, and makes building and maintaining routers, access servers, thin servers, thin clients, network appliances, and typically embedded systems next to trivial, according to the LRP homepage. This configuration uses a small number of computer parts, compiled and configured in a specific way, to act as an effective firewall and router. This system, loading from read-only media and running from ram disk provides awesome security and stability, with the capability of sharing one high-speed Internet access with up to four computers. Because the Human Service Agency does possess some older computers that are nearing
extinction, based on our other infrastructure, and because cost is a factor, I decided to try this option as a solution to our need for increased security on our VPN sites. To purchase a firewall/router system would cost approximately $175. To build a firewall/router system requires time, knowledge, and a few good parts.

Specific computer parts and sequential compilation are needed to successfully create a Linux Router Project Firewall System. (See Appendix I) First, the system needs a motherboard with an Intel 486/66Hz mega processor to route and protect data, traveling at a speed up to T1 capacity without hindering performance. Next, two network cards are required. A floppy drive is necessary, followed by 12 megabytes of ram and a power supply. This completes the required computer parts for creating the firewall/router.

Next, a version of Linux is introduced. The translation of Linux is then recompiled to fit onto a 1440K floppy disk. To set up the system, the configured computer parts must be plugged in to a monitor and keyboard. At this time, one sets up the DNS, IP address, gateway, and any other customization. All changes are then saved to the disk. Following this procedure, one write-protects the disk to prevent changes to it. The monitor and keyboard can then be unplugged and the system shut off. With the floppy disk now in the disk drive, the system can be turned back on. The firewall is now created. Using the two network cards, the cable modem runs into Ethernet 0 and out Ethernet 1 into the computer. To create a router, Ethernet 1 runs into a hub supporting multiple machines. This is how the LRP Firewall System is created.

This firewall system possesses multiple capabilities. Application control alerts users whenever a program tries to access the Internet, opening the passageway for viruses or unwanted traffic. Mailsafe serves to scan e-mail attachments and enable users to lock
their desktops at any time. Smart alerts notify any blockage of incoming data. Security levels can also be tailored for specific users. These features meet our needs and satisfactorily protect our network.

The Evaluation of the LRP Firewall Project

After the construction and implementation of the first Linux Router Project, an evaluation of its performance and cost effectiveness needed to be made. The system works fantastically. To date, no complaints have been made, nor successful intrusions recorded. The Linux Router Project Firewall is an effective system to protect the agency's network.

However, in light of my other responsibilities as Network Administrator, the configuration and compilation of this system for each of the remote sites is cost prohibitive at this time. The Zone Labs ZoneAlarm Pro firewall can be downloaded, free of charge off the Internet, with the same capabilities the LRP's firewall system boasts. (See Appendix J) “ZoneAlarm is an easy-to-use Internet security utility that sets up a personal firewall that's particularly well suited to DSL and cable modem users” (http://www.zdnet.com/downloads/stories/info/0,,0015P7,,html)

This firewall doesn't possess the ability to serve as a router in addition to protecting the data, but at this point, multiple use of the high-speed internet access is not a priority. For these reasons, the Vice-President of Finance and I decided on utilizing the free software package for the remaining firewalls needed.

Knowing how to build and compile the Linux Router Project Firewall System is still quite valuable. Purchasing licenses to use firewalls extensively may be quite costly.
Plus, the Zone Labs firewall doesn't possess the router capability. Purchasing a router would cost approximately $300. Regardless, at this time, the downloadable firewall is sufficient for our needs.

The Report to and from Staff

At a recent staff meeting of all departments of the Human Service Agency, I reported our department's efforts, present projects, and goals for the future. Those formerly uninformed of the change to the network, primarily main office employees, were delighted to hear of the upgrades being made. The feedback from those directly impacted by the changes, those that use it daily, has all been positive. They love the speed and effectiveness. They are now able to work with the efficiency of being located in the same site as the main server. Time delays due to database replications no longer exist at these remote sites. We have essentially deleted the copied on-site databases and given these employees direct access to the main, master copy through which the agency operates. Timely communication and more accurate scheduling are two of the results of this effort to increase the efficiency and speed of the network architecture at the Human Service Agency.

Reflection

Through completing this project, I experienced and learned several valuable lessons, stressed throughout the master's program at Dakota State University. First, as an administrator and director of change in the workplace, I must be well prepared and informed, while remaining flexible. Doing this requires continuous research and study of current technologies and new developments, in conjunction with a solid working knowledge of the system I am managing. In addition, I strive to always keep one eye
down the pike to foresee potential problems or changes so I can adapt and modify as needed to achieve success and continued progress. As *Who Moved My Cheese's* author Spencer Johnson (1999) states, being aware of your surroundings and willing to promptly make changes, both around you and in yourself when needed, is what keeps you successful in our world. Secondly, when looking to solve a problem or improve a situation, I need to stay open-minded and see the big picture. Several plans can work. Spending a great deal of money is not mandatory. Make sure the plan meets the needs. And finally, effective communication is invaluable. It is needed for nearly every facet of successful implementation of a solution or improvement: understanding the need for change, gathering solution options, getting others on board, and successfully completing implementation. Its worth is priceless. Combined together, these characteristics of an effective administrator can help ensure the attainment of goals in numerous settings and situations. Many years ago, David B. Smith (1965) summarized the art of successful technology implementation in the “Financial Analysts Journal” as a sequence of steps beginning at the assessment of needs and the resulting in the creation of valuable tools.

Systems Engineering is the activity which begins with the identification of the human need and the conceptual and logical design of a system to satisfy this need, and follows through to its integrated physical development and use, taking into account all its environmental constraints including further evolutionary development and economic soundness. Systems Engineering thus includes the elements of synthesis, analysis, and management. (pg. 119)
Over thirty-five years ago, Smith understood the fine balance which must exist and the logical steps which must be followed to be successful. His ideas still hold true. The program at Dakota State University has helped prepare me to be an effective Systems Engineer and Network Manager. I am looking forward to my next improvement project, experienced and readied with the training, knowledge and skills needed to be successful.
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ZD Net Downloads—Free Firewall Download
Original 28K Frame Relay System
HSA Frame Relay Network Upgrade
Executive Summary

Confidential

Prepared by: Pat Engebretson
December 6, 2000
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**Purpose:**

The purpose of this report is to inform key staff members of the current status of our network. Information will also be presented about several upgrade options with quotes from Qwest and South Dakota Network. Specific recommendations will be made in the final section of the report.

**Current Status:**

The Human Service Agency’s current network infrastructure relies on Frame Relay technology with a Committed Information Rate, C.I.R., of .28 kilobits per second, kbps. Frame Relay is a way of sending information over a wide area network or WAN. It divides the information into frames or packets. Each frame has an address that the network uses to determine the destination of the frame. The frames travel throughout a series of switches within the frame relay network and arrive at their destination.

Bandwidth is a term used to describe the rate at which information can be sent through a channel — the greater the bandwidth, the more information that can be sent in a given amount of time. On a Frame Relay network, the C.I.R. exists between .28 kbps and 1.544 megabits per second, mbps. To better understand the difference in the previously mentioned speeds, let’s look at an example.

Sending 1.2 megabytes of information, roughly the size of one 3.5” floppy disk, over a .28 kbps network would take about 428 seconds or 7 minutes and 13 seconds. To send the same amount of information over a 1.544 mbps network would take only 6 seconds.

Bandwidth speeds of 1.544 are only obtainable through the use of T1 lines. T1 is a term coined by AT&T for a system that transfers digital signals at 1.544 megabits per second.

As previously stated, the Human Service Agency’s current C.I.R. is .28 kbps. Each of the 12 locations listed in Appendix A, retrieves information from our server at the lowest speed available on the market today. This causes severe problems and disruptions with database replications and interferes with the timely arrival of critical information.
Needs:

Human Service Agency's current network was designed for the use of 80 users and one server. Today, we run nearly 150 PC's and 5 servers. In order to decrease traffic on the network, the IT staff has installed tow servers off-site--one located in the CARE offices and one in the Johnson building. While this helped for a short time, once again we are seeing a bottleneck of information due to slow network speeds.

When looking for solutions to our bandwidth problems, we must address both current and future network needs.

- **Scalability**: The network, its equipment and speed, must be upgradeable.
- **Reliability**: The network must perform without loss or corruption of data.
- **Speed**: The network must offer a substantial increase in throughput.
- **Security**: The network must remain secure at all times.
- **Ease of Installation**: Implementation must be fully understood by the IT staff. The IT staff will also work closely with the upgrade technicians so a solid understanding of the infrastructure can be achieved.
- **Cost**: The agency desires a low cost, high performance solution.
- **Time**: Fast and accurate implementation of the network is a high priority.
Quotes:

After many hours of research, the IT staff has narrowed the possible choices and obtained bids from 2 companies, Qwest, the former telecommunications giant US West, and SDN, a telecommunications company located in Sioux Falls, SD.

