

HP storage technologies give Pekin Hospital a shot of relief



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Business need:

Pekin Hospital is a 125-bed medical center serving central Illinois. The hospital's mission is to be the healthcare provider of choice in the communities it serves. When Pekin's long-time hospital information system (HIS) recently reached its "end of life," the hospital faced some critical decisions about its future IT infrastructure. Pekin needed to better utilize stranded disk space and improve storage management in preparation for: the new HIS, a planned picture archival communication system (PACS), voice-over-IP (VOIP) technology, and a disaster-recovery site.

Solution overview:

To continue to achieve its mission, the hospital realized it needed to invest in a more adaptive IT infrastructure. The hospital chose the HP StorageWorks Enterprise Virtual Array 5000 (EVA5000), configured as a storage area network (SAN), as the cornerstone of a new strategy for storage and server management. The SAN solution, with an attached HP StorageWorks MSL5030 tape library, enables Pekin Hospital to consolidate and manage storage resources efficiently, ensure data and application availability, accelerate plans for new applications, and improve data backups.



Making healthy storage choices

When Pekin Hospital learned that the HIS it had been using since 1985 was being phased out within a year or two, it was not exactly good news for the financially strained hospital. However, during the search for a storage infrastructure to support the new HIS migration, a silver lining emerged.

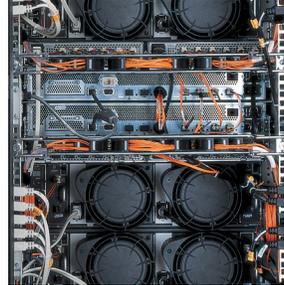
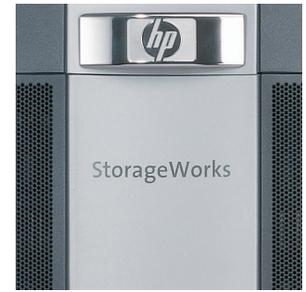
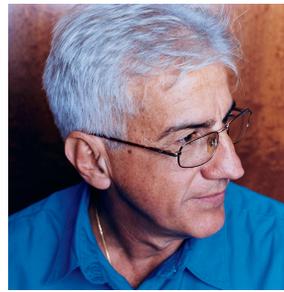
"The original HIS configuration proposal called for an environment using tape drives and direct-attached storage," notes Pekin Hospital's Information Technology Director Bohnne Jones. "However, we asked our HP account team to see what other storage resources we could use to support the new HIS system."

HP's sales team, assisted by a SAN design specialist from Border River LLC, recommended an HP StorageWorks solution, which included an EVA5000, redundant 2-Gbit Fibre channel SAN Switches 2/16 EL, and an MSL5030 tape library equipped with two LTO Ultrium tape drives and 30 tape slots.

"The SAN recommendation from our HP team made great sense," Jones comments. "In fact, it actually helped us formulate and advance our plans for future applications and data security. The flexibility and virtualization capabilities of the HP StorageWorks EVA5000 help maximize our storage investment by consolidating our storage assets for the hospital's critical applications."

The virtualization technology of the EVA5000 simplifies storage management by allowing the hospital to pool storage, and then allocate exact amounts of capacity for any application. In addition, users can add or subtract disk drives without experiencing downtime or worrying about how the change will affect business.





SAN remedies migration uncertainty

HP Services helped Pekin qualify its McKesson Paragon HIS solution on the EVA5000 storage array. Says Jones, "HP is wonderful about tailoring coverage to meet our needs."

The HIS runs on HP ProLiant servers (seven model DL380s and one DL580) under the Microsoft Windows 2000 operating system. "Our choice of the HP StorageWorks EVA5000 SAN raised my comfort level tremendously about moving to the Microsoft Windows operating system," Jones explains. "HP's strategy for an adaptive storage infrastructure ensures high availability and data integrity."

The HP StorageWorks EVA5000, in combination with HP StorageWorks Secure Path software, provides high availability by monitoring data paths continuously and eliminating single points of failure. That's important since the Paragon HIS solution includes modules for radiology registration, patient financials, general accounting, materials management, accounts payable, nursing order management, fixed assets, claims administrator, and resource scheduling. The hospital also uses the SAN to support McKesson Meds Manager for pharmacy management, and will implement Paragon clinical assessments and laboratory in mid-2004.

"The HP StorageWorks EVA5000 SAN also supports our plans for many other key solutions, including PACS for radiological image management, disaster-recovery planning, and VOIP," notes Jones. "The Cisco VOIP solution we are considering uses the same HP ProLiant DL380 servers implemented as our standard. We anticipate that over time the HP SAN will save us millions in leased storage and other storage-related expenses."

According to Jones, the hospital saves money every time the IT staff connects a new server or application to the storage system: "The HP SAN allows us to budget for a

more precise amount of disk space based on experience and projected application and data growth. Before, we were guessing and using our storage inefficiently. Now we have an efficient storage environment that can easily meet any storage need that arises. By allocating and managing storage from a central location, we no longer worry about individual servers and disk drives."

Positive side effect: lower TCO

Jones and her staff will soon implement Microsoft Exchange Server 2003 Enterprise Edition on an HP ProLiant DL380 server, using the EVA5000 SAN as the storage resource. "We are standardizing on HP ProLiant servers to lower our total cost of ownership (TCO) significantly," Jones states. "It also improves our people resources because we don't require extra staff with unique specialties. Our history with HP, in particular, has been fantastic. We enjoy excellent products and excellent service."

