



CLEARING THE CLUTTER

HP storage area network solution allows Miami-Dade County, Fla., to save money and improve services.

CUSTOMER SNAPSHOT

Agency: Miami-Dade County, Fla.

Mission: Miami-Dade is the eighth-largest county in the nation and the largest county in Florida. The jurisdiction provides essential government services to more than 2 million citizens.

BUSINESS CASE

Requirement: Reduce reliance on paper documents, while providing fast, secure and reliable storage for a huge cache of data.

Solution: Implement a data storage and dissemination solution based on HP SAN and server technology. Miami-Dade deployed HP StorageWorks EVA5000-based disk subsystems; a variety of HP ProLiant servers; and HP Systems Insight Manager software.

Results: The county significantly reduced its use of paper records. The solution provides better data security, faster and easier movement of information and a reduction in overall operating costs. Distributing technological assets also aids in disaster recovery.



Enterprise Storage Solution

Miami-Dade County deployed HP storage area network technology to eliminate stacks of paper documents. HP offers a complete line of enterprise storage solutions.

HP StorageWorks Modular Smart Array 1000

part no. 201723-B22



- Entry-level disk array with unique Direct Attach to SAN (DtS) functionality. DtS is a quick and easy way to migrate stored data from an HP ProLiant server to an MSA 1000
- Base holds up to 14 one-inch universal disk drives in single 4U rack-mount cabinet
- Supports Windows® 2000 and NT, NetWare®, Linux® or alternately supports Tru64 UNIX® and OpenVMS operating systems
- Easily expanded to 6 TB using forty-two 146 GB hard drives in 10U of rack space
- Allows internal installation of optional MSA 6 or eight-port switches or the MSA hub 2/3
- Hot-plug expansion and replacement support
- Remote management capabilities
- Supports the highest level of fault tolerance (RAID ADG)
- Add \$1,527 for three-year, 24x7 four-hour response, 25% off good through October 2004
part no. 402164-002

\$7,595

\$258/mo. ITFlex price

HP OpenView Storage Data Protector

part no. B6953AA

- Drive extensions for SAN and NAS

\$4,200



EXCHANGE/SALE PROGRAM

Trade any product, any brand and any quantity. HP Exchange/Sale program complies with the GSA Federal Property Management Regulations (FMR) 102-39 for all federal, state and local, and educational organizations.

This program reduces the cost of obtaining new HP technology through the use of market-funded trade-in values. An alternative to the traditional Excess/Surplus methodology, it provides a trade-in solution for those with data security or asset management requirements tied to the decommissioning of excess or older IT assets.

Learn more about HP Exchange/Sale at

www.hp.com/go/exchangesale

For the latest contract and pricing information, see www.hp.com/go/govcatalog or call 888/887-2081.

In a county of more than 2 million people — one that's experienced a 20 percent population increase since 1990 — there's bound to be a lot of paperwork.

Indeed, officials in Florida's Miami-Dade County have grappled with expansive growth and expanding services — a combination that seems to breed spontaneous regeneration of forms and files — for many years now.

Like most governments, Miami-Dade stores a bounty of data. Birth and death certificates, building plans, court records, traffic tickets, permits and registrations, and many other documents fill scores of filing cabinets in public facilities across the nation.

But with the help of HP technology, Miami-Dade County took hold of the paper tiger's tail and is quickly bringing the costly beast to submission.

"We had explosive growth in our storage area," said Bob Ashby, systems support manager for the Enterprise Technology Services Department (ETSD) in Miami-Dade. "Our old mainframe system couldn't handle what we needed it to do."

Miami-Dade needed a way to store millions of pieces of data, and the ability to move that information from place to place quickly, easily and securely.

SAN-tastic Help

Meeting those demands became relatively simple with deployment of HP Storage Area Network (SAN) solutions.

HP value added reseller, Computer Systems Support Inc. (CSS), of Miami, Fla., provided long-term support to the county's IT team, and aided Ashby in designing an HP storage solution that could be deployed incrementally over a long period.

