Cloud Services Provider Delivers Reliability with Cisco and KEMP

Executive Summary

- **Customer Name:** Peak 10
- **Industry:** Information technology
- **Location:** Charlotte, North Carolina
- **Number of Employees:** 350

Challenge

- Establishing highly scalable computing environment to meet growing demand for cloud services
- Streamlining computing, storage, and network connectivity
- Maximizing application availability

Solution

- Standardized on Cisco Unified Computing System (UCS) solutions for streamlined, flexible virtualized environment
- Used Kemp Technologies LoadMaster Software on Cisco UCS for feature-rich load-balancing services

Results

- Reduced deployment time from over a day to under an hour
- Achieved 24-hour, cloud-based availability for critical applications
- Enhanced scalability and disaster recovery

Technology Partner

- KEMP Technologies

Peak 10 leverages LoadMaster Software on Cisco UCS to maximize availability and performance of unified data center environment.

Challenge

With more than a decade of experience as an IT provider, Peak 10 delivers enterprise-level IT infrastructure solutions to mid-market customers. Clients look to the fully managed, cloud solutions from Peak 10 as a way to gain the performance, availability, and flexibility they need without the expensive investment required to build and manage independent data centers and computing environments.

While many cloud service providers are heavily oriented to environments for testing, development, and Internet-facing applications, Peak 10's environment is designed for production workload and business-critical applications such as enterprise resource planning (ERP) and customer relationship management (CRM) systems that require even higher standards of availability and performance.

As demand for services grew, Peak 10 found that its existing infrastructure could not keep up with demand. The company's multiple cloud clusters were difficult to scale and manage, with labor-intensive cabling and large clusters of disparate rack-mount servers.

"The physical infrastructure associated with cloud became our biggest obstacle to growth," says Ken Seitz, director of product strategy at Peak 10. "We chose the Cisco Unified Computing System (UCS) environment as our new platform for its unified fabric that allows us to scale much more efficiently."

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> — Ken Seitz
> Director of product strategy
> Peak 10

Leveraging the excellent performance and high density of Cisco Unified Computing System™ (UCS®) blade servers, Peak 10 creates a flexible, multitenant environment. Cisco® UCS servers provide superb management that can adjust capacity among virtualized servers, and virtualization provides inherent redundancies to operating system environments. However, a large percentage of the company's customers needed the assurance of guaranteed availability for both planned and unplanned maintenance at the application level.

A leader in the application delivery controller (ADC) space, KEMP Technologies offered the final piece of the puzzle with its innovative solution, LoadMaster Software. Working from within the Cisco Unified Fabric, LoadMaster Software offers load balancing with the highest possible performance and responsiveness. "We pride ourselves on customer relationships, particularly when it comes to helping our customers meet their needs," says Seitz. "The solutions from Cisco and KEMP provide us with incredible value for our customers without breaking their budgets."

Solution

Peak 10 updated its computing environment with 24 Cisco UCS B230 M2 Blade Servers virtualized using VMware. Balancing performance, efficiency, and reliability, Cisco UCS B230 M2 Blade Servers feature enhanced memory capacity and bandwidth designed to support best-in-class virtualized environments. Rather than connecting each server to the network individually, the server chassis requires only two unified fabric connections to support all servers for significantly streamlined cabling.

Cisco UCS 6120XP 20-Port Fabric Interconnects provide 10 Gigabit Ethernet connections, while Cisco Nexus® Switches form Peak 10's network. Cisco Nexus 7000 Series Switches deliver high-density, high-performance core switching, while Cisco Nexus 5000 Series Switches add incredible flexibility with broad support for Gigabit Ethernet, Fibre Channel, and Fibre Channel over Ethernet connections that can connect directly to the EMC storage solutions. For added visibility and management in the virtual environment, Cisco Nexus 1000V Series Switches form the foundation for a virtual network that extends the network directly to the virtual machines.

From compute to network, physical to virtual, all areas of the unified Cisco solution can be managed from Cisco UCS Manager. Policy-based management boosts operational agility and scalability with automation while helping to manage workloads across UCS servers and virtual machines. The most important tool for load balancing across the virtual servers comes from LoadMaster Software. Taking advantage of the unified Cisco data center environment, LoadMaster Software positions the load-balancing solution directly within the fabric.

"Cisco UCS provides customers with huge benefits through a unified, low-latency environment that streamlines communication paths," says Tim Quinn, director of strategic partnerships for KEMP Technologies. "We saw an opportunity to boost efficiency by integrating load balancing directly into the fabric and eliminating the need for a separate application on the network."

Peak 10 offers LoadMaster Software as an optional solution for customers who need extra performance and availability for their applications. Because the network does not need to communicate with an external load-balancing appliance, communication paths and response times can be kept as short as possible. LoadMaster Software enables Peak 10 to monitor traffic and automatically redirect requests to the best available server for faster response times. "LoadMaster Software helps us eliminate milliseconds of latency every time the network is traversed," says Seitz. "While this doesn't sound like much, it adds up over complex transactions to give our customers faster response and a much better experience."

Results

By migrating its virtual data centers to an environment built around Cisco UCS, Peak 10 offers scalability for its customers. Previously, a trained Peak 10 technician added capacity by configuring and cabling a new physical server, a process that took at least a full day, not counting any time needed to order and ship a new server. Now, if new blade servers need to be added, almost anyone can plug a new blade into the chassis and deploy it from Cisco UCS Manager in under an hour, with no complicated cabling or configurations needed. But for most cases, Peak 10 merely needs to deploy a new virtual server.

"Using virtualization on Cisco UCS servers, we can deploy a new logical server to our customers in minutes," says Seitz. "The service profiles and templates take all the work out of provisioning, enabling us to boost capacity or replace a downed server as needed." LoadMaster Software scales just as easily. Whether increasing capacity for a customer or adding new functionality, LoadMaster exists in the fabric and can easily be configured to balance loads across servers.

Cisco UCS Manager not only reduces labor associated with deploying servers, but also manages the entire virtualization environment. The robust management tools, including advanced automation, enable IT staff to view and control all physical and virtual systems from a single pane of glass. This capability boosts staff efficiency by reducing maintenance load and providing more time to optimize the multitenant virtual environment.

With excellent load balancing and fast deployment to either boost capacity or swiftly recover from failures, Peak 10 can deliver 100 percent uptime for its customers and keep business-critical applications up and running. One customer, for example, leverages LoadMaster and Peak 10 to keep building security controls accessible at all times, while another customer relies upon the constant availability to receive file uploads as part of its daily workflow.

"Cisco and KEMP Technologies are both leaders in their areas, and when combined, they enable us to offer incredible scalability and business continuity for customers using our cloud-based services," says Seitz. "Not all providers can offer the reliability needed for truly critical applications. These solutions give us incredible value to stand out in the market."

Product List

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 Unified Computing, please visit: www.cisco.com/go/ucs.
To find out more about LoadMaster Software and Cisco UCS, please visit: www.peak10.com/cloud.