City of Fontana elects HP storage virtualization solutions as part of winning IT platform

change ✚ hp

"The HP StorageWorks Enterprise Virtual Array 5000 gives us more bang for our buck by providing the virtualization capabilities we needed most. We can allocate resources across applications to meet the changing demands of city government."

– Network Administrator Chris Beck, Technology Services, City of Fontana, California

Business need:
Based in southern California, The City of Fontana is committed to innovation, and its small information technology (IT) staff is determined to help city employees work more productively. In early 2003, the City's IT staff began seeking a centralized storage solution with virtualization capabilities to standardize and support a new enterprise resource planning (ERP) system. Goals for the solution: improved storage utilization, reduced management complexity, and support for future growth.

Solution overview:
HP Services deployed a storage area network (SAN) based on the HP StorageWorks Enterprise Virtual Array 5000 (EVA5000), which is attached to 18 HP ProLiant servers and an HP StorageWorks MSL5060SL tape library. The HP virtualization solution enables Fontana's IT staff to balance IT supply with demand by pooling and sharing resources across applications and processes. Fontana uses both HP StorageWorks Secure Path and HP OpenView Network Node Manager software to maintain high availability.

Endorsing HP, the storage frontrunner
For an IT-dependent city of 154,789 residents, Fontana has a comparatively small IT staff of just 14. Network Administrator Chris Beck and his colleagues in the city's Technology Services group implement and maintain technology projects for every city department. Therefore, the staff favors solutions that foster IT control and simplify change. "We want technology to help us do our jobs more efficiently," states Beck.

When Fontana migrated its financial and human resources applications to PeopleSoft EnterpriseOne and deployed several new IT systems, the staff also decided to discontinue its use of direct-attached storage (DAS). The traditional DAS approach offered limited scalability, little flexibility, and required a disproportionate amount of management time. Instead, the IT team evaluated storage virtualization solutions on the market.
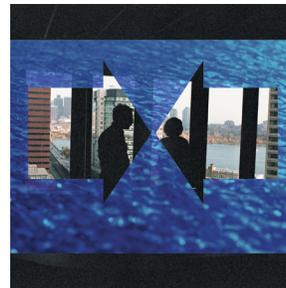
Beck investigated HP SAN solutions at the HP Ontario lab and spoke with several HP customers who improved their business agility using EVA5000 systems. "After comparing high-end storage systems on the market," says Beck, "we determined that the HP StorageWorks Enterprise Virtual Array 5000 would give us more bang for our buck by providing the virtualization capabilities we needed most – along with adaptability, standardization, and manageability."

HP Services designed, installed, and configured the 3.2 TB HP SAN. "We chose to bring in the HP specialists to help us meet our goals within our time constraints," says Beck. "As a result, we enjoyed a fast, worry-free implementation, and I learned how to manage the SAN easily."

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HP storage virtualization: a wellspring for mission-critical support

The EVA5000 enables the Fontana IT staff to partition a virtual storage pool into disk groups and virtualize data across all of the disks in a given disk group. "HP virtualization results in lightning-fast speed, performance, and better utilization of storage," says Beck, "which is absolutely necessary for the various Fontana systems sharing the EVA5000 SAN."

Along with a central database cluster, mission-critical applications sharing the HP SAN include public works, building permitting, utility billing, financial investment record-keeping, and records-management programs. The records-management system runs on a ProLiant ML370 server cluster and provides a repository of scanned paper documents, which city departments and Fontana citizens may access. The city's revenue-generating business-licensing system also runs on the central database cluster.

"System downtime would have a great impact on various city operations," Beck explains. "For example, Fontana could lose money if business licenses are not paid, and the entire city depends on the building permit system. Fortunately, our HP SAN and HP ProLiant servers are steadfastly reliable."

This dependability also extends to the SAN-attached HP tape library, which the staff uses with Veritas NetBackup Data Center to back up data on three servers. "We enjoy quick backups and outstanding capability with our 4-drive, 60-slot HP StorageWorks MSL5060SL tape library," says Beck. "We complete full backups of our HP SAN in just 6 hours, compared to the 12 hours it took us to back up the servers in our direct-attached environment. We're planning to add an HP MSL5030 tape library later this year to further streamline backups."