♦ See appendix B for a copy of the Qwest quote
♦ See appendix C for a copy of the SDN quote

Qwest:
♦ Proposed dedicated T1 Network, encompassing 12 sites
♦ 1 time implementation cost = C. $1500 (due 30 days out from implementation, along with first month’s bill)—(this fee if for adding Milbank and Sisseton to the T1 network)
♦ Total monthly network cost: $29666.85 + Hardware Lease C. $1553.00
♦ Grand Total = $4519.87

SDN
♦ Proposed 256 K=kbps Frame Relay Network
♦ One time implementation cost: $10,063 (due at beginning of implementation)
♦ Total monthly network cost: $5658.67
Considerations:

♦ **Internet Service**: It is the recommendation of the IT Department that the Human Service Agency also contract for Internet service through the same company that provides the network solution. This will allow for ease of billing, troubleshooting, and maintenance. Internet service cost will add $400-$700 per month depending on desired speed. See Appendix D for Internet pricing.

♦ **Contract**: It should be noted that a 60-month contract form Qwest is required for the T1 lines and 30-month contract is required for network hardware.
  
  - **SPECIAL NOTE**: At the end of our 60 month contract, dedicated T1 lines will be considerably cheaper to lease and install---although we will continue to pay signed contract price through the entire length of the contract. Our hardware lease/contract can be re-negotiated at 30 months.

♦ **Cost**: While the month-to-month network costs are similar between SDN and Qwest, SDN’s upfront hardware/installation costs are nearly $9000 above Qwest’s hardware/installation cost. It should also be noted that a special promotion through Qwest allows for a $2400 rebate at the end of 12 months of continuous service.

♦ **Speed**: In terms of total speed, Qwest offers four times the amount of bandwidth offered by SDN.

♦ **Upgradeability**: Both systems will leave room for future expansion.

♦ **Implementation Time**: Both networks can be in place and operational within 90 days.
Recommendations:

Our existing network is no longer suitable for our needs. Our organizational objectives will best be met by increasing the bandwidth of our network. After reviewing the quotes and discussing options with representatives from both sides, it is the recommendation of the IT department that the Human Service Agency enter into contract with Qwest’s dedicated T1 network.
Appendix A
Human Service Agency Sites

1. The Human Service Agency
   123 19th Street NE

2. CARE
   329 1st Avenue NE

3. Johnson Building
   28 1st Avenue NW

4. Residential House
   1029 Gilbert Avenue

5. Residential House
   1203 1st Avenue NE

6. Residential House
   1225 1st Avenue NE

7. Residential House
   1325 1st Avenue NE

8. Residential House
   310 13th Street SE

9. Residential House
   825 East Kemp

10. Serenity Hills
    16717 400 48th Avenue

11. Milbank Site

12. Sisseton Site
Appendix B
Qwest Quote

♦ HOST COST
  o $363.15/month
  o $500 upgrade cost

♦ REMOTE COST
  o monthly total per site: $216.00/month for point to point system
  o monthly total per site for frame relay: $329.85
    ♦ upgrade cost of $500
  o monthly total for remotes: $2603.70/month
    ♦ upgrade cost of $1000

**Monthly Network Total: $2968.85/month
**Monthly Hardware Lease Total: $1421.80
## Proposed Frame Relay System – Fiber Optic T1 Lines

<table>
<thead>
<tr>
<th>Location</th>
<th>Monthly Recurring Charge</th>
<th>Non-Recurring Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Host:</strong></td>
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</tr>
<tr>
<td>Watertown</td>
<td></td>
<td></td>
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<tr>
<td>AL-DS1</td>
<td>$250</td>
<td>$768</td>
</tr>
<tr>
<td>(12) PVC’s-CIR 256</td>
<td>$380.04</td>
<td>$270</td>
</tr>
<tr>
<td><strong>Remotes:</strong></td>
<td></td>
<td></td>
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<tr>
<td>8 at Watertown at</td>
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<tr>
<td>AL-DS1</td>
<td>$250</td>
<td>$768</td>
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<tr>
<td>PVC-CIR 256</td>
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<td>$50</td>
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<td>1 at Watertown at</td>
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<td>AL-56K</td>
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<td>$555</td>
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<tr>
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<td>$50</td>
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<td><strong>Milbank:</strong></td>
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<td><strong>Sisseton:</strong></td>
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<td>PVC-CIR 256</td>
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<td><strong>Internet:</strong></td>
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<td>AL-DS1</td>
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<td>$0</td>
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<tr>
<td>Basic Service</td>
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<td>$240</td>
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<tr>
<td><strong>Total</strong></td>
<td>$5,658.67</td>
<td>$10,063</td>
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</table>
QWEST CORPORATION
INTERSTATE PRIVATE LINE TRANSPORT SERVICES
PRICING PLAN ACKNOWLEDGMENT

for
HUMAN SERVICE AGENCY
Customer's Legal Name ("USe")

I hereby order from Qwest Corporation formerly U S WEST Communications, Inc., ("Qwest") the Qwest or U S WEST Interstate Access Service ("Service") indicated below. I understand and agree that Qwest provides Service solely under the Regulations, Rates, and Charges of Qwest's or U S WEST's Interstate Access Tariff F.C.C. No. 5 ("Tariff") which governs Service. In the event of a conflict between this Acknowledgment and the Tariff, the Tariff prevails. In case of a conflict between the Tariff and this Acknowledgment, the Tariff prevails.

SERVICE REQUESTED

☐ Analog Private Line Service
☐ Commercial Video Data Service
☐ Digital Data/Speed Requested ______
☐ DS3/44.736 Mbps
☐ SHNS/Speed Requested ______
☐ SVDS/Speed Requested ______
☐ SONET Ring Service ______

Provide Service between 123 19TH ST NE WATERTOWN SD and 329 1ST AV NE WATERTOWN SD

Billing No. ______
Circuit No. ______

Optional Features:

☐ If checked, additional Service information is attached to this Acknowledgment, however, attachments will not add to or change, the Regulations, Rates and Charges of the Tariff.

RATE PLAN

The following Monthly and Nonrecurring Rates ("Rates") for Service reflect the Rates currently in effect in the Tariff. I understand the actual Rates will be what is in effect in the Tariff on the first date of installation of Service, or for existing Service, the date the service order is completed by Qwest. I shall also pay Qwest all applicable taxes, usual and customary surcharges, and all government imposed fees and charges that relate to the Service or installation rendered hereunder, excluding the Private Line Surcharge, if I qualify, and if that box is appropriately checked on this Acknowledgment.

Total Monthly Rate: $216.00 as of install
Total Nonrecurring Rate: $0.00 as of install

I have selected Tariff's Pricing Plan ("Plan") which protects the Rate from Qwest initiated Rate increases for sixty (60) months ("Plan Term") and I understand that if I disconnect Service, in whole or in part, after Service is installed, but prior to the completion of the Plan Term, Tariff's discontinuance charges may apply. If I change or cancel my order for Service, in whole or in part, prior to installation, Tariff charges may apply. I understand that the Nonrecurring Rate cannot be rate stabilized, and that additions or changes to Service will incur the then-current Tariff Nonrecurring Rate.

This is a retail end user Acknowledgment. It may be assigned only with the consent of Qwest. I may not assign to a reseller or a telecommunications carrier under any circumstances. Any claim, controversy, or dispute between the Parties shall be settled by arbitration in accordance with the rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator may be entered in any court having jurisdiction thereof.

☐ If checked, I hereby certify that Service listed above qualifies for exemption of the Private Line Surcharge in accordance with the Tariff under exemption category ______. Written notification will be provided to Qwest at such time the exemption is no longer applicable due to changes or re-termination of any Service.

This Acknowledgment constitutes the entire understanding between Qwest and I with respect to Service provided herein and supersedes any prior acknowledgments, agreements, or understandings.