"The modularity of the HP storage solution allowed us to build on a design over several years," explained Steve Cavendish,

HP StorageWorks MSL6030

part no. 330731-B22
media part no. C7972A



- Maximizes throughput of your Ultrium 460 tape drives
- Multiunit stacking supports Fibre Channel or LVDS
- Provides consistent backup and automatically changes tapes
- User-friendly GUI makes management easy
- 5U and 10U modules offer the highest storage density in their class
- Drives can be upgraded as technology progresses
- Work with industry-leading servers, operating systems and backup software

\$14,184

\$482/mo. ITFlex price

president of CSS. "Being able to grow incrementally enabled the county to meet budget allocations and stay within the overall vision of a multisite storage area network."

Miami-Dade implemented seven HP StorageWorks Enterprise Virtual Array (EVA) 5000-based disk subsystems to eliminate stacks of paper documents spread across the county and to consolidate other data storage needs. The change made county operations more efficient, effective and accurate. It also saved money by reducing staff hours spent dealing with paper files and decreasing the amount of space needed to store the documents.

Further, the EVA5000 virtualization technology allows county officials to recapture unused application storage space.

"The EVA technology greatly simplifies the deployment and redeployment of their storage assets. Stranded storage is a thing of the past," Cavendish explained.

The county's seven HP EVA5000 products hold 72 terabytes of data vital to daily operations. The county's data storage and dissemination solution includes a variety



“SO MANY AGENCIES ARE FACING THE SAME STRESSES. IT’S A PRESSURE TO DO MORE WITH LESS — THAT’S WHY THE CAPABILITIES OF THIS DISTRIBUTED SAN SYSTEM ARE EXCITING.”

— BOB ASHBY, SYSTEMS SUPPORT MANAGER, ENTERPRISE TECHNOLOGY SERVICES DEPARTMENT, MIAMI-DADE, FLA.

of HP ProLiant servers, along with HP management software. This solution also offers heterogeneous support for non-HP servers.

The HP solution stores everything from property maps to parking tickets, and they represent a tremendous leap in storage capacity for Miami-Dade. “We went from less than a terabyte of data storage capability to storing 72 terabytes of information distributed around the county,” said Ashby.

The solution saves the county millions of dollars each year. For instance, the Miami-Dade Clerk of Courts was overrun with paperwork — dealing with more than 760,000 traffic cases each year. The HP SAN is now an important component of the clerk’s Simultaneous Paperless Image Retrieval Information Technology (SPIRIT) system, which officials estimate saved more than \$1 million in reduced staff-hours alone. Better accuracy, less redundancy and

reduced paperwork also produced hard-dollar savings and other benefits.

In addition, the clerk of the courts freed up nearly 3,500 square feet of space that formerly housed paper traffic files — the unneeded filing area is being renovated as office space.

“Generally counties have to be good at storing data,” said Ashby. “But you’ve also got to be able to access and distribute that data. Our HP equipment is helping us do that.”

Ashby’s staff uses HP Systems Insight Manager software to manage IT resources. Insight Manager gives Miami-Dade ETSD staff tools to deliver hardware fault, asset and configuration management for all of their HP systems.

Futuristic Fiber Ring

As someone in charge of large-scale data storage, Ashby counts himself among the lucky. Not long ago, Miami-Dade County officials deployed dense wavelength division multiplexing (DWDM) technology on a fiber-optic ring throughout the county.

DWDM increases bandwidth over existing fiber-optic backbones by allowing data from different sources to be transported simultaneously on a single fiber, using different light wavelengths. In effect, DWDM transforms one fiber into many virtual fibers, greatly expanding network carrying capacity and speed.

“We’re very lucky county leaders had the insight to install the DWDM fiber ring

around the county,” said Ashby. “We have the ability to transmit and back up large amounts of data very quickly.”

The DWDM fiber-optic network allowed Ashby to integrate five of the county’s individual EVA5000-based SAN systems located around Miami-Dade into one large SAN used throughout the metropolitan area — no small task for the eighth-largest county in the country.

Placing the EVA5000-based disk subsystems in different locations allows large amounts of data to be backed up quickly, and distributing storage among several locations helps stabilize the county’s total data storage capabilities by ensuring that a natural or other disaster in one location cannot bring down the entire system.

“So many agencies are facing the same stresses,” said Ashby. “It’s a pressure to do more with less — that’s why the capabilities of this distributed SAN system are exciting.”

Cavendish credits HP’s “flexible, scalable and easily deployable” products with relieving those pressures by allowing the county to build its storage solution over a long period of time, as budget allocations allowed.

“HP’s StorageWorks product line has been evolving over a number of years,” Cavendish said. “For us to be able to put in a component five years ago and have it interoperate with what we are doing today offers a great advantage.”

