Nonprofit Gains Efficiencies with Secure Virtual Environment

Executive Summary

- **Customer Name:** United Way of Greater Atlanta
- **Industry:** Nonprofit
- **Location:** Atlanta, Georgia
- **Number of Employees:** 300

Challenge
- Consolidate existing data center environment to create more manageable footprint
- Establish scalable solution to meet capacity demands
- Protect virtual environments

Solution
- Cisco Unified Data Center solutions deliver performance, manageability, and virtualization support in compact footprint
- Leverage Deep Security from Trend Micro for security across virtual machines

Results
- Accelerated deployment time for new servers to less than one hour
- Reduced deployment costs by 70 percent
- Improved scalability

Technology Partner
- Trend Micro

United Way of Greater Atlanta leverages automation from Cisco and Trend Micro to establish scalable data center environment.

Challenge

As part of one of the leading nonprofit organizations in the United States, United Way of Greater Atlanta (UWGA) raises approximately US$80 million annually to invest in 140 programs in 13 counties around Atlanta, Georgia. By mobilizing the community, UWGA strives to create positive change and address local challenges affecting education, health, homelessness, and income.

As a nonprofit, the organization is particularly cost conscious and strives for efficiencies that enable the organization to do the most with limited resources. A team of 10 people handle every aspect of IT for the organization, from technical support to engineering. These limited resources made managing the 60 servers in the sprawling server room difficult. The server room was filled to capacity, leaving no room for expansion, and the tight space caused servers to routinely run hot while the high power usage caused brownouts far too often.

"We were spending so much time just maintaining all of these servers that we didn't have the time or manpower to look at bigger optimization and efficiency opportunities," says Orinzal Williams, executive director of IT for United Way of Greater Atlanta. The organization also struggled with how to handle variations in the workload. United Way's largest fundraising drives are held towards the end of the calendar year, meaning that demand on the databases and servers increases significantly during these months.

The UWGA IT team began looking for an integrated data center platform that would provide enterprise-class performance and scalability, but with easy manageability, a compact footprint, and greater energy efficiency. UWGA chose to implement Cisco Unified Computing System™ (UCS®) solutions particularly for their high scalability and proven performance.

> "Deep Security and Cisco UCS work in harmony to help us deploy new virtual servers quickly and secure them immediately for optimum performance and flexibility."
>
> – Orinzal Williams
> Executive Director, IT
> United Way of Greater Atlanta

The organization also took advantage of Cisco support for virtual environments to further enhance flexibility through virtualization with VMware View. By migrating to a virtual environment, UWGA found that its existing security solution placed the organization at risk for antivirus (AV) storms that could overload servers by scanning multiple virtual machines on a single physical host server simultaneously. UWGA selected Deep Security from Trend Micro, a Cisco Compatible product, for its scalability and ability to protect the virtual environment without affecting performance. By combining Deep Security with a virtualized Cisco UCS server environment, UWGA maximized its flexibility and could easily deploy secure virtual machines as needed.

Solution

Although UWGA considered data center solutions from HP and IBM, the organization felt that Cisco UCS B200 Blade Servers provided the necessary performance and flexibility to support growth. Cisco UCS B200 Blade Servers enable 10G Ethernet connections to support fast networks together with Cisco Catalyst® 4500-X Series Switches. The higher performing, compact blade servers have enabled UWGA to significantly cut down on server sprawl, reducing rack space by 30 percent.

With exceptional density, Cisco UCS B200 Blade Servers were developed with virtual environments in mind. VMware View further expands data center capacity with numerous virtual machines on each physical host. Cisco UCS Manager manages both the physical and virtual servers, providing visibility into the virtual environment, automated deployment and monitoring for reduced management load, and most importantly, flexibility to adjust capacity for optimum performance.

Deep Security from Trend Micro delivers a new level of security for UWGA's virtual environment. Many security solutions, particularly in virtual environments, are challenged to balance security with performance and productivity. Rather than running a separate security agent in each virtual machine, Deep Security scans and monitors all virtual servers from one central location on the host server. This capability minimizes performance degradation that can occur when updating security or scanning multiple virtual servers at once. Combined with the load optimization inherent in Cisco UCS, UWGA can consistently run all applications at close to peak performance.

With Cisco UCS as the foundation, UWGA has a much more efficient network that skillfully manages data and traffic across a virtual environment. This improvement enables UWGA to establish a much more robust disaster recovery system. By adjusting loads across virtual servers, UWGA gains the ability to perform constant backups to a secondary disaster recovery data center. The virtual environment effectively eliminates downtime caused by routine maintenance or failures by enabling traffic to smoothly switch to an unaffected server as necessary.

Results

The new data center environment, including virtualized Cisco UCS servers and Deep Security, makes deployment easier and more cost effective than ever. Rather than needing to order and install a new physical server, UWGA can simply deploy a new virtual server on the physical host to instantly increase capacity. Taking advantage of service profiles and templates in Cisco UCS Manager, UWGA can eliminate the complexity of manual configurations for either virtual or, if needed, physical servers.

Product List

Data Center Solutions
- Cisco Unified Computing System (UCS)
- Cisco UCS B200 Blade Servers

Routing and Switching
- Cisco Catalyst 4500-X Series Switches

Network Management
- Cisco Unified Computing System Manager
- VMware vCenter Operations Management Suite
- VMware vCenter Infrastructure Navigator

Security
- Trend Micro Deep Security 9.0

CISCO Compatible

Virtualization
- VMware Horizon View

Storage
- NetApp FAS2240

Applications
- SQL
- Microsoft SharePoint
- IIS
- Exchange

Since implementing the Cisco Unified Data Center solution, UWGA has grown the number of servers that it manages by 90 percent, primarily through virtualization. "We can deploy a new virtual machine in under an hour," says Williams. "This gives us the agility to grow capacity just when we need it, such as during the fundraising campaign season." Eliminating the need to purchase new physical servers has also enabled UWGA to cut typical deployment costs by 70 percent.

Deep Security adds to the agility through automatic security. With other security solutions, even when virtual servers can be added easily, the security application must normally be configured for each server individually. Deep Security compliments the fast deployment of Cisco UCS servers with automatic security that uses centralized security policies to instantly provide security coverage to any new virtual servers.

"Deep Security is incredibly easy with top-class functionality," says Williams. "It's the perfect, automated solution for any organization wanting to eliminate the challenges associated with having to monitor log files all day. Deep Security and Cisco UCS work in harmony to help us deploy new virtual servers quickly and secure them immediately for optimum performance and flexibility."

Virtualization and the compact, efficient Cisco UCS environment give UWGA a smaller footprint that consumes far less heat and power for noticeable cost savings. Eliminating overheating and brownouts also provides UWGA with much higher availability on its networks. "The new environment is much easier to manage, with fewer physical touch points and greater automation," says Williams. "We're now finding even more time to work on optimizing the environment and provide better, more efficient services."

Next Steps

Part of the greater efficiency will come in the form of virtual desktop solutions running off of the Cisco Unified Data Center environment through VMware View. UWGA has already implemented numerous thin clients for temporary staff and remote business, and it plans to expand implementation, eventually replacing all computers with virtual desktops. This step will further reduce maintenance costs by centralizing all security and business applications in the data center.

For More Information

To find out more about Cisco Unified Data Center, please visit: www.cisco.com/go/unifieddatacenter.
To find out more about Cisco UCS, please visit: www.cisco.com/go/ucs.
To find out more about Trend Micro Deep Security, please visit https://marketplace.cisco.com/catalog/companies/trend-micro.

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