Human Service Agency

Authorized Signature

Name Typed or Printed

Title 11-2-00

Qwest Corporation

Authorized Signature

Name Typed or Printed

Tony Boyer

Title DAE

Date

Revised 4/7/00
**QWEST SONET RING SERVICE**

**QWEST CIRCUIT INVENTORY**

<table>
<thead>
<tr>
<th>No.</th>
<th>CIRCUIT TYPE (1 - ...)</th>
<th>CIRCUIT I.D.</th>
<th>NUMBER OF CHANNEL TERMINATION</th>
<th>CONVERT TO SRS (Y/N)</th>
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</tbody>
</table>

*CERTIFICATION:*

Qwest Sales Vice President

*NOTE: Required for Wholesale 36 month & 60 month Pricing Plans*
QWEST CORPORATION FRAME RELAY ACKNOWLEDGMENT

CUSTOMER NAME & BILLING ADDRESS: Human Service Agency ("CUSTOMER")
123 19th St
Watertown SD

CUSTOMER’s [□ 2-Wire □ 4-Wire □ DS3] [□ Interstate □ Intrastate] Frame Relay Service ("Service") has been ordered for 5 years at these locations:
123 19th St NE Watertown SD
309 2nd Ave Sisseton SD
1308 4th AVE Milbank SD
Additional locations, see Attachment 1, Yes □ No □ FCC Optional Minimum Billing Level (OMBL), Yes □ No □

Qwest Corporation ("Qwest") is providing Service in accordance with the applicable Qwest Federal Communication Commission ("FCC") Tariff if Service is Interstate or in accordance with the applicable Qwest Tariff, Price List, Price Schedule, Administrative Guideline, and/or Catalog if Service is Intrastate, all of which are incorporated herein by this reference and shall hereinafter be referred to as "Tariff". The following Monthly and Nonrecurring rates ("Rate[s]") for Service reflects the Rate currently in effect in the Tariff, Price List, Price Schedule, Administrative Guideline, and/or Catalog ("Tariff"). CUSTOMER understands the actual Rates will be those in effect on the first date of installation of Service, or for existing Service, the date Qwest completes the order. CUSTOMER’s total Monthly Rate is $1022.85 and $1500.00 Nonrecurring Rate, if applicable, plus any applicable taxes, usual and customary surcharges and all government imposed fees and charges that relate to the Service or installation rendered hereunder.

Network-to-Network Information Transfer transfers information between the Qwest Frame Relay Service Network and another frame relay service network. The other frame relay service network’s switch or facility is not in a location served by a Company serving wire center where a Service switch is located, therefore Private Line Transport charges apply. You will pay a Private Line Transport mileage charge of $0.00 per month, plus any applicable taxes, usual and customary surcharges and all government imposed fees and charges that relate to the Service or installation rendered hereunder. Such mileage charge is not a part of Service and is governed by the Tariff for Private Line Transport. If there are any conflicts between the Private Line Transport Tariff and the Tariff governing Service, the Private Line Transport Tariff shall govern and prevail for the mileage portion. Any additional charges (including termination charges) resulting from changes to your Service locations, shall be billed to you in accordance with the then current applicable Private Line Transport Tariff. Should DS3 FRS Service be purchased, such DS3 Service is provided under the terms and conditions of the Private Line Transport Tariff as well.

Any claim, controversy or dispute between the parties shall be resolved by binding arbitration in accordance with the Federal Arbitration Act, 9 U.S.C. 1-16, not state law.

If a party returns this Acknowledgment by facsimile machine, the signing party intends the copy of this authorized signature printed by the receiving facsimile machine to be its original signature. The parties hereby execute and authorize this Acknowledgment as of the latest date shown below:

CUSTOMER
Human Service Agency
Authorized Signature
Judith Malek
Name Typed or Printed
LP Manager
Title
11-24-00
Date

Qwest Corporation
Authorized Signature

Name Typed or Printed
Tony Boyer
Title
DAE
Date

FRSINTER or FRSINTRA
Revised 7-25-00
ATTACHMENT 1, ADDITIONAL LOCATIONS TO THE
QWEST FRAME RELAY ACKNOWLEDGMENT
BETWEEN AND
QWEST CORPORATION

ADDITIONAL LOCATIONS ARE AS FOLLOWS:
TO: Pat Engebretson

FAX NUMBER 605-886-5447

FROM: MARILYNN ELSE

DATE: 

Pages including Cover: 11

NOTES: Attached is the Purchase Agreement for your new equipment. Please review, sign, and return the signed documents to me, via fax, and I will order your equipment. Thank you.
Agreement No. 233481

QWEST DATA CPE MASTER AGREEMENT

This Data CPE Master Agreement ("Agreement") is entered into as of this 10 day of November, 2000 by and between HUMAN SERVICE AGENCY (hereinafter "Customer") and Qwest US WEST Communications Services, Inc. (hereinafter "Qwest"). Qwest and Customer are sometimes referred to in this Agreement collectively as the "Parties" and singularly as a "Party."

1. TERM. The initial term of this Agreement shall be for a period of Twelve (12) months from the date written above. Thereafter the term shall be automatically extended and shall continue until either Party provides the other Party sixty (60) days written notice of termination. Termination of this Agreement shall not affect obligations under Purchase Orders accepted prior to the effective date of termination.

2. PURCHASE ORDER.

2.1. Order Procedure. Upon the terms and subject to the conditions herein, Qwest agrees to sell or license, and Customer agrees to purchase or license, equipment, software and services, from time to time, in the manner set forth in this Agreement and in accordance with the terms and conditions agreed to in the applicable Purchase Order (PO), standard forms of which are attached as Attachment 1 for Equipment Purchases, Software Licenses and Moves, Adds and Changes; Attachment 2 for Maintenance Services; Attachment 3 for Contract Change Order.

2.2. Customer may use a PO form different than the standard forms attached to this Agreement for Customer's administrative convenience only. In such event, the preprinted terms contained in such Customer PO shall not amend, modify or supplement this Agreement in any way whatsoever, notwithstanding any provisions in the Customer PO to the contrary. Customer agrees that Qwest may, at its discretion, place a legend to such effect on any Customer PO, and that placing such a legend shall not be deemed to be a counter-offer.

a. For purchases under this Agreement, Customer shall provide to Qwest a PO setting forth in detail the information referred to in the attached standard form, Attachments 1, 2 or 3, as applicable.

b. In the event that the PO is in accordance with this Agreement, accurately states the prices or fees applicable, and is otherwise acceptable to Qwest, Qwest shall deliver to Customer within five (5) working days Qwest's written acceptance of the PO, which shall be in the form of a copy of the PO signed by Qwest. Unless and until the PO is so accepted by Qwest, Qwest shall have no obligations thereunder.

c. All terms and conditions of this Agreement shall be incorporated in each PO as if fully set forth in the PO. Unless expressly stated otherwise in the PO, in the event of a conflict between any of the terms in this Agreement and the PO, the terms in this Agreement shall control.

2.3. Notwithstanding the standard payment terms stated on PO's attached hereto, Qwest reserves the right to institute payment terms appropriate for individual PO's upon prior notification, including, but not limited to, progress billings for orders exceeding $500,000; progress billings for orders exceeding 120 days calculated from order acceptance date to in-service date; and progress billings for portions of orders completed and not rejected that are functionally and/or geographically divisible.

3. EQUIPMENT PURCHASE/SOFTWARE LICENSE/ MOVES, ADDS AND CHANGES.

3.1. Attachment 1 may be used for equipment, software or moves.

3.2. Qwest Responsibilities. Qwest will make every reasonable effort to provide the equipment, software and, when applicable, labor necessary to complete Qwest's obligations by the Desired In-Service Date or Desired Delivery Date, whichever is applicable, specified in the PO. The In-Service Date is defined as when Qwest has materially performed its obligations or Customer receives the use of the equipment or software supplied by Qwest.

3.3. Acceptance. Customer must notify Qwest in written detail of any portion of the equipment or software which is unacceptable. Failure to notify Qwest within 10 days from the In-Service Date or Delivery Date, whichever is applicable, shall constitute final acceptance. Equipment or software installed by Qwest is considered acceptable if it is installed and operates materially in accordance with the manufacturer's specifications. Qwest shall have the right to correct any portion of equipment or software which has been rejected. Any portion which is not rejected may, if functionally divisible, be
separately invoiced with payment required. Moves and Changes are considered acceptable when the described work is materially completed.

4. MAINTENANCE SERVICES.

4.1. Attachment 2 may be used for maintenance services.

4.2. Maintenance Services Provided. Qwest will provide all necessary labor, tools and materials and will repair or replace, at its option, any necessary parts in connection with the maintenance of the equipment or software covered under a PO. All parts and materials shall be of at least equal quality to the original, and may be new or used with equivalent-to-new performance characteristics. EXCEPT FOR THE FOREGOING, QWEST MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

4.3. Procedure Upon Failure or Malfunction of Data Equipment.

a. Customer agrees to notify the Qwest Customer Service Center of failure or malfunction of the equipment by telephoning 1-800-227-2218.

b. Qwest Service Center and Customer will work together to understand and isolate problem(s).

4.4. Service Commitment. If Customer notifies Qwest, and Qwest confirms, that maintenance at a site is not in accordance with the terms of this Agreement, Qwest will credit Customer an amount equal to one month’s charges for that site. This Service Commitment is conditioned on the terms of this Agreement having been met and upon the criteria stated below.

