Franklin County Municipal Court accelerates reporting 32-fold using Dell servers with Intel Xeon technology and Dell/EMC SAN

- Backup/Recovery/Archiving
- Consolidation
- Power & Cooling
- Virtualization

"We had to make a performance leap, and Dell helped us do it. We also have a much more sustainable architecture for scaling."

Matthew Hanna, Manager, Office of Information Services, Franklin County Municipal Court

Customer Profile

Company:	Franklin County Municipal Court
Industry:	Government
Country:	United States
Employees:	400
Web:	www.fcmcclerk.com

Business Need

Franklin County Municipal Court had outdated IT equipment which slowed down the processing of reports, consumed excess power and floor space, and exposed the court to the risk of downtime with single points of failure.

Solution

The court consolidated and virtualized 26 physical servers onto three Dell™ PowerEdge™ blade servers with Intel® Xeon® processors and implemented a Dell/EMC SAN with Enterprise Flash Drives to accelerate performance. Dell consulting services did the initial assessment and performed HP-UX to Red Hat Linux migration and a database upgrade from Oracle 8*i* to Oracle 10*g*.

Benefits

- 50% reduction in data center footprint
- Projected 40% reduction in power consumption
- 32 times faster reports (15 minutes vs. 8 hours)
- 24 times faster backups (15 to 20 minutes vs. 6 to 8 hours)
- 100% availability since deployment
- 1 hour recovery point objective vs. days previously

To help accelerate the wheels of justice, today's court systems rely upon information technology to manage the docket of cases and ensure that individuals who enter the system are tracked every step of the way—from the jails to the courts. At the Franklin County Municipal Court in Columbus, Ohio, Matthew Hanna is the manager of the Office of Information Services. It is his responsibility to keep systems running at peak performance for 450 users on a daily basis and 500 more occasional users from law enforcement and the city government. In addition, the court provides public access to information through a Web site.

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>
> *Matthew Hanna, Manager, Office of Information Services, Franklin County Municipal Court*

However, old, outmoded technology was making Hanna's job difficult. The court had a refrigerator-sized HP mid-frame running an Oracle 8*i* database. The server ran the court system, an application that tracks offenders through the justice system.

"A lot of people throughout the city need to access the court information that we host," says Hanna. "So we have daily, weekly and monthly reports that retrieve a substantial amount of data and do calculations on that. One quarterly report was taking six to eight hours to run, and it was slowing down operations."

Another issue was the lack of redundancy in the database environment. "This is a 24x7 operation," says Hanna. "We're even here on holidays because the police are working. Since we work directly with the main jail in Columbus, we have to be available all the time. If our system is down, people actually can't go to jail, which definitely presents a public safety issue."

Seeking better performance and redundancy

Hanna had spoken with his Dell representative about replacing some 10-year old Dell servers with new blade servers and replacing an older Dell/EMC CX3-20c with a newer model with faster drives. During the conversation, Hanna mentioned that he had been having some database problems, and the discussion expanded to include replacing the HP mid-frame.

Dell Pre-Sales Design Consultant group from the Storage Excellence Center came to assess the performance, demand and I/O load that the current HP system was handling. Dell returned to the customer with some proposals that included Dell PowerEdge M710 blade servers to replace the HP box and the older Dell machines, an upgrade to a Dell/EMC CX4-240 SAN and a set of services to help the court's IT staff with the migration effort and the setup of the environment.

The project ended up being a total refresh of the Franklin County Municipal Court's IT environment. The court implemented Dell PowerEdge M710 blade servers with Intel Xeon 5500 series processors in two Dell PowerEdge M1000e modular blade enclosures.

Technology at Work

Services
Dell™ Support Services
Hardware
Dell/EMC CX4-240 SAN with Enterprise Flash Drives
Dell PowerEdge™ M710 blade servers with Intel® Xeon® 5500 series processors
Dell PowerEdge M1000e modular blade enclosure
Software
EMC PowerPath software
Oracle 10*g* Database
Oracle Data Guard
Red Hat Enterprise Linux 5.3
VMware vSphere 4

"Improving efficiencies in our technology infrastructure ranks at the top of the list," says Lori M. Tyack, Clerk of Court, Franklin County Municipal Court. "By working with Dell to enhance our server configuration we have realized significant benefit in both cost and process measures."

Faster access to information

According to Hanna, the PowerEdge M710 blades provide the ideal RAM capacity for the court's needs. "A lot of the work we do involves working with the same information multiple times," he says. "When people go to court, their information is generated to prepare the case files for court. The information is then brought up during the hearing. And if it's a traffic ticket, the information is brought up again when people go to pay their ticket. The larger RAM capacity of the Dell PowerEdge M710 blades gives us quicker access to information that we've already generated, since the information can be kept in RAM and the application doesn't have to go back to the disk to retrieve it."

Franklin County Municipal Court upgraded to the Dell/EMC CX4-240 SAN to accommodate Enterprise Flash Drives (EFDs), which provide the performance equivalent of 30 Fibre Channel drives in just one drive.

"We purchased five 73-gigabyte drives," says Hanna. "Together they provide about 200 gigabytes of usable space, and we're using about 160 of it for the Oracle database. I'm very happy with the outcome. The additional cost is small and well worth it."

