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## Library system dumps MPLS with cheaper DSL, cable services

Sno-Isle, Wash., library system expects to save \$400,000 this year

BY TIM GREENE

The Sno-Isle, Wash., public library system expects to save \$400,000 this year by yanking its MPLS network and replacing it with multiple, less expensive broadband connections that include consumer DSL, cable service and even dark fiber.

For a system whose entire IT operating budget is \$16.6 million, that's a significant savings, says John Mulhall, information technology manager for the libraries, and the upgrades required should pay for themselves within six months.

The biggest concern was that the library's Avaya VoIP gear used for site-to-site phone calls would suffer from Internet-based cable and DSL connections that offer no quality of service guarantees, Mulhall says. "It's scary to rely on those kinds of circuits," he says.

The network also supports library business, including customer transactions, e-mail and general Internet access.

That potential problem of going to less expensive is being handled by WAN gear from Talari Networks which aggregates and multiplexes multiple inexpensive connections to provide a reliable WAN that performs better than any of the individual services. So each site has multiple, inexpensive WAN connections, and the Talari boxes pick the best performing route possible between each site.

While any individual connection may be less reliable and perform worse than MPLS, when all the connections are used in aggregate, they result in a WAN that can be more reliable, the company says.

The shift from MPLS to less expensive alternatives drops the average monthly WAN cost per site from \$3,000 to less than \$200, Mulhall says. The library is paying \$127,000 for the Talari equipment that will be deployed at 13 of the library's 22 branches. The rest will be connected via dark fiber.

That means decommissioning the MPLS service, but also means having to deal with multiple cable and DSL providers to come up with the new circuits, he says.

The new network replaces a very reliable MPLS network from Frontier Communications that supports four levels of QoS for

applications including VoIP, the book check-out system, e-mail and general Internet access. Tests of the less expensive links indicate they can handle the load. "There are no differences of concern between MPLS and 50M bps Comcast [cable connection]," he says.

There is an upside to the new WAN, he says. The MPLS links were T-1s and traffic couldn't burst above that. The new connections support more bandwidth, which means high-traffic chores like data backup can be done much more quickly.

"The downside is that makes the network more complex," he says, with more vendors involved and more individual circuits to manage. "But it's definitely worth it."

The Talari gear, part of its Mercury product line, is placed at both ends of Internet connections and directs WAN traffic to the most appropriate WAN links available. So if a site is connected to two ISPs, the gear monitors latency, packet loss and jitter on each link and assigns each packet to the connections that meet policies set for applications of that type.

Mercury devices come in different sizes ranging in price from \$4,000 to \$50,000. A new device — Mercury T750 — is being introduced this week for \$22,000 that supports eight WAN links and is intended for organizations with less than 25 sites, Talari says.

The technology encapsulates packets with sequence tags and timestamps, and if packets are lost resends them, it reassembles the flow in the correct order at the receiving end. The receiving machine will perceive this as a link suffering periods of jitter, but not loss, the company says.

If loss over the link exceeds policies, the devices choose a better link. They can also send traffic over more than one path if there is no single one that meets performance policies, insuring that all the packets arrive on time. The receiving machine sorts out duplicate packets. This feature is useful for real-time applications like VoIP that can suffer from excessive packet loss, the company says.

Mulhall says the Sno-Isle libraries have tried WAN acceleration gear from Riverbed in an attempt to reduce the amount of traffic crossing the WAN in hopes of also reducing the need for, and so the cost of, WAN bandwidth. "And it works," he says of the devices, "but not enough to cut costs significantly." n