On-Site Support Plans:
On-Site Support includes remedial maintenance support to diagnose problems and implement resolution. Features included are remote diagnostics, software support elements, on-site technician dispatch and hardware field service, with different on-site response time parameters.

a. Response Time

- Response Time begins when the Qwest Customer Service Center (“CSC”) and Customer determine a Field Technician needs to be dispatched to provide remedial service.
- Diagnosis of the problem begins within one hour of the time at which Customer calls the CSC.
- Technician will arrive on-site within the contract period response commitment.
- Technician will provide spare parts as suggested by remote diagnostics and the Customer contact. If additional spare parts are required, they will be shipped in accordance with the applicable sparing commitment.

b. Spare Parts

- Spare parts components are located within 50 miles of the Customer contract city for demand delivery on Standard 4-Hour and all Premium Maintenance contracts.
- Spare parts replacement for Standard +8 and Next Business Day (“NBD”) maintenance offerings is in accordance with the provisions for the applicable manufacturer.

Remote Support Plans:
Remote Support is designed to provide remote diagnostic technical support and software and part(s) replacement support to customers who have an established in-house network organization and want to maintain their own data network equipment. Remote Support does not include Qwest on-site technical assistance.

a. Response Time

- Response Time begins when the Qwest Customer Service Center (CSC) and Customer determine a Field Technician needs to be dispatched to provide remedial service.
- Diagnosis of the problem begins within one hour of the time at which Customer calls the CSC.
- Qwest will deliver replacement part(s) to Customer’s location(s) within the contract period response commitment.
- It is Customer’s responsibility to replace defective components at their locations and return defective component to the Qwest designate.

b. Spare Parts
Spare parts components are located within 50 miles of the Customer contract city for demand delivery on Standard 4-Hour and all Premium Maintenance contracts.
- Spare parts replacement for Standard +8 and Next Business Day (NBD) maintenance offerings is in accordance with the provisions for the applicable manufacturer.

4.5. Software Upgrade.

a. Qwest will provide access to software updates via the Internet or Qwest server, as applicable. Customer is responsible for assuring that its equipment is accessible by modem dial-up or Internet access and for the procurement and installation of any hardware or memory required for software upgrade.

b. Remote Support Program - Qwest will provide remote assistance for Customer’s first software upgrade. Customer is responsible for carrying the upgrade process throughout its remaining network devices.

c. On-site Support Program - On-site maintenance includes Qwest’s providing remote labor for the installation of one product release per contract year.

4.6. ProMaintenance.

a. ProMaintenance is an optional offering under the Remote Support Program. Included in ProMaintenance is Network Management Service (NMS) reports. Additionally, if the Customer requires training and/or consulting services on the application of or analysis of the reports there will be an additional charge.

b. If Customer is using private (unregistered) IP addresses, Customer may be required to implement Network Address Translation (NAT) on the Customer router(s) connecting to the NMS platform. If NAT is required, the Customer will be assigned a block of IP addresses and will be responsible for the implementation of the NAT. However, if Customer requested Qwest to implement the NAT, there will be an additional nonrecurring charge of $850.00.

4.7. Exclusions. Maintenance excludes all services not specifically agreed to by Qwest under this Agreement including, but not limited to:

a. Work on any equipment or software not listed on the PO or that is not located at the address specified in the PO, or equipment or software which has been altered by anyone other than Qwest.

b. Making Customer specified changes or adding or removing accessories, attachments or other devices.

c. Moving or relocating equipment or software.

d. Replacement of lost or stolen parts or materials, or repair or replacement of parts, materials or software damaged through accident, negligence, abuse, misuse, connection with incompatible equipment, failure of electrical power, air conditioning or humidity control.

e. Failure or malfunction of attached, related, collateral or ancillary equipment or software not covered by the PO.

4.8. Payment. The maintenance charges set forth in the PO are calculated on a monthly basis and will be billed and payable on an annual basis. Subsequent payments are due in full at the beginning of each subsequent year throughout the term of the PO.

4.9. Termination.

a. If Customer terminates this Agreement or a Maintenance PO early, discontinuance charges shall apply, unless Customer signs a new Maintenance PO with a value equal to or greater than the balance of the current Maintenance PO. Customer shall pay termination charges calculated as follows:

<table>
<thead>
<tr>
<th>(1) Monthly Rates for Maintenance Service Terminated</th>
<th>(2) 20%</th>
<th>(3) Months remaining in the Agreement</th>
<th>(4) All Due but Unpaid Maintenance Charges</th>
<th>= Termination Charge</th>
</tr>
</thead>
</table>


b. Customer may terminate this Agreement without liability for the discontinuance charges described herein if Qwest does not provide services in accordance with the terms of this Agreement. Termination shall be effective thirty (30) days after Qwest’s receipt of Customer’s written notice of its intent to terminate, if Qwest does not cure the failure of service within that thirty-day period.

5. CONTRACT CHANGE ORDER. Attachment 3 may be used for contract change orders.

6. GENERAL TERMS AND CONDITIONS.

6.1. Risk of Loss and Security Interest. Risk of loss for purchased equipment or licensed software will pass to Customer upon delivery, except for damage caused by Qwest, its agents or subcontractors. Until full payment to Qwest, Customer grants to Qwest a continuing security interest in the equipment, including additions, replacements and proceeds, and authorizes Qwest to file a financing statement with or without Customer’s signature.

6.2. Uncontrollable Conditions. Qwest shall not be responsible for any damages, delay in performance or failure to perform if caused by acts or occurrences beyond its reasonable control including, but not limited to, strikes or other labor disputes, riots or other civil disturbance, embargoes, government regulations or requirements (executive, legislative, judicial, military or otherwise), power failure, electrical surges or current fluctuations, lightning, earthquake, flood, war, water, the elements, or other forces of nature, delays or failures of transportation, equipment shortages, suppliers’ failures, or acts or omissions of telecommunications common carriers (whether or not affiliated with Qwest).

6.3. Health and Safety Compliance.

a. Qwest and Customer will adhere to all applicable health, safety and environmental laws, rules and regulations, including the Occupational Safety and Health Administration’s (OSHA) and the Environmental Protection Agency’s (EPA) rules and regulations (collectively, Safety Regulations). Unless specified in the PO, Qwest will not work in any area where a Hazardous Substance is present. A “Hazardous Substance” means a substance regulated by any Safety Regulation and includes, but is not limited to, asbestos. Qwest may work in an area containing non-friable asbestos if Qwest determines in its sole judgment that the work will not disturb or cause the asbestos to become friable.

b. Customer is responsible for informing Qwest of the existence, location and condition of any Hazardous Substances that may be in or around the Qwest work area. Customer indemnifies and holds Qwest harmless for any fines or other liability of Qwest arising from Customer’s failure to inform Qwest of Hazardous Substances.

c. Qwest may, without affecting Customer’s informational duties and indemnification, suspend work from the time it reasonably identifies areas where Hazardous Substances may be present until the work area is in compliance with then-constituted Safety Regulations. Any such suspension is not a default of the Agreement, and any delays from the suspension may result in a similar delay in work completion, without penalty to Qwest. If the Parties cannot agree whether Qwest’s work can be performed through completion without a violation of Safety Regulations, or cannot agree to payment of added costs, if any, either Party may terminate the Agreement without penalty. Such termination shall not affect Customer’s obligation to pay for equipment, software and services provided by Qwest prior to the effective date of termination.

6.4. Late Payment. Late payment charges may be assessed on past due amounts at 1 1/2% percent per month, or the highest lawful rate, whichever is less.

6.5. Limitation of Liabilities. NEITHER PARTY IS LIABLE TO THE OTHER FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT OR SPECIAL DAMAGES, INCLUDING LOST PROFITS, HOWEVER CAUSED AND REGARDLESS OF LEGAL THEORY OR FORESEEABILITY, WHICH DIRECTLY OR INDIRECTLY ARISES FROM THIS AGREEMENT. EACH PARTY IS RESPONSIBLE FOR ACTUAL DAMAGES FOR PERSONAL INJURY OR DEATH, OR TO TANGIBLE PROPERTY, ARISING FROM ITS NEGLIGENCE.

6.6. Customer Responsibilities. (Applicable only if Qwest provides installation or labor.)

a. When Customer provides inside wiring, all station cable, riser cable, distribution and feeder cable will be tested and identified by Customer at the main and any intermediate distribution frame(s). All telephone and data jacks will be properly labeled and a corresponding floor plan will be provided to Qwest by Customer. Any additional work required by Qwest due to improper or inadequate cable or labeling will be charged at Qwest standard rates for material and regular time and overtime as applicable and as directed by Customer.

b. Upon request by Qwest, Customer will provide a detailed floor plan showing the location of each piece of existing equipment and desired mounting location for any new equipment and/or power supply with the understanding that changes to the floor plan after submission to Qwest may result in additional charges.
charges.

c. Qwest assumes no responsibility for the operation of data, radio control, paging, alarm or other circuits which are not modified or installed pursuant to a PO. Additionally, unless otherwise agreed to in a PO, Qwest shall not gather or input end user station data or routing and addressing information.