In fact, Miami-Dade County’s technological success has prompted a number of current projects and plans for the future that are also quite exciting.

Instant Information

Now county officials are busy instituting a new 311 call center that will rely on the HP SAN for data storage and file sharing. The 311 system will give citizens a central point to access all county services.

The need for a 311 system became glaringly evident after the Miami-Dade Police Department discovered that non-emergency calls accounted for 80 percent to 90 percent of all 911 calls made in the county

— that's anywhere from 200,000 to 800,000 nonemergency calls each year.

County officials believe the 311 system will greatly lighten the load on 911 operators and save money by replacing more than 1,600 county telephone listings that citizens currently must dial for services. The solution will help Miami-Dade serve citizens better and more cost-effectively.

"Everyone in every department is being pushed to do more with less," explained Ashby. "We want to make citizens happy, because when the citizens are happy, everyone is happy."

Ashby and his staff continuously seek to upgrade services to county employees and citizens. Toward that end, Ashby may move some of Miami-Dade's HP servers to a secure, Worldwide Network Access Point (NAP) located in Miami.

The NAP facility is a highly secure public network exchange where Internet service providers connect with one another in peering arrangements. NAPs are a key component of the Internet backbone because the connections within them determine how Web traffic is routed.

Relocating some of Miami-Dade's IT hardware at the NAP would help safeguard vital county resources and offer businesses, citizens and other governments access to some data that's now available only through the internal Miami-Dade network.

Public records and documents, such as building plans, tax records and GIS maps, could flow more easily in the NAP environment, Ashby believes. "The possibilities, the advantages, the security the NAP offers are really exciting."

Problem Solved

Miami-Dade has built a long-term relationship with HP, Ashby said. "I've worked with HP for many years and have been very happy with their products and support."

HP support has proven especially critical to Miami-Dade operations, he said. Two years ago, the ETSD experienced some unexpected problems that could have

Paperless Office Solution

Miami-Dade County boosted staff productivity by reducing the processing of paper documents. Manageable HP desktop solutions enable cost-effective paperless office strategies.

HP LaserJet 9055mfp

part no. Q3631A

- Print, copy and scan speed: up to 55 ppm
- Duty cycle: 300,000 pages per month
- Built-in duplexer for automatic two-sided printing
- 100 sheet reversing automatic document feeder
- 100 sheet multipurpose tray, two 500 sheet input trays, 1,500 sheet input tray, optional 4,000 sheet high-capacity input tray
- Output options: 100 sheet stapler/stacker equipped with two exit trays, 3,000 sheet multifunction finisher equipped with three exit trays, 2,500 sheet post-insertion kit, hole-punch kit
- 47,500 page toner cartridge
- Choose from simple purchase, pay-per-use imaging and printing or an acquisition package that includes installation, training, full server maintenance, equipment, staff and supplies
- Connectivity: Optional with HP print kit

Price will vary with options chosen.

hindered daily operations. But HP service agents quickly resolved the difficulty.

"All I had to do was call and say, 'Houston we have a problem,'" explained Ashby. "HP really stepped up to the plate. They did everything we hoped and then some. I was very pleased."

Miami-Dade's service contract includes 24/7 support with guaranteed two- to four-hour response time. "We've had outstanding service," said Ashby. "We really feel that HP is representing our best interests."

That's especially important because the best interests of the ETSD translate to the best interests of Miami-Dade County citizens — something Ashby is well aware of.

"We have many goals that include doing more with less," explained Ashby. "But everything we do is really about serving citizens." ▲

HP Compaq dc5000 Small Form Factor

part no. PB138UA#ABA



- Intel® Pentium® 2.8 GHz with HyperThread
 - 512 MB PC3200 DDR memory
 - 80 GB Smart III Ultra ATA/100 hard disk drive (7,200 rpm)
 - 48X/12X/48X max speed CD-RW
 - Add \$125 for CD-RW and DVD combo drive
 - Microsoft® Windows® XP Professional
 - Three-year limited warranty
 - Add \$173 for three-year, 24X7 coverage
- part no. 103849-002

\$859

\$29/mo. ITFlex price

HP S7500

part no. P9008A#ABA



- 17" Carbon/Silver CRT
- 16" viewable image
- Three-year limited warranty

\$135

\$5/mo. ITFlex price

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