# Cloud Services Provider Boosts Performance and Scalability

## nGenx reduces deployment time by more than half by standardizing on Cisco UCS solutions virtualized with Microsoft Hyper-V.

## Executive Summary

- **Customer Name:** nGenx Corporation
- **Industry:** Hosted Desktop and Applications Provider
- **Location:** Evansville, Indiana

### Challenge
- Meet growing demand for cloud services in the data center
- Improve scalability and manageability within the cloud environment
- Support high-performance applications

### Solution
- Standardized on Cisco Unified Data Center solutions running Microsoft Hyper-V for centralized, automated management and increased scalability

### Results
- Improved click-to-desktop time by 35 percent
- Increased application speed by between 5 percent and 30 percent
- Reduced time to repurpose servers from three weeks to less than one week

## Challenge

From its start in 2000 as a managed services provider, nGenx has evolved into a pioneer of hosted desktop virtualization and cloud-based application delivery. The company helps its customers remove physical boundaries from applications, systems, and devices with powerful cloud services that transform the way employees work by empowering them to be more productive, as well as taking advantage of cloud-based mobility.

As an early adopter of Microsoft solutions, nGenx virtualized its data center environment with Microsoft Hyper-V Server 2012 for improved virtual application performance and hosted Windows desktops, helping to make nGenx a top choice as a provider for hosted desktop virtualization and bring-your-own-device (BYOD) platforms. As the company expanded its cloud-based offerings, nGenx saw ways that it could further improve the data center for better performance of hosted services.

To meet growing demand for cloud services, nGenx expanded its primary data center quickly with solutions from multiple IT vendors, but the lack of consistency made it difficult to scale and plan for future growth. IT staff spent time reconfiguring environments and checking for consistent firmware versions rather than being available for more productive activities. The company decided to standardize on a solution that could centralize management and provide operational efficiencies that would deliver the flexibility and scalability necessary to meet increasing demand.

The company had upgraded its network to Cisco Nexus® switching only a few years earlier. Based on its past success and positive experiences working with Cisco® Services, nGenx decided to standardize on Cisco Unified Data Center solutions, including Cisco Unified
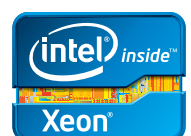
> "After implementing Cisco UCS, we've measured application speed increases between 5 and 30 percent. We can tell that users are appreciating the difference, not only because of the feedback, but also because there's been a noticeable decrease in service tickets."
>
> **– David Gibson**
> Chief Operating Officer
> nGenx

Computing System™ (Cisco UCS®) servers. "Our biggest goal for the data center is to establish an infrastructure that enables us to grow and expand, not only inside our data centers, but into other data center providers as well," says David Gibson, chief operating officer at nGenx. "Cisco UCS gives us a stable platform that we can use to scale quickly for greater business agility."

## Solution

nGenx standardized on virtualized Cisco UCS B200 M3 Blade Servers for easy management and greater scalability. The Cisco UCS B200 blade servers are designed to connect easily to networks through the Cisco UCS 5108 Blade Server Chassis, offering enhanced performance and streamlined power and cooling operations. When replacing or adding servers, IT staff can simply insert blades into the chassis without additional cabling. This streamlined environment not only reduces management points but also accelerates provisioning time.

The Cisco UCS chassis connects to the network and NetApp storage through Cisco Unified Fabric. Dual Cisco Nexus 7000 Series Switches form the powerful network core connecting to two Cisco Nexus 5000 Series Switches on each row of servers. With unified ports and broad connectivity support, the Nexus 5000 switches simplify the networking environment. Cisco UCS 6248 fabric interconnects and Cisco Nexus 2000 Series Fabric Extenders extend the fabric for increased flexibility and provide a single point of management for the chassis servers in the network.

One of the deciding factors in implementing Cisco solutions was the manageability delivered through Cisco UCS Manager. Using automated workflows, Cisco UCS Manager can control all of the physical and virtual components of the data center from a centralized location. Most importantly, by defining reusable service templates and profiles, IT staff can dramatically reduce the time needed to provision servers and add capacity for users.

As an early adopter of Microsoft solutions, nGenx required a data center that could run the company's extensive Microsoft stack effectively. With technical assistance from Microsoft, the Cisco product team worked with nGenx to validate the Cisco environment design. "We were very impressed by how Cisco and Microsoft worked together to get us settled in with a stable Hyper-V on UCS design," says Rick Dehlinger, chief technology officer at nGenx. "Each side brought their expertise to the table, and one result was an incredible boost to performance, which users feel immediately."

## Results

With Cisco UCS virtualized with Microsoft Hyper-V, nGenx users are seeing significant boosts in speed and performance. Virtual desktop users, for example, in some cases noticed a 35 percent improvement in desktop launch times. Before Cisco UCS was implemented, heavy demand could destabilize performance in the data center, leading to performance degradation that affected operations and caused heavier workloads for IT staff and service representatives.

According to user feedback, they are excited about the faster application response. "After implementing Cisco UCS, we've measured application speed increases between 5 and 30 percent," says Gibson. "We can tell that users are appreciating the difference, not only because of the feedback, but also because there's been a noticeable decrease in service tickets."

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## Product List

### Data Center Solutions
- Cisco Unified Computing System
- Cisco UCS B200 M3 Blade Servers
- Cisco UCS 5108 Blade Server Chassis

### Routing and Switching
- Cisco Nexus 7000 Series Switches
- Cisco Nexus 5000 Series Switches
- Cisco Nexus 2000 Series Fabric Extenders

### Fabric Interconnect
- Cisco UCS 6248UP 48-Port Fabric Interconnect

### Network Management
- Cisco UCS Manager
- Microsoft System Center 2012 SP1/R2

### Operating Systems
- Windows Server 2012 and 2012/R2

### Applications
- Microsoft SQL Server
- Microsoft Exchange
- Microsoft SharePoint

### Virtualization
- Microsoft Hyper-V Server 2012 and 2012/R2
- Microsoft Remote Desktop Services

### Storage
- NetApp

The management capabilities of Cisco UCS Manager work with Microsoft modules to improve scalability and reduce provisioning time in the data center environment. When one workload experienced sudden, unexpected growth, nGenx IT shifted blades from the development environment to the production environment to boost capacity. By using predefined profiles for the production environment in Cisco UCS Manager, they found that repurposing the blades was a painless process, transitioning smoothly to the new workloads with consistent