

Chief Pennsylvania Law Enforcement Agency Modernizes Data Center

Pennsylvania Office of Attorney General incorporates cost-effective solutions into data center.

| EXECUTIVE SUMMARY |
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| <p>PENNSYLVANIA OFFICE OF ATTORNEY GENERAL</p> <ul style="list-style-type: none"> State and Local Government Harrisburg, PA 900 employees in 22 field locations |
| <p>BUSINESS CHALLENGE</p> <ul style="list-style-type: none"> Modernize outdated, outmoded data center controlling large network of data related to a host of disciplines Undertake complete overhaul including everything at the desktop levels as well as all core infrastructure components |
| <p>NETWORK SOLUTION</p> <ul style="list-style-type: none"> Implement intelligent network platform, along with NetApp storage solutions and VMWare Establish disaster recovery solution, including backup capabilities to alternate location |
| <p>BUSINESS RESULTS</p> <ul style="list-style-type: none"> Modern, high performance platform, providing end users with capabilities to run applications in a highly efficient manner 30 percent reduction in calls to help desk, resulting in time and salary savings 40 percent reduction in energy consumption, and 33 percent recovery of data center footprint Overall 70 percent ROI and payback in 30 months of initial investment of US\$1.6 million |

Business Challenge

The Pennsylvania Office of Attorney General (OAG) has a proud history as one of the oldest government organizations in America. The OAG is an independent office, serving as the chief law enforcement office in the Commonwealth. In this capacity, the agency performs a broad range of functions, including investigating and prosecuting criminal cases; representing Commonwealth agencies in civil litigation; providing legal reviews of all state agency contracts; investigating, mediating, and prosecuting consumer protection matters; and managing a host of other public protection actions. With nearly 900 employees based in 22 locations, it is an office that must stay competitive with some of the largest, most powerful, and most well-funded law firms in the country.

“We have to compete with suspected criminals and the firms who represent them,” says George White, chief information officer for the Pennsylvania Attorney General’s Office. “Often times, they have access to just as much funding as the law enforcement agencies that are going after them.”

When White came into the office in 2005, he found that the OAG’s IT infrastructure was outdated and outmoded. He discovered that the environment had fallen into disarray, with aging and disparate technologies suffering with respect to performance, reliability, and availability.

“It really left our end users in a position where they didn’t have a great deal of confidence in what their IT systems could do for them,” White says.

White’s Information Technology Section (ITS) inventoried all of the agency’s hardware, software, applications, and the systems they were running at the time as part of an examination of performance and end user statistics. White concluded that a top-to-bottom data modernization was necessary with the goal of saving time and money.



Network Solution

Once the challenge of an outdated, inefficient data center was assessed, ITS embarked on an ambitious plan to completely overhaul its operations. The office began meeting with vendors and evaluated the technologies that each vendor brought to the table. It decided that a wholesale replacement of all of the office's servers, along with replacing all the storage systems and network components, was necessary. The best course of action, says White, was to virtualize the office's data center.

"We selected Cisco for our networking components, we selected NetApp as our storage vendor, and we selected VMWare for our virtualization," White says.

One of the glaring deficiencies ITS found in doing its system review was that the agency had literally no disaster recovery capabilities. There was no mechanism in place to back up critical data for the various areas of the organization should a catastrophic event occur. Also, there was no plan to govern the processes and procedures that an office would need to go through for an orderly recovery. According to White, turning to Cisco helped solve the problem.

"Systems don't go down anymore. They don't crash. I think our end users now have grown to expect that the system is always on, always available, and always performing at a high level."

—George White, Chief Information Officer, Pennsylvania Office of Attorney General

"Along with the implementation of the technologies that we put in place and the overhaul of the data center, we also put in place a parallel system in our State College office, and all of the data that is critical for use by our agents, our attorneys, our management, and our staff is replicated real-time up to State College (PA)," White says. "So in the event of a catastrophic event at our core headquarters in Harrisburg, all of that data would be protected and recoverable in a matter of minutes."

White says that Cisco Capital[®] was involved when the Attorney General's Office decided to lease equipment instead of buying it. Leasing over a four-to-five-year period allowed the office to stay within the initial budget of the agency and to avoid extracting funds from other programs that were protecting the public.

"The leasing approach was great for us in terms of introducing all these technologies into the organization, and doing it in a very fiscally sound and proven way," White says.

Business Results

The OAG has been extremely satisfied with the results from the data center modernization. It now has a high-performing, modern platform that benefits end users with the capabilities that they need to run their critical applications.

When assessing return on investment (ROI), the OAG discovered significant savings in several areas. The office achieved a 30 percent reduction in calls to its help desk because the environment was much more stable, resulting in savings of time and salary. It also achieved productivity enhancements with respect to the ability of the staff to manage the environment. Staff members were not spending as much time on manual activities, because now they were able to automate

several redundant tasks that had taken up a large amount of time in the past. Today, the Attorney General's Office is able to do single mailbox restores should a problem occur. Finally, server setup time went from taking a whole day to only five to ten minutes

"The ability to gain some economy with respect to our server utilization and storage utilization, and doing things in a more efficient manner in that area gained us some considerable savings," says White.

| PRODUCT LIST |
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| <p>Routing and Switching</p> <ul style="list-style-type: none"> • Cisco Nexus 7010 • Cisco Nexus 5020 • Cisco Nexus 1000 • Cisco Catalyst 4900M • Cisco Catalyst 3560 <p>Data Center and Virtualization</p> <ul style="list-style-type: none"> • Cisco vSphere Enterprise Plus with Nexus 1000v • VMWare ThinApp Client • Dell PowerEdge M710 Servers <p>Storage Networking</p> <ul style="list-style-type: none"> • NetApp FAS 6040 Clustered SAN • NetApp FAS 3160 Clustered SAN |

Return on investment was also realized in green savings, according to White. The OAG experienced a 40 percent reduction in energy consumption in the data center. It was also able to reclaim approximately 33 percent of its data center footprint because of the physical consolidation that resulted in some space savings. Overall, the OAG achieved a 70 percent ROI and a payback in 30 months on an initial investment of US\$1.6 million.

"We've had real improvements," White says. "We have not only benefited operationally but also financially from the project...Systems don't go down anymore. They don't crash. I think our end users now have grown to

expect that the system is always on, always available, and always performing at a high level."

Next Steps

Although this modernization revolutionized the data center, the OAG is looking to take its data center to the next level.

"We have just recently completed the procurement of all new storage, an update of our VMWare platform, all-new Dell blade servers, and all new Cisco components," White says. "We are now in the process of putting in a combination of Cisco Nexus 7000, Nexus 5000, and Nexus 1000 series switches. We are also upgrading the NetApp environment, adding more capabilities and more storage, both in our primary site and in our disaster recovery site."

The future looks bright for the Pennsylvania Office of Attorney General. The office has found that investing in a new collaborative infrastructure leads to innovation in many areas. The Cisco network that it will employ in the future is the platform for driving growth, innovation, efficiency, and productivity. Cisco has a history of helping governments build out an intelligent infrastructure as a platform for transforming the services they deliver to citizens. In particular, virtualization and the evolution to cloud computing hold great promise for government agencies such as the Pennsylvania Attorney General's Office. The industry is now in the process of building the next-generation virtualized data center, and Cisco is poised to lead this transformation.

For More Information

To find out more about Cisco's data center solutions, go to:

<http://www.cisco.com/en/US/netsol/ns340/ns394/ns224/index.html>



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