

Progress Report

Oregon Health Network

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Technical Plan for OHN

Ed Parker, President, Parker Telecommunications; OHN Technology Committee Co-Chair,

Prior to OHN, health facilities had two basic choices for data network connectivity. They could lease dedicated lines between pairs of locations or they could use the public Internet. Leased line solutions for data are similar to the earliest days of voice - telephony before the advent of central office telephone switches, when conversations were possible only between two points on the opposite ends of a line. Once central office switches were introduced, customers needed only one line to the central office and could be connected from there to any other customer; without being required to arrange for lines to any other location. OHN provides a similar solution for data networking in Oregon by requiring a high quality link from each end user location to a common

data switching location. That single broadband connection then permits reliable connectivity with every other end user location connected to the switch.

This high quality broadband connectivity is quite different from that of the public Internet. Because the Internet is not a single network, but is the result of interconnecting a large number of independent networks throughout the world, no Internet Service Provider (ISP) can control the quality of service except on its own portion of the complex network. Consequently, all ISP contracts are "best efforts" contracts with no guarantees for the amount or quality of data transport provided. Since all of the major Internet connection points on the west coast of the United

States are in California or Washington, almost all Oregon Internet traffic is routed out of state before getting from one Oregon destination to another.

The lack of quality guarantees has made the public Internet unsuitable for real-time medical applications, including telemedicine consults and real-time medical education applications. While there are health facilities using the Internet for some of these applications, complaints persists that lack of quality have limited usage. OHN makes it possible to obtain the economic advantages of Internet-like data transmission and the availability of connections to a vast number of sites, while retaining the quality of service previously available only on dedicated leased lines.

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Ed Parker, photo by Kelly James

Ed Parker is President of Parker Telecommunications, an Oregon consulting business. He serves in a volunteer capacity as co-chair of the Oregon Health Network technology committee. He also served as a volunteer co-chair of the OHN interim executive committee during the initial organization of OHN., prior to establishing and handing over authority to the OHN board of directors.

RFP Update

Cathy Britain, Associate Project Coordinator, OHN

OHN is in final negotiations for its first Funding Commitment Letter. The OHN sustainability plan is approved, and work on the first 466 package is complete. OHN staff has completed the review of the draft letter and has notified USAC that it is ready to move forward.

RFP #1

OHN has received its first Funding Commitment Letter

(FCL). We are preparing connection certification documents (467s) for those vendors ready to begin service. OHN is completing a draft invoicing protocol that will be presented to the vendors and participants of RFP #1 for discussion and refining.

RFP #2

The 465A for RFP #2 and has been posted to the FCC Share-Point site. We hope it will be

turned out for bid next week.

RFP #3

The site list for RFP 3 is now complete, and work has begun to prepare this RFP package for review beginning. As soon as RFP #2 is posted for bid, we will begin the review process for RFP #3 with USAC with a goal of posting it for bid within two weeks after the RFP #2 bidding closes.

RFP #4

We are now accepting LOAs for inclusion in RFP # 4.

FCC Funding Approved

OHN has been approved by the Federal Communications Commission (FCC) to receive up to \$20.2 million in funding reimbursement under the Universal Service Fund to build a comprehensive and robust broadband telehealth network connecting hospitals, clinics and community colleges throughout Oregon.

Initially, the FCC implemented a plan to improve the Rural Health Care Program that helps rural healthcare communities obtain broadband connectivity for reduced costs by issuing a nationwide request for proposal (RFP) for their Rural Health Care Pilot Pro-

gram (RHCPP). Today, the FCC's \$417 million RHCPP supports 66 broadband telehealth projects across the nation that will eventually support more than 6,000 health care providers once the networks are fully implemented. OHN's \$20.2 million portion of this FCC subsidy represents the fifth largest award amount within the initiative.

The FCC subsidy will be paid directly to the network service providers selected through competitive bidding. The subsidy, paid for by the universal services fund, not tax dollars, pays for 85% of all eligible non-recurring

(installation) and recurring (monthly service) costs for OHN participants over the duration of the 5 year program.

The OHN project is among the first in the nation to begin deployment of their broadband network under the FCC's Rural Health Care Pilot Program. To date, seven other telehealth projects eligible to receive USF funding reimbursement under the FCC's Rural Health Care Pilot program have begun deploying their broadband networks.

The Robot Doctor Will See You Now

Adrienne Jeffries, reprinted with permission from Oregon Business Magazine; original publish date: May 2009
www.oregonbusiness.com/articles/58-may-2009/1647-the-robot-doctor-will-see-you-now



Photo of the R-7 Courtesy of InTouch Technologies via Oregon Business Magazine

LA GRANDE Grande Ronde Hospital in La Grande is a rural, 25-bed facility with no cardiologist on staff. Two years ago, a heart patient there would have had to drive three hours to Boise. But now patients can get instant, face-to-face appointments with a cardiologist without anyone driving anywhere.

Well, that's not entirely true. The cardiologist has to drive EDGAR ("Educated Doctor-Guided Assisting Robot") from its parking spot in the hallway to the patient's room.

