University of Utah Health Sciences: No SAN Is An Island

While the University of Utah Health Sciences — combining excellence in education, research and clinical care — grew from a single entity into a multi-faceted medical complex, the facility's IT department cobbled together a rapidly expanding standalone server configuration. Not content with their inefficient Storage Area Network (SAN), University computer officials developed a shared storage environment that relies on the cost-effectiveness and scalability of QLogic's SANbox2™-64 Modular Fabric Switch technology.

Prior to the current installation, University IT Director Mark Beekhuizen said he had grown increasingly dismayed as he processed urgent server requests from the University's 10 medical branches, especially those requests that resulted in isolated IBM mainframe clusters. The behemoth configurations were expensive, difficult to manage and failed to create a system in which the University's 5,000 end-users, scattered throughout the 200-square-mile Salt Lake Valley, could share vital information.

"Our goal was to reduce SAN complexity — that's why we decided to partner with QLogic," said Beekhuizen, adding that, prior to installing QLogic's modular 64-port technology, his other alternative was to put into place a costly 6-switch mesh to join various servers. "Adding several additional switches would have made the configuration way too complicated. We wanted to abandon storage subsystems and grow our data efficiently in one place, not in 100 places. We've been able to accomplish this by using QLogic's SANbox2-64s, which means that we only need two switches to create a highly available, redundant fabric."

Indeed, the cost-effective SANbox2-64 was designed to meet the needs of expanding enterprise networks such as University of Health Sciences. “Traditional options for this environment have been meshes of edge switches and Directors,” said Lyle Brustad, QLogic Product Manager. “The SANbox2-64 takes the best features of both: high port count, modularity, scalability and ease of use, and puts them into one, low-cost switch.”

Although the SANbox2 modularity is innovative, the essence of the technology is tried and true. “The new SANbox2-64 is not completely new architecture and need not be feared,” says Consonus Reseller Dave Brown, who assisted the hospital in implementing its SAN. “It’s the same ASIC used in QLogic’s SANbox2-8 and SANbox2-16, just more of them are arranged in a non-blocking crossbar switch matrix.”

SANbox2-64: Now And Into the Future

With an annual budget of almost $70 million, privately held University of Utah Health Sciences — serving more than 5 million people in Utah, Idaho, Nevada, Wyoming, Montana and New Mexico — created a SAN that utilizes three HDS 9200 disk arrays and two QLogic SANbox2 64 port switches. Applications include Novell GroupWise, Novell NetWare Directory Services, Sun Solaris/Oracle databases and Win 200/Active Directory. The university added shared storage to the large installed base of NetWare servers.

Working closely with Consonus and QLogic engineers, Beekhuizen put together a solution that offers a price-per-performance ratio that is unmatched in other high port-count environments. Indeed, by planning for the future and building their SAN backbone around the SANbox2-64, the hospital was able to save 20 percent on a per-port basis, as well as have future growth capability to a full 64 ports per switch. They also had the benefit of having a common management software GUI to manage both the QLogic Fibre

Channel HBA and QLogic SANbox2-64. This was much more useful and user friendly than some of the other FC switch and HBA vendors' GUIs they've used in the past.

In addition to immediate cost-savings, the University's approach is more expandable than fixed switch solutions — the 8-slot chassis modular architecture makes the SANbox2-64 easy to deploy and scale to 64 ports.

Less than 60 days after initial installation, Beekhuizen's team had already filled a third of the ports, and work had just begun. "We have servers waiting in line to connect up to three-quarters of the ports during the next several months," he said, adding that the University will most certainly require port scalability for his long-term goal of installing a remote mirroring site 20 miles from the University's IT center. "The great thing is that we have room to grow, which is exactly why we went after QLogic's 64-port switch."

Brown is extremely satisfied with the installation. "This customer was increasing its use of a heterogeneous SAN, expanding at 16-port increments. This was beginning to create an increased management burden even with the QLogic SANsurfer™ management software. Dual 64-port capable chassis-based switches, configured in a highly redundant fabric, allows for online expansion functionality and seamless GUI and management operation with their existing SAN environment."

In the meantime, Beekhuizen's staff is enthusiastic about QLogic's total software solution — which enables zoning, trunking and performance monitoring — that is packaged with the SANbox2-64. "There hasn't been one, single bump in the road," said Beekhuizen. "The QLogic switch has worked exactly as it was advertised."

Case Study Summary:

Problem: Deploying numerous servers that lacked simple, cost-effective connectivity

Solution: Two SANbox2-64 switches

Result: A single SAN that allows 5,000 clients to access information.

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— University of Utah IT Director Mark Beekhuizen