The HP Adaptive Enterprise strategy enables customers to plan ahead and meet challenges with a flexible, available IT environment. "Because of the investment we have made in the HP StorageWorks EVA5000, we now have a storage architecture that will lower our application implementation costs continuously over time," Jones explains. "This approach allows us to develop a more aggressive business strategy. We can afford to implement new systems sooner."

Disaster-recovery planning opportunity

According to Jones, the HP StorageWorks EVA5000 also enables the hospital to actively enhance disaster resilience and ensure new options for business continuity. "We are budgeting for a second HP SAN, which we would locate off-site or in a remote data center for disaster-recovery purposes. Our CFO is very interested in this approach," Jones notes. "The hospital would replicate production data and applications between the two HP

EVA5000 systems using HP StorageWorks Continuous Access EVA software. This will enable us to provide constant operations should an event adversely affect our primary production environment."

In addition to meeting the hospital's business continuity goals, notes Jones, a data replication strategy using the EVA5000 will help satisfy the requirements of the Health Insurance Portability and Accountability Act (HIPAA).

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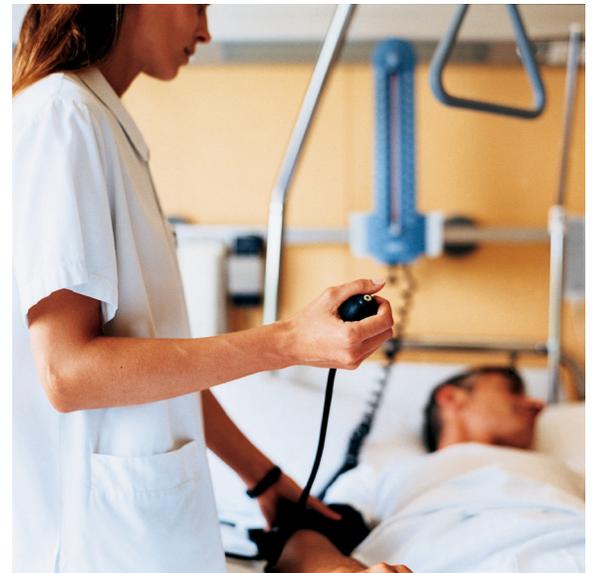
"Based on government regulations, our disaster recovery and backup strategies must ensure accessibility to patient electronic records," Jones acknowledges. "By establishing a redundant backup environment using HP SAN technologies, we greatly improve our compliance for data availability under HIPAA regulations."

Meanwhile, the hospital's IT staff uses an automated HP StorageWorks MSL5030 tape library with LTO Ultrium tape drives to decrease backup schedules by 50 percent, eliminate overtime, and protect vital records. The HP MSL5030 library provides up to 30 slots in a 5U space with a 3 TB native capacity. The library can scale up to 8 units and 16 drives.

"I love our HP storage systems," emphasizes Jones. "Of all the changes we have made, I'm most proud of our new storage strategy. I often show off the HP StorageWorks EVA5000. It allows us to optimize our key storage resources, better plan for growth and changes, and move ahead in a positive direction."

Organizational profile:

Serving central Illinois, Pekin Hospital (www.pekinhospital.org) is a 125-bed medical center with 614 full-time and part-time employees – including 170 physicians covering more than 26 medical specialties. Located 20 minutes south of Peoria, the hospital's inpatient services include The Baby Place, with neonatology and midwifery services; a 31-bed medical unit, an 8-bed critical care unit, a new 17-bed surgical unit, and 19-bed intensive care unit; and a 27-bed skilled nursing facility. The recently opened Women's Diagnostic Center offers mammography, sonography, and DEXA bone density scanning. The hospital's ER ranks in the 99th percentile for patient satisfaction.



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Challenge

- Implement a storage infrastructure to meet current and planned application needs – within a limited budget – and to provide for phased storage growth
- Reduce labor costs for scheduled backups, particularly over weekends
- Eliminate redundant hardware and software from new hospital information system implementation
- Recover stranded disk space from servers with direct-attached storage and improve overall storage utilization

Solution

Hardware

- HP StorageWorks Enterprise Virtual Array 5000 (EVA5000)
- HP StorageWorks MSL5030 tape library
- HP StorageWorks LTO Ultrium tape drives
- HP StorageWorks SAN Switch 2/16 EL (2-Gbit)
- HP OpenView Storage Management Appliance
- 18 HP ProLiant DL380 servers
- HP ProLiant DL580 server

Software

- HP StorageWorks Secure Path
- HP StorageWorks Command View EVA
- HP StorageWorks HSV Element Manager
- HP OpenView Storage Management Appliance software
- Microsoft Windows 2000 operating system
- Microsoft SQL Server
- Microsoft Exchange Server 2003 Enterprise Edition
- McKesson Paragon Hospital Information System

HP Services

- SAN implementation services
- On-going Silver support for the SAN and customized service for servers

Results

- Projected to save almost a million dollars in storage and other expenses associated with planned PACS, VOIP, and other critical applications
- Enables hospital to plan ahead for new applications, disaster recovery, and dynamic changes
- Saves approximately \$3,000 in annual labor costs due to backup automation with SAN and tape library
- Saves employees from having to interrupt their weekends to come into the hospital and change tapes, greatly improving morale
- Enables savings of approximately \$1,500 per new server because the HP StorageWorks EVA5000-based SAN handles main storage and data backups
- Reduces backup time by half and eliminates overtime costs
- Improves HIPAA compliance

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