

City of Milpitas Gets SAN Versatility at NAS Cost



The City of Milpitas is frequently referred to as the crossroads of Silicon Valley because it is home to many high-profiled technology companies such as Cisco, Tencor, Adaptec, Maxtor, LSI Logic, and Palm. As reflected in its state-of-the-art city hall, which cost \$38 million to build in 2002, the City of Milpitas is in itself a technologically advanced metropolis that provides digital information services to all of its city departments and residents. The Fibre ring that ties together the city's facilities belies the city's humble origin: Milpitas is a Spanish word meaning "little cornfield." According to Bill Marion, the city's IS Director, "Residents and businesses alike have high expectations for service. For example, we allow people to pay their utility bills on line. We have web streaming of city council and planning commission meetings. We have a web archive where people can actually pull up copies of streaming videos." Other advanced interactive services the city provides include a GIS system that allows people to look for available properties whether it be commercial or residential and a Megan's law map that allows residents to view where registered sex offenders live.

Too Much Data, Not Enough Storage Space

To accommodate the ever-growing technological demands of its population, the City of Milpitas has taken an aggressive approach to acquiring new applications over the last four and a half years. Today, the city boasts powerful and sophisticated applications, such as Cayenta, which is a financial management program designed specifically for government agencies; a geographic information system (GIS) from Intergraph; and a software package called Safari, which manages recreation classes, facility rentals, and sports center memberships. Since the acquisition of these applications, however, the city's IS Department has been faced with a new set of challenges.

While a RAID 5 direct attached storage configuration was sufficient when the city had only a few packaged applications, the scalability limitations of a direct-attached configuration has become increasingly evident as new applications have been added. Initially, the IS Department took some stop-gap measures to address the problem by adding to the direct-attached storage

as they ran out of storage space. Over time, however, this arrangement has proven unwieldy. Marion notes, "As the user files began to grow, it became a constant challenge trying to stay ahead of the curve. Quite often, we found ourselves running around, moving things around, trying to do some creative things, but essentially we were simply running out of space."

Winchester Systems Offers Affordable Solution

While the City of Milpitas initially entertained storage solutions from companies such as EMC, LSI, IBM, and Network Appliance, the price point of many of these systems became prohibitive, especially after the area's high-tech market began to soften. As cost became more of a determining factor in finding a data storage solution, the IS Department began to review alternatives to the "usual suspects." That's when the IS team found Winchester System through a web search.

Initially, the IS team spoke to Winchester Systems about installing a networked attached system (NAS) because the team assumed that going with a storage attached network

(SAN) would require a Fibre Channel switch, which they thought would be too costly, thereby making the cost of the SAN prohibitive. Winchester Systems, however, came up with an attractive solution by showing the city's IS team how FlashDisk OpenSAN could be configured *without* a Fibre Channel switch. The city's Operations Manager, Mike Luu, notes, "When we looked at the SAN solution and Winchester Systems said that we could get it for under \$30K, we were very impressed, so we made further inquiries into the company."

OpenSAN Put to the Test

Speed Increases Tenfold

Luu and the IS Department first tested FlashDisk OpenSAN's speed to see if it lived up to the specs. "With our previous solution where we were using standard SCSI drives, it took us between 30 and 35 minutes to create a 30-gig table space. Now with this OpenSAN solution, we are able to create 30 gigs in about 3 minutes, which is a tenfold increase in speed."

Off Load to SAN Increases Speed of Oracle Application

The team also put its financial application to the test by taking out a

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Mike Luu, Operations Manager

piece and running it on FlashDisk. The payroll processing, which used to take between thirty-five minutes and an hour, now takes under ten minutes with OpenSAN. The IS team attributes the order-of-magnitude increase in speed to the combination of the speed associated with the FlashDisk OpenSAN and the SAN architecture, which off loads the data retrieval process from the server.

Smooth & Painless Installation

The city found the installation process to be smooth and painless: It took the engineers from Winchester Systems less than two hours to install FlashDisk Open SAN. This also included training. Immediately, after the engineers left, Luu and his team broke the system down and reconfigured it - including reallocation of the disk drive - just to make sure they could do it themselves. The system was fully operational the next day.

Scalability, Speed, and Reliability Exceed Expectation

Luu and Marion concur that the FlashDisk OpenSAN from Winchester Systems exceeds their expectations. "The system is monitored independently and sends an email automatically if there are any malfunctions - it has been completely reliable. Speed and scalability are real benefits. We can add another 3 or 4 terabytes without spending money on a new solution - all we'll need to buy are the disks themselves, which is a real plus. FlashDisk Open SAN has what most clients look for in a data storage solution - growth, speed, and reliability."

Future Plans

The City of Milpitas is considering consolidating its financial database and its archives onto the SAN, including a 911 computer aided dispatch system. "We're not there yet, but it's something we're definitely thinking about," says Luu.

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