6.7. Software. Software licensed alone or provided with purchased equipment under this Agreement will be licensed or sublicensed to Customer as follows: If supplied with a licensing agreement to be executed by Customer, upon Customer executing that agreement; it is supplied with a licensing agreement requiring no Customer signature, such as "shrink-wrap" or similarly licensed software, under the terms and conditions of this document. If neither of the above applies, Qwest grants a personal, non-exclusive sublicense to Customer to use copies of the software in object code form only. The license is effective with delivery (for "drop-ships"), or with installation, as applicable, and extends only to Customer's own use and only on the designated equipment. Software must be held in confidence and may not be reproduced in any form unless specifically authorized by the software licensor.


a. Except as otherwise provided in this Agreement, Qwest warrants that equipment purchased or software licensed under this Agreement will, under normal use, be materially free from defects in material and workmanship, and where applicable will be installed in accordance with the manufacturer's specifications. The warranty coverage shall be that provided by the manufacturer. If the equipment is purchased under Moves, Adds and Changes work as a part of a system previously purchased from and installed by Qwest which is still under warranty, the warranty for the equipment shall be that of the manufacturer. Work performed under warranty will be during Qwest Standard Service Hours (as defined below).

b. Any warranty is conditioned on equipment or software not having been installed, altered, maintained, or repaired by anyone other than Qwest. In the case where the equipment or software is installed, altered, maintained or repaired by anyone other than Qwest, the remedies of Customer shall be limited to the warranties extended by the manufacturer or licensor, as the case may be, if any, and Customer's recourse for such warranty shall be solely with the manufacturer or licensor. Qwest is not responsible for any defects or damages resulting from mishandling, abuse, misuse, accident, electrical power surges or current fluctuations, lightning strike, or other force of nature, improper storage or operation, including use in conjuction with equipment electrically or mechanically incompatible with or of inferior quality to the supplied equipment, as well as failure to maintain the environmental conditions specified by the manufacturer or licensor, as the case may be.

5. QWEST'S OBLIGATION WITH RESPECT TO ITS WARRANTIES. IF ANY, AND CUSTOMER'S SOLE REMEDY IS LIMITED TO REPAIR OR REPLACEMENT, AT QWEST'S OPTION, OF THE DEFECTIVE EQUIPMENT, SOFTWARE OR FAULTY WORKMANSHIP. CUSTOMER UNDERSTANDS AND AGREES THAT EXCEPT FOR THE FOREGOING, NO OTHER WARRANTIES, WRITTEN OR ORAL, STATUTORY, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLY. QWEST'S OBLIGATION UNDER THE WARRANTY, IF ANY, AND CUSTOMER'S SOLE REMEDY IS CONTINGENT UPON QWEST RECEIVING WRITTEN NOTICE FROM CUSTOMER OF ANY DEFECT WITHIN THE WARRANTY PERIOD.

6.9. Fraudulent Use. Upon request of Customer, Qwest may provide information relative to equipment operation and features, and recommendations for reasonably safeguarding the equipment against toll fraud and unauthorized access. However, Customer is solely responsible for the security of its own communications equipment and services, authorization codes, routing assignments, systems addressing, voice mail boxes, direct inward system access (DISA), and internal systems and operations. Qwest and its affiliates are not responsible for damages relating to unauthorized long distance charges, unauthorized packet or usage charges, unauthorized access or other misuse of Customer's equipment or services by Customer, its employees and agents, or by any third parties.

6.10. Patent Indemnity. Qwest will defend, at its own expense, any action brought against Customer to the extent the action claims that any equipment or software supplied by Qwest infringes on a United States patent or copyright. Qwest will pay finally awarded costs and damages on the claim if: (1) Qwest is notified promptly in writing by Customer of any such claim, (ii) Qwest has control of the defense and is notified promptly in writing by Customer of any such claim, (ii) Qwest has control of the defense and is notified promptly in writing by Customer of any such claim, (iii) Customer cooperates with Qwest in all respects to facilitate the settlement of the claim, and (iv) Customer cooperates with Qwest in all respects to facilitate the settlement of the claim. This indemnification does not apply to any infringement or claim of infringement: (a) arising from nonconformance to instructions or drawings which Qwest has not been directed to infringe; (b) which is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (c) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (d) which is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (e) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (f) which is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (g) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (h) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (i) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (j) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (k) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (l) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (m) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (n) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (o) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (p) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (q) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (r) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (s) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (t) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (u) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (v) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (w) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (x) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (y) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow; (z) which relates to combinations of Qwest supplied equipment with any other software or equipment, but which software itself is not wholly inherent in the equipment or software itself as furnished by Customer to follow.

6.11. General.
6.11. **General.**

a. The provisions of the Agreement shall comply with all applicable federal, state and local laws, rules and regulations. Any provision not in compliance is void. If a provision of the Agreement is void but the Parties legally, commercially and practically can continue the Agreement without the void provision, the remainder of the Agreement will continue in effect.

b. Customer is responsible for meeting all physical and environmental site standards and requirements of the equipment manufacturer and of Qwest for installation and/or operation, as appropriate, of equipment installed or serviced by Qwest under the Agreement.

c. Either Party may assign the Agreement to a parent, subsidiary, successor or affiliated company without the prior written consent of the other Party, provided that the assignment does not increase the obligations of the other Party. No other assignment is valid without the prior written consent of the other Party, which consent will not be unreasonably withheld. Qwest may subcontract all or any portion of the work without the prior written consent of Customer, but will remain responsible for the work of any subcontractor.

d. Any agreement by Qwest to a Customer requested change or cancellation (in whole or in part) of equipment, software or services under this Agreement shall be subject to Customer's payment of all restocking charges incurred by Qwest. Payment of the restocking charges shall be in addition to any other cancellation fees agreed upon.

e. Qwest Standard Service Hours are defined for the purpose of this Agreement as 8:00 a.m. to 5:00 p.m. local time, Monday through Friday, except Qwest observed holidays.

f. Any claim, controversy or dispute between the Parties shall be resolved by binding arbitration in accordance with the Federal Arbitration Act, 9 U.S.C. 1-16, not state law.

\[g.\] Customer accepts responsibility for all federal, state and local taxes paid or payable under this Agreement, including but not limited to sales, use, excise and gross receipt taxes, usual and customary surcharges and all government imposed fees and charges that relate to Maintenance Services, Equipment Purchases or installation. Taxes based on either Party's net income will remain that Party's responsibility.

h. The scope of this Agreement is limited to Qwest's unregulated products and maintenance services.

i. Failure of either Party to require performance by the other or to exercise a right to claim a breach of the Agreement does not affect the right to require performance or to exercise a right or claim a breach on any subsequent occasion.

j. Qwest, may, in order to safeguard its interest, require the Customer to have satisfactory, verifiable credit. Qwest may require additional security or deposit as it deems appropriate. Qwest reserves the right to decline sale or service should Customer's credit be unacceptable to Qwest.

The Parties hereby execute and authorize this Agreement as of the first date written above:

**Customer**

[Signature]

Authorized Signature

Marilynn Else

Name (Typed or Printed)

CPE BAS

Title

11/10/2000

Date

600 Stinson Boulevard

Minneapolis, MN 55413

Address for Notices
Purchase Order No. 0
Master Agreement No. 233481
COT Quote No. CPE233481

ATTACHMENT 1
EQUIPMENT PURCHASE/SOFTWARE LICENSE/
MOVES; ADDS AND CHANGES

See Attached CPE Quote: No

PRICE/FEES:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products/Materials</td>
<td>$36730.00</td>
</tr>
<tr>
<td>Labor</td>
<td>$3507.40</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$40237.40</strong></td>
</tr>
</tbody>
</table>

*The above payments do not include taxes

Additional Pages to this Attachment? **No**

**If installation is not provided by Qwest, the entire balance is payable upon delivery.**

Ship to Address: Installation Address:

Desired Delivery Date: OR Desired In-Service Date (if installed by Qwest):

WARRANTY COVERAGE SHALL BE THAT PROVIDED BY THE MANUFACTURER.

ALL TERMS AND CONDITIONS OF THE MASTER AGREEMENT BETWEEN THE PARTIES ARE INCORPORATED BY THIS REFERENCE.

HUMAN SERVICE AGENCY

[Signature]

[Name Typed or Printed]

[Title]

[Date]

US WEST Communications Services, Inc.