To reduce license costs, the court migrated from HP-UX to Red Hat Enterprise Linux 5.3 operating system. The court also upgraded the Oracle 8*i* database to Oracle 10*g*.

50% reduction in data center footprint

Currently, Franklin County Municipal Court is in the process of virtualizing all its applications, including its homegrown case management system that was running on the HP server, and its document imaging system, but not the Oracle database. The virtualization software is VMware vSphere 4.

"We started with 26 physical servers," says Hanna. "By consolidating them into a virtual environment, we've ended up with three blades in two enclosures. We went from having four 12-foot racks to two racks for the storage, the servers and networking equipment."

Projected 40% reduction in power and cooling

The data center had two 5,000 cubic foot air conditioning units, one of which is now being used as a standby because the Dell PowerEdge blade servers and the new Dell/EMC SAN generate less heat than the legacy equipment.

"We had a 15-20 percent power savings right off the bat," says Hanna. "Once the whole project is done and we virtualize everything, we're probably looking at a 40 percent power savings."

32-times faster reports

With the speed of the solid state drives in the Dell/EMC CX4-240 SAN, reports that were taking up to eight hours to run now take 15 minutes—32 times faster. "The people who run the reports are able to get a lot more work done now," says Hanna. "They're able to run multiple reports in a day because the response time is so much better."

Another process that has improved dramatically is backing up the database. "It used to take six-to-eight hours to do a full backup," says Hanna. "Now it's down to 15-to-20 minutes, 24 times faster. When we do a full backup, our image is approximately three-to-four terabytes."

Along with faster response times, availability has improved because of the added redundancy provided by the failover environment built into the Dell/EMC SAN with Oracle Data Guard. "We have a standby database running in the background within minutes of the production environment," Hanna says. "Our recovery point objective is one hour, as opposed to days."

In addition to failover, the court also has better power usage. "Previously, we were relying on one power cable, one power source, so it was a single point of failure," says Hanna. "And we did have issues with a cable going bad or a problem with a circuit breaker, and we'd have to shut down the HP machine and run in our training environment. But now with the Dell PowerEdge blade enclosures, we have four different power sources. We are also using EMC PowerPath software to provide networking redundancy."

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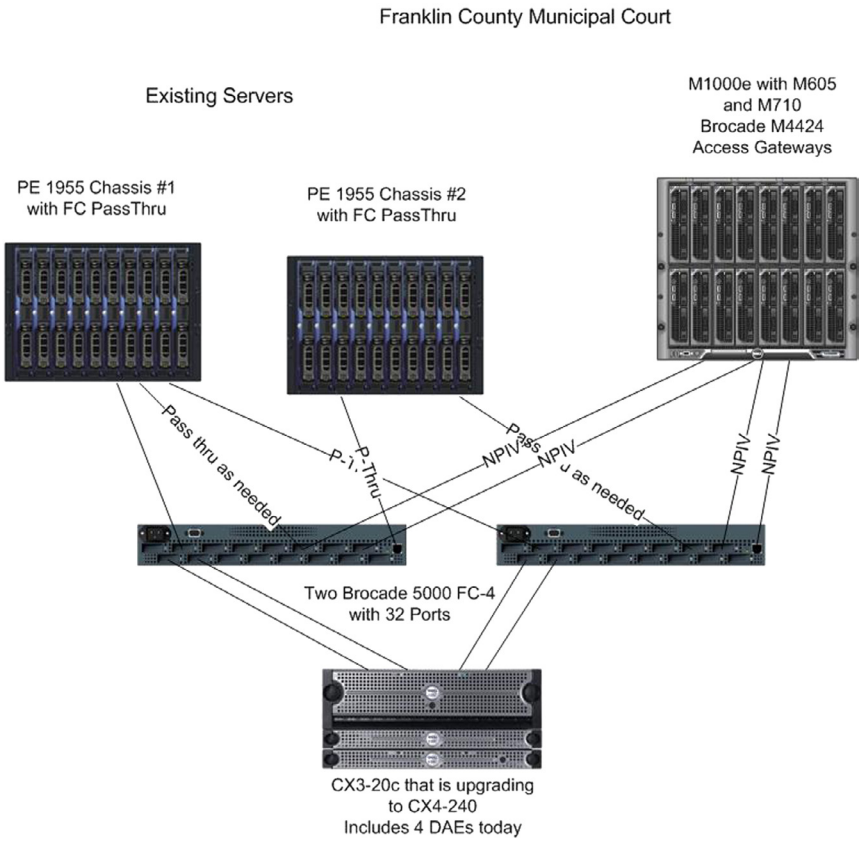
Lori M. Tyack, Clerk of Court, Franklin County Municipal Court

100% availability since deployment

There have been no availability issues since deployment. "We've been up 100 percent," says Hanna. "We're much better protected against downtime and data loss with the Dell/EMC solution. We can failover within minutes."

But the biggest benefits of the technology refresh at Franklin County Municipal Court come from the speed and performance of the EFD disks. "We had to make a performance leap, and Dell helped us do it," says Hanna. "We also have a much more sustainable architecture for scaling. If we need more space in the Dell/EMC SAN, all we have to worry about is buying the disk and setting it up. We won't have to upgrade for several years, and it will be easy to keep our storage infrastructure current to handle our data storage needs."



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