Staff consensus: simplified storage management a plus

Technology progress can cause headaches for a small municipal IT staff. This was not the case with the HP SAN, according to Beck, because the Web-based, graphical features of the HP OpenView storage management software are simple to use and understand. "Several storage competitors showed us management products with complex menu- and text-based features," Beck recalls. "It's a relief that our HP virtualized storage environment is so simple to operate with Web access to the HP OpenView storage management software. We can manage our SAN remotely, and the OpenView Management Appliance alerts us of any impending problem."

Today, these HP technologies are helping the Fontana IT staff meet the ever-changing storage needs of the ninth fastest growing city in the nation. Storage management no longer presents an ongoing challenge as it did in the past when the staff wanted to set up new storage for an expanding system or new application. Then, the process often required a new server or external array – resulting in downtime and management hassles.

"The HP SAN makes new deployments easier and faster," Beck notes. "Rather than having to roll storage into every single project and worrying about space to put another storage enclosure, we simply allocate storage capacity on the SAN. This saves us time and money in planning and managing our rapidly growing environment. By choosing HP solutions, the City of Fontana can accommodate both its business and growth requirements."

Additionally, Beck acknowledges that the existing IT staff can oversee and manage the extra storage. This is another benefit of making a wise storage decision, because it is extremely difficult for Fontana's IT staff to obtain additional personnel. "One of the nicest things about the HP SAN is there is little management involved,"

Beck comments. "With all of our other tasks, we're grateful not to have something else to worry about. I'm saving at least 60 percent of the time I once spent managing direct-attached storage."

In addition, Beck counts on HP StorageWorks Secure Path multi-pathing software and HP OpenView Network Node Manager to enhance availability. "HP storage software gives us assurance that our SAN is performing at maximum efficiency," he says.

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Advocating standardization to achieve an HP Adaptive Enterprise

Fontana is increasing its agility and implementing HP's Adaptive Enterprise strategy by deploying industry-standard HP ProLiant servers. The City standardizes on ProLiant servers for performance, control, and management ease. "ProLiant servers are extremely reliable and easy to maintain," Beck notes. "This was not the case with a competitor's servers I used to administer."

Attached to the EVA5000 is an all-ProLiant server slate running Microsoft Windows environments, including models DL360 G2/G3, DL380 G2, DL560, DL580 G2, ML370 G3. Concludes Beck, "The City of Fontana will keep voting for HP industry-standard architectures, using the same vendor for storage that we trust for servers. Well integrated from end to end, HP solutions have a positive effect on our ability to deploy new systems. HP technology also protects our investment."

About the City of Fontana

Nestled in a mountain-ringed valley in California's San Bernardino County, the City of Fontana (www.fontana.org) boasts a population of 154,789 residents (as of January 1, 2004). Developer and farmer A. B. Miller founded the town-site in the early 1900s to establish Fontana Farms. Over the years, the city transitioned from a farming community to steel production, and is now home to diversified industries and major distribution centers.

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Challenge

- Deploy a centralized, scalable storage solution with virtualization capabilities to support mission-critical applications
- Reduce infrastructure costs, management time, and installation downtime
- Trim data-backup time

Solution

Hardware

- HP StorageWorks Enterprise Virtual Array 5000 (EVA5000)
- HP StorageWorks MSL5060SL tape library with four LTO Ultrium 230 drives
- HP StorageWorks 72 GB 10,000-rpm drives
- 4 HP StorageWorks SAN Switches 2/16 EL
- HP OpenView Storage Management Appliance
- 18 SAN-attached HP ProLiant servers, models DL360 G2/G3, DL380 G2, DL560, DL580 G2, ML370 G3
- 5 HP AlphaServer systems run the Fontana Police Department's dispatch system
- 15 HP Compaq TC1000 tablet PCs

Software

- HP StorageWorks Secure Path
- HP OpenView Network Node Manager
- HP OpenView Storage Management Appliance software
- Microsoft Windows 2000 and 2003
- Microsoft SQL Server 2000 database
- PeopleSoft EnterpriseOne Financial Management and Human Capital Management
- Veritas NetBackup Data Center v. 4.5

HP Services

- SAN implementation
- HP Care Pack Services – silver support

Results

- Accommodates the city's critical applications and business changes by providing storage innovation: centralized, scalable, virtualized capacity
- Reduces the expense of buying separate storage enclosures for future system implementations, thus saving several thousand dollars per server
- Improves allocation and utilization of resources
- Lowers storage-management time by 60 percent
- Reduces data backups by 50 percent
- Ensures high availability and dynamic adjustments without downtime

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