[Signature]

Marilyn Else

[Name Typed or Printed]

[Title]

[Date]
# Quick Quote

**CUSTOMER:** HUMAN SERVICE AGENCY  
**QUOTE #:** CPB233481  
**DATE:** 11/10/00  
**QUOTE GOOD UNTIL:** 12/10/00

## LOCATION #1  
123 19TH ST NE, WATERTOWN, SD 57201, UNITED STATES

<table>
<thead>
<tr>
<th>Manuf</th>
<th>Manuf Part #</th>
<th>Description</th>
<th>Mileage Range</th>
<th>Desired Date: 12/01/00</th>
</tr>
</thead>
<tbody>
<tr>
<td>CISCO</td>
<td>CISCO7204VXR/225</td>
<td>7204VXR system with NPE-225 FE and IOS</td>
<td>1</td>
<td>7245.00</td>
</tr>
<tr>
<td>CISCO</td>
<td>PWR-7200</td>
<td>CISCO 7200 AC POWER SUPPLY OPTION</td>
<td>1</td>
<td>0.00</td>
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<tr>
<td>CISCO</td>
<td>CAB-AC</td>
<td>Power Cord 110V AC</td>
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<td>0.00</td>
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<tr>
<td>CISCO</td>
<td>S72C-12102T</td>
<td>Cisco 7200 Series IOS IP</td>
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<td>MEM-I/O-FLC20M</td>
<td>CISCO 7200 I/O PCMCIA FLASH MEMORY 20MB</td>
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<tr>
<td>CISCO</td>
<td>PA-MC-8T1</td>
<td>8-Port T1 Multichannel Port Adapter x</td>
<td>2</td>
<td>16008.00</td>
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<tr>
<td>CISCO</td>
<td>PA-FE-TX</td>
<td>1-PORT FAST ENET (100BASETX) PORT ADPTR</td>
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<td>1725.00</td>
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11/10/00 9:50 AM
<table>
<thead>
<tr>
<th>LOCATION #1</th>
<th>PRODUCT SUB-TOTAL</th>
<th>SHIPPING AND HANDLING</th>
<th>SUB-TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19 36254.00</td>
<td>19 3507.40</td>
<td>8 3124.99</td>
</tr>
</tbody>
</table>

**PRODUCT SUB-TOTAL:**

19 36254.00

476.00

**SHIPPING AND HANDLING:**

19 3507.40

8 3124.99

**CONTRACT TOTAL:**

19 36730.00

19 3507.40

8 3124.99

$43362.

*Note: This is preliminary pricing only; changes to configuration may result in pricing changes. This quote also excludes sales tax, which will be added to the invoice.*
Purchase Order No. 0  
Master Agreement No. 233481  
COT Quote No. CPE233481

ATTACHMENT 2  
MAINTENANCE SERVICES

This PO for maintenance will remain in effect for an initial term of 12 months from its effective date. Upon completion of the initial term, the PO will automatically renew annually at Qwest's then current maintenance prices unless either party gives the other written notice of its intent to terminate thirty (30) days prior to the scheduled renewal date. Qwest will submit then current pricing to Customer sixty days in advance of scheduled renewal dates. Effective Date: 12/01/2000.

No See Attached CPE Quote  
No Additional Pages to this Attachment?

<table>
<thead>
<tr>
<th>Standard Service</th>
<th>Extended Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Service Hours</td>
<td>Extended Service Hours</td>
</tr>
<tr>
<td>Annual Maintenance Charge</td>
<td>Annual Maintenance Charge</td>
</tr>
<tr>
<td>$3124.99</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

TOTAL ANNUAL MAINTENANCE CHARGE $3124.99. This Amount does not include applicable taxes.

Equipment Location  
Billing Address  
123 19th St NE  
Watertown, South Dakota 57201  
P. O. Box 1030  
Watertown, South Dakota 57201

WARRANTY COVERAGE SHALL BE THAT PROVIDED BY THE MANUFACTURER.

ALL TERMS AND CONDITIONS OF THE MASTER AGREEMENT BETWEEN THE PARTIES ARE INCORPORATED BY THIS REFERENCE.

HUMAN SERVICE AGENCY  
US WEST Communications Services, Inc.

Authorized Signature  
Marilynn Else  
Name (Typed or Printed)  
CPE BAS  
Title  
11-10-2000  
Qwest Service Center Telephone No.
VPN Hybrid Network Architecture

- Johnson Bld
- Serenity Hills 256k Wireless Internet
- Cable Modem VPN 140 8th Ave
- Care Bld 1203 1st Ave
- 28k Frame Relay Lines
- HSA Host Site 123 19th St NE T1 Line
- Milbank
- Cable Modem VPN 310 1st Ave
- Sisseton
- Cable Modem VPN 1325 1st Ave
- 825 E Kemp
- 1029 1st Ave
March 6, 2001

Pat Engebretson
Human Services Agency
123-19th Street NE PO Box 1030
Watertown, SD 57201

Dear Pat:

I have enclosed two (2) copies of the Agreement for Services for the DS-1 frame circuit from Sioux Falls to Watertown for Human Services Agency. Please review the enclosed, and sign where indicated. You may keep one (1) signed copy for your files and please return one (1) signed copy to our office.

We would like to thank you for the opportunity to serve you. If we can be of further assistance, please let me know.

Sincerely,

SDN COMMUNICATIONS.

Deonne Decker-Anderson
Account Relations

ees
Encl.
South Dakota Network, LLC
AGREEMENT FOR SERVICES

This Agreement executed this 6th day of March, 2001, between Human Services Agency hereinafter referred to as "CUSTOMER", and South Dakota Network, LLC, otherwise know as SDN Communications, a South Dakota Corporation, hereinafter referred to as "SDN";

WITNESSETH:

1. SERVICES: SDN agrees to provide to CUSTOMER those services specified in Schedule(s) "A" attached hereto and by this reference made a part hereof and which may be amended or added to reflect additional services by written agreement of both parties. Said services are hereby expressly agreed to be subject to the terms and conditions of this Agreement. Ownership and control of the SDN network and appurtenances thereto shall at all times be and remain in SDN and SDN shall have the right to remove its service, cable and any other equipment used in connection therewith upon termination of this Agreement.

2. TERM/RENEWAL: This Agreement shall be for a 36 month term commencing on the last date written under Article 16 herein. This agreement shall automatically renew at the expiration of the initial term thereof. Any such extension or renewal shall be upon the same terms and conditions as provided in this Agreement with payment as set forth in Schedule(s) "A" incorporated as a part of this Agreement. Any Schedule(s) "A" which have not expired upon termination or non-renewal of this Agreement shall remain in effect until the expiration date of each Schedule "A" as if this Agreement had been extended.

3. PAYMENT: For the services provided by SDN, CUSTOMER shall pay the sums specified on Schedule(s) "A" or any amended and added Schedules "A", and only said sums, on the first day of each month following the installation of the service throughout the term hereof. Payment for the month in which the service is installed shall be made in a prorated amount for that portion of the month for which the service is available. Additional months will be billed one month in advance. In addition to the base payment requirement hereunder, CUSTOMER shall pay upon receipt of invoice any taxes including sales tax, user fees, permit fees or similar charges related to the payment for services contemplated hereunder. Customer shall be responsible for payment of any off-net loop increases, which are considered pass-thru costs by SDN.

4. CUSTOMER RIGHT OF ABANDONMENT: CUSTOMER shall have the right at any time to abandon the right to use any of the services provided by SDN. Such abandonment shall be in writing and shall terminate any obligations of either party regarding such services except for any indemnification for causes accruing prior to the time of such abandonment and except that CUSTOMER shall pay with its abandonment the then present value of the remaining payments due during the term for such services specified in the applicable Schedule "A". The present value shall be calculated at the then prevailing average cost of long term debt to SDN.

- Proprietary -

Not to be shared outside SDN, its affiliates and the herein named "customer"
5. **OPERATION AND MAINTENANCE OF THE NETWORK:** SDN shall be responsible for the operation and maintenance of its network in accordance with the performance specifications as stated in Exhibit "I" to this Agreement. In the event of failure or degradation of the performance of the SDN network to a point, where the service provided to CUSTOMER is inferior to those performance specifications (a service affecting condition) SDN shall proceed immediately and with due diligence to restore its network to the level of performance specified by the performance specifications. SDN shall repair any service affecting condition within 24 hours following receipt of telephonic notice of the condition in accordance with Article 11 hereof, provided that however SDN shall have no responsibility or liability to CUSTOMER for any disruption in service. In the event that any such service affecting condition shall extend beyond 24 hours SDN sole and only obligation to CUSTOMER shall be to rebate that portion of the monthly service charge prorated over the period of time during which service is unavailable to CUSTOMER. In the event that any service affecting condition shall extend beyond seventy-two (72) hours or that more than three (3) such occurrences of more than four (4) hours each shall occur within any calendar year affecting any service provided under this Agreement, CUSTOMER shall have the right at its option to terminate that service upon written notice to SDN. Any such termination shall place the parties in the same position as if the terms of that service had expired. In lieu of a written notice, a facsimile is also acceptable within this Agreement.