EDGAR is the keystone of Grande Ronde's telemedicine program, which recently won the Outstanding Rural Health Organization of 2009 award from the National Rural Health Association. The robot allows specialists to consult remotely, saving patients the time and money of traveling to a larger hospital. Because of EDGAR, tiny Grande Ronde, which sees only 15 or 16 patients a day, has 16 staff members with special ICU training who beam in from St. Louis, Mo. Recently, the hospital hosted a distance-learning class on stroke care, avoiding travel costs for 30 nurses. The hospital plans to add remote dermatologists, a 24-hour pharmacy, and three-way consultation capability.

Meaghan McCamman, an NRHA manager, says rural hospitals face challenges such as

recruiting and retaining qualified health-care workers. Their low patient volume and higher poverty populations also mean they have a much lower margin than urban hospitals.

Telemedicine addresses those issues, says Doug Romer, executive director of patient care services at Grande Ronde. Telemedicine attracts young health-care workers because it exposes them to expertise not usually found in rural hospitals, and it allows the hospital to recoup some costs by keeping patients on the ward.

The \$45,000 wireless network necessary to make EDGAR work was paid for by St. Alphonsus Regional Medical Center in Boise. St. Alphonsus is the hub for remotely connected doctors and nurses at rural hospitals in Oregon and Idaho.

That money was a federal grant, so next year Grande Ronde will have to take on the approximately \$4,500 it takes to run the program each month. But there's no debate about whether to keep EDGAR, Romer says.

"Our board of trustees has recognized that technology is the future," he says. "If we can provide the care without having to travel, that's what we want to do."

Technical Plan; continued

The OHN technical plan is simple: OHN arranges for its participants to contract with telecommunications vendors to provide a guaranteed amount of reliable data capacity from their location to an Oregon data switching facility in Portland, the Northwest Access Exchange (NWAX). NWAX permits each end user site to connect with many other sites throughout Oregon, including all OHN participant sites. Thus, one connection from a clinic would be sufficient for it to reach any medical facility in Oregon with high quality service. Even though different telecommunications vendors provide service to different facilities in different parts of the state, the guaranteed availability and quality of service on each link to the central switch is sufficient to ensure that the connection between any two locations will permit reliable real-time medical consultations and procedures.

The OHN Network Operations Center (NOC) monitors the network to ensure that each telecommunications vendor meets the contractually committed quality of service on its portion of the network. OHN participants may contact the NOC for help whenever they have techni-

cal network problems. NOC staff will work with the telecom vendors to identify and resolve any problems.

The OHN technical plan also includes regional exchanges in Medford and in Redmond. These regional exchanges will interconnect OHN traffic in their respective regions so that data traffic between two points in the region can be connected locally, without having to be transported to Portland and back. This is quite different from Internet connections, which largely occur out of state, even when the two parties being connected are in the same community.

The connections at the OHN exchanges in Portland, Medford and Redmond are not restricted to OHN-only traffic. The value of any network increases with the number of sites that can be reached through the network. Connections at OHN exchanges can be to any point on the public Internet in addition to OHN sites, even though quality service cannot be guaranteed on the public Internet portion of the link.

... one connection from a clinic would be sufficient for it to reach any medical facility in Oregon with high quality service ... [that] will permit reliable real-time medical consultations and procedures.

This broad connectivity will permit medical facilities to use remote patient home monitoring devices and applications, will permit physicians to make emergency consults from their homes after hours, permit connections to other Oregon government and education networks, and permit connections to other sites anywhere in the

world. The latter feature is of critical importance to rural hospitals that use a service called "Night Hawk" to have radiologists elsewhere in the world, Australia for example, review digital radiology images during the Oregon night shift when no radiologists are available locally. The "Night Hawk" service is just one of endless possibilities and opportunities enabled through OHN.

Support OHN

VOLUNTEERS

Outside of the support of two staff employees (Executive Director Kim Lamb and Associate Project Coordinator Cathy Britain), OHN operates entirely through a highly committed volunteer board of directors and committee structure. And these committees need help!

There are five core committees. These are Finance, Marketing, Technology, Development/Grant Writing, Applications and Industry Council. All are in need of support and niche experience. We continue to look for committed professionals and volunteers to help us

achieve our aggressive 12-18 month goals and objectives. The more talent we have, the better we are able to distribute the workload. OHN strives to deliver the highest quality of work and make the volunteer experience as rewarding as possible.

If you would like to be a part of building the next generation of Internet to support and improve healthcare delivery, access and education for all Oregonians, please contact OHN Executive Director Kim Lamb or any of our committee chairs for more information (contact information below).

DONATIONS: Operations

The FCC RHCPP funds only subsidize 85% of the costs associated with the network installation and monthly recurring charges for the duration of the program. No funds are provided for administrative or organizational operations expenses. If you have the interest or influence to make a contribution to support the core operations of OHN, please contact OHN Executive Director Kim Lamb.

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