6. **INSURANCE:** Contractor(s) employed by either party to perform work on the premises of the other party shall provide and maintain at all times during the provision of services to the parties the following types of insurance in the following minimum amounts, which insurance shall be issued by companies approved by the parties:

   a. Worker's Compensation Insurance complying with the law of the state or states in which the services are to be provided and Employers Liability Insurance with limits of $500,000 each accident, including occupational disease coverage with limits of $500,000 each employee, $500,000 policy limit.

   b. Broad form Comprehensive General Liability Insurance with a single combined limit for bodily injury and property damage of $1,000,000 each occurrence.

The foregoing insurance shall be evidenced by certificates of insurance which shall be delivered to the contracting party prior to commencement of the provisions of services. The certificates of insurance shall show that the insurance is prepaid and in full force and effect and that such insurance shall not be canceled, non-renewed or changed during the term of this Agreement or during any extension thereof, without at least thirty (30) days written notice to the contracting party. The maintenance of insurance by the contractor shall in no way limit or affect the extent of the contractor's liability.
7. LIMITATION OF LIABILITY/INDEMNIFICATION: SDN liability to CUSTOMER under this Agreement is limited to provision of services as specified in this Agreement. Under no circumstances shall either party be liable to the other for any indirect, incidental, special or consequential damages (including, but not limited to, loss of business, loss of use or loss of profits) which arise in any way, in whole or in part, as a result of any action, error, mistake or omission, whether or not negligence on the part of either party occurs.

Both parties agree to indemnify, defend and hold each other harmless for any and all claims, demands, suits or actions, including attorneys fees arising out of their performance or failure to perform any of their obligations under this Agreement except only such claims, demands, suits or actions which may arise out of the negligence of either party. The extent of either party’s liability is limited by the preceding paragraph.

8. DEFAULT/TERMINATION: Failure of either party to cure a default under this Agreement as soon as reasonably practical but, not less than ten (10) days after receipt of written notice thereof, shall entitle the other party to immediately terminate this Agreement. A default which is not susceptible of cure within such ten (10) days shall not give rise to a right of termination provided cure is commenced within ten (10) days and diligently pursued to completion. In lieu of a written notice, a facsimile is also acceptable within this Agreement.

9. LAWFULNESS OF AGREEMENT: This Agreement and the parties' actions under this Agreement shall comply with all applicable federal state and local laws, rules and regulations and the orders, rules and regulations of any court or governmental agency or competent jurisdiction. If a court or a governmental agency of competent jurisdiction determines that this Agreement, or a provision of this Agreement is unlawful, this Agreement, or that provision of this Agreement shall terminate. If a provision of this Agreement is so terminated but, the parties legally, commercially and practicably can continue this Agreement without the terminated provision, the remainder of this Agreement shall continue in effect.

10. FORCE MAJEURE: A party shall be excused from performance under this Agreement if its performance is prevented by acts or events beyond the party's reasonable control including, but not limited to, strikes or other labor unrest, severe weather and storms, earthquakes, or other natural occurrences, power failures, nuclear or other civil or military emergencies, or acts of legislative, judicial executive or administrative authorities.

11. NOTICES: Notices, except for telephonic notices under Article 5 hereof, shall be in writing and except where the context otherwise requires, shall be mailed by prepaid U.S. Certified Mail, Return Receipt Requested, addressed to:

SDN:
South Dakota Network, LLC
ATTN: Michelle Fridrich
2900 West 10th Street
Sioux Falls, SD 57104

CUSTOMER:
Human Services Agency
ATTN: Pat Engebretson
123-19th Street NE
Watertown, SD 57201
or at such other addresses as the respective parties may from time to time in writing designate. Except where the context otherwise requires, all such notices shall be deemed to have been given on the day received.

Telephonic notices under Article 5 shall be given to:

SDN: 605-334-7185
CUSTOMER: 605-884-3538

12. **WAIVER:** Any failure of a party to assert any of its rights under any provision of this Agreement shall not constitute a waiver or termination of such rights.

13. **CHOICE OF LAW:** The parties agree that the laws of the State of South Dakota shall apply to this Agreement.

14. **ASSIGNMENT:** Neither party may assign or transfer its rights or obligations under this Agreement without the prior written consent of the other party.

15. **ENTIRE AGREEMENT:** This Agreement, together with all Exhibits, Notices, Appendices and any jointly executed written supplements to this Agreement constitutes the entire Agreement and the complete understanding between the parties. No other verbal or written representation of any kind affects the rights or the obligations of the parties regarding any of the provisions in this Agreement.

16. **EXECUTION:** The parties hereby execute and authorize this Agreement as of the last date written below:

SDN: South Dakota Network, LLC
2900 West 10th Street
Sioux Falls, SD 57104

CUSTOMER: Human Services Agency
123-19th Street NE
Watertown, SD 57201

By ____________________________ By ____________________________

Michelle Fridrich
Its: Manager of Competitive Sales

Date: March 6, 2001

- Proprietary -

Not to be shared outside SDN, its affiliates and the herein named "customer"
EXHIBIT I TO AGREEMENT FOR SERVICES
SOUTH DAKOTA NETWORK, LLC
DIGITAL SERVICES PERFORMANCE STANDARDS

Page 1 of 2

SYSTEM AVAILABILITY

System Availability as defined shall be greater-than or equal-to 99.985%.

ERROR PERFORMANCE:

Performance in any 24 hour period shall be less-than or equal-to:

<table>
<thead>
<tr>
<th>Circuit Route Miles</th>
<th>Consecutive Severe Errored Seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Severe Errored Seconds</td>
</tr>
<tr>
<td>0 to 50</td>
<td>37</td>
</tr>
<tr>
<td>&gt; 50 to 100</td>
<td>46</td>
</tr>
<tr>
<td>&gt;100 to 200</td>
<td>68</td>
</tr>
<tr>
<td>&gt;200 to 300</td>
<td>85</td>
</tr>
</tbody>
</table>

IMMEDIATE ACTION LIMITS:

Immediate action to repair the service is required if any of the following occurs within any 15 minute period:

<table>
<thead>
<tr>
<th>Error Type</th>
<th>Less-than or Equal-to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Errored Seconds</td>
<td>100</td>
</tr>
<tr>
<td>Severely Errored Seconds</td>
<td>3</td>
</tr>
<tr>
<td>Consecutive Severely Errored Seconds</td>
<td>1</td>
</tr>
</tbody>
</table>

Immediate action is also required for any out of service condition.

PROTECTION SWITCHING:

Automatic protection switching is provided at the DSI, DS3 and at the Optical Line levels. Manual control of protection is also provided.
EXHIBIT I TO AGREEMENT FOR SERVICES
SDN COMMUNICATIONS
DIGITAL SERVICES PERFORMANCE STANDARDS

Page 2 of 2

RESTORATION OF EQUIPMENT FAILURES:

Electric equipment failures shall be repaired within four hours after service is switched to protection facilities.

BATTERY RESERVE:

A minimum eight (8) hour battery reserve will be maintained at all equipment locations which are not equipped with automatic start back-up AC alternators.

DEFINITIONS:

System Availability:

The system is considered to be unavailable when the Bit Error Rate (BER) exceeds 1 error per 1,000 bits in each of 10 consecutive 1 second intervals.

The system is considered to be restored when the BER is less than 1 error per 1,000 bits in each of 10 consecutive 1 second intervals.

System outage time is the accumulated intervals between circuit unavailable and circuit restoration.

\[
\text{Availability} = \frac{\text{total time-outage time}}{\text{total time}}
\]

Errored Seconds (ES):

Any one second period containing one or more bit errors.

Severely Errored Seconds (SES):

Any one second period in which the BER is more-than or equal-to 1 error per 1,000 bits.

Consecutive Severely Errored Seconds (CSES):

An event consisting of 3 to 10 consecutive SES. Only one CSES is permitted during a two week period.
SCHEDULE A
TO
AGREEMENT DATED MARCH 6, 2001
Between HUMAN SERVICES AGENCY
and
SOUTH DAKOTA NETWORK, LLC

The following services are to be provided by SDN for a 36 month term:

1. One (1) T-1 frame relay facility(s) from Watertown to Sioux Falls with internet service.

   The total monthly charge for this facility will be $460.90 for the frame connection and $500.00 for the internet service with a one-time Order Services Charge of $500.00 for the frame and $240.00 for the internet.

   Circuit I.D. #: HAS 001/T1FR/SDN/WTW

   The requested due date for these facilities is: March 6, 2001.

Additional Notes: None

AGREED, THIS 6th day of March, 2001

SOUTH DAKOTA NETWORK, LLC Human Services Agency

By: _____________________________ By: _____________________________

Michelle Fridrich
FAX COVER SHEET

# OF PAGES SENT: 1 (including cover sheet)

ATTENTION: Pat Engeberson

FAX: (605) 886-5447

DATE: 06/11/01

FROM: Tami- @Home Sales

5100 W 41ST Street
Sioux Falls, SD 57106
Phone: 1-800-888-1300 Option #2 Option 2, Ext. 3008
Fax: (605) 330-4089

MESSAGE: Put on a list to receive @Work as soon as it is up and running in the area.

WILL CONTACT W/ INSTALL DATES IN NEAR FUTURE
Wireless Internet Subscriber Agreement

This is a subscriber agreement by and between Data Truck, LLC and the subscriber listed below:

Legal Name: Human Services Agency (HSA) Mr. Pat Engebretson

Address:

TERMS: This is a month to month agreement with monthly payments. Invoices will be sent on the 15th, and payments are due on the first day of the service period month.

HSA agrees to abide by Data Truck’s acceptable use policy found at www.datatruck.com/aup.htm.

BANDWIDTH AND SERVICES: -This agreement gives HSA either 64Kb/128Kb or 128Kb/256Kb of always-on bandwidth, all the way to the internet. -Data Truck will provide complete maintenance of the wireless system.

PRICING: -The price for the above connection is $99/mo. for the 64/128 or $159/mo. for the 128/256, plus applicable sales tax. -The month of installation will be pro-rated for the number of days the service is on. -There will be a late fee of 5% of the balance owed for any payment that is received after the 5th working day of each month. -Any payment that is 30 or more days past due will be assessed finance charges at a rate of 12% annually. – Late payment may result in disconnection of service.

EQUIPMENT AND INSTALLATION: HSA agrees to pay $299 for the 64/128 circuit or $660 for the 128/256 circuit, plus applicable sales tax, for setup and installation of proper equipment at the hospital, or $619 for the 64/128 or $980 for the 128/256 at the country site (448th Ave.). HSA agrees that they do not get ownership of any of the Data Truck equipment, which remains the property of Data Truck, LLC.

TERMINATION: -Data Truck, LLC may cancel this contract for default on the part of HSA. Default includes any violation of the acceptable use policy. HSA (or their employees) cannot resell this service. Reselling the service is grounds for immediate termination of contract and penalty. -If for any reason HSA wishes to cancel this contract, they will be responsible for all unpaid monthly service time. By signing this agreement, HSA agrees to abide by the above provisions.

Dated this 21 day of 3 month, 01.

Authorized Signature: ____________________
Name: ____________________
Title: ____________________
Here are the numbers that Pat Engebretson will need for the Human Services Agency installation:

Assigned IP address:
63.83.218.99

Gateway/Router: 63.83.218.65

Subnet Mask: 255.255.255.192

DNS #1: 63.65.239.28
DNS #2: 137.118.1.32
DNS #3: 137.118.1.33

The assigned address is configured for a 256 kb/s bandwidth effective April 28th, 2001.

--- Dave
**THANK YOU FOR YOUR ORDER!**

(Tax returns paid by check, of course, are full paid, including back ordered items. Report any discrepancy to the number of taxes, or damage to a tax, to the company that delivered the item shipped to you. Sign for the material actually delivered. Upon further inspection, you notice further damage or loss, please save all packaging material and notify the company immediately.)

Micro Warehouse accepts returns of defective merchandise of most manufacturers when you request authorization for the return within 30 days of your original invoice date. See "below for list of excluded manufacturers.

If you need to return a defective product to us, you must call us at 1-800-285-7080 within 30 days of the original invoice date. Your call will be handled by one of our Technical Support Representatives who will verify the nature of the defect and determine eligibility for return to us. If the product is eligible for return to us, we will issue you a Return Merchandise Authorization (RMA) number. Items are returned for 15 days, and the product(s) must be received by Micro Warehouse before the RMA expires. We are unable to accept any product received after the expiration of the RMA. RMAs cannot be extended or re-issued.

**All returns are subject to the following:**

- All products must be returned complete and in the original packaging with all warranty cards, manuals, and any other documentation. Software and consumables (supplies) are not refundable unless returned in the original packaging with all documentation.
- Defective software will be replaced and defective hardware will be either replaced or repaired at our discretion.
- A valid RMA number must be written clearly and prominently on the outside of the packaging.
- Shipping and handling charges are not refundable.
- Custom orders, cables, bulk cable, electronic rack enclosures and products designated as "as-is, no return" or similar language may not be returned.
- Software licenses ordered pursuant to a customer's software licensing program are not refundable.

While we would like to assist you directly as much as possible, certain manufacturers' policies prohibit us from accepting any returns of their products and require all returns to be made directly to them. We have included below their names and telephone numbers for your convenience so that you may contact them directly. They will repair or replace defective products at their discretion and in accordance with their own policies.

- **Apple Computer:** 900-560-7678
- **Compaq:** 900-650-6672
- **IBM:** 900-772-2277
- **Cisco:** 900-620-9998
- **Microsoft:** 602-982-6843
- **NCR:** 888-886-0101
- **Xerox:** 800-632-6679
- **Xerox (varsity products):** 800-835-6100
- **Nokia:** 970-995-1000
- **Sony:** 800-476-9972

All no-defective returns authorized by Micro Warehouse are subject to a 10% restocking fee and are subject to the same return conditions outlined above.

**PLEASE INDICATE THE PRODUCTS YOU ARE RETURNING IN THE TABLE BELOW:**

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Item #</th>
<th>Description</th>
</tr>
</thead>
</table>

**PLEASE INDICATE IF THEY ARE:**

- [ ] Exchanged for a different product
- [ ] Replaced by the same product

If there is a price difference between the exchanged items, please indicate method of payment:

- [ ] Check or money order enclosed
- [ ] Visa
- [ ] American Express
- [ ] MasterCard
- [ ] Discover/NOVUS

Card Number: ____________________________

Expiration Date: __________________________

Signature: ____________________________

**BRIEFLY, EXPLAIN THE REASON:**

Stop the passage containing the returned product pre-paid, include this form in the box along with your returned product. Send to: 3300 State Route 73 South, Wilmington, Ohio 45177. Sorry, we cannot accept packages C.O.D.

**QUESTIONS?**

1-800-285-7080
SOLD TO:
PATTI SCHULL
HUMAN SERVICE AGENCY
PO BOX 1030
123 19TH STREET NE
WATERTOWN SD 57201-2823

SHIP TO (IF OTHER THAN SOLD TO):

Payment due by
02/08/01

1 1 DEB2431
00401006A00F

SONICWALL PRO INTERNET SECURITY APPLIANCE

Purchased By: Cust#:0070669973
PAT ENGBRETSON
HUMAN SERVICE AGENCY
123 19TH STREET N.E.
WATERTOWN, SD 57201

FEDERAL TAX I.D. # 134097187

ORIGINAL

If credit is extended to customer, all payments are due net 30 days upon shipment of product. Any amounts not paid when due shall bear interest at the lesser of 1.5 percent per month or the maximum rate permitted by law.
If collection action is necessary, customer agrees to pay all costs of collection (including reasonable legal fees).

PLEASE DETACH HERE AND RETURN BOTTOM STUB WITH PAYMENT
Linux Router Project Diagram
ZoneAlarm™ Pro
The best security just got better.

Whenever your PC is connected to the Internet, your computer is a target for thieves, vandals, and hackers. With new Internet threats appearing daily, why not get the strongest protection possible?

ZoneAlarm™ Pro, the award-winning Internet security solution from Zone Labs, automatically blocks known and unknown Internet threats. For home users, small-business owners and corporate employees working remotely, ZoneAlarm Pro offers the highest level of protection and control.

Download News | Small Business | Enterprise

Millions of users trust their personal computers to Zone Labs, the makers of ZoneAlarm: Comprehensive, customizable settings let you tailor security controls to your exact needs. And with version 2.6, ZoneAlarm Pro is easier to use. A new getting-started tutorial clearly explains security alerts and controls. Each alert provides more details about Internet threats and offers expert advice. Online help is easier to navigate and includes enhanced guidance.

Whether you're a new or advanced computer user, ZoneAlarm Pro 2.6 gives you the exact protection - and peace of mind - you need. ZoneAlarm Pro - security you can trust.

- ZoneAlarm Pro is compatible with Windows 95/98/Me/NT/2000
- Click here to read the ZoneAlarm Pro End-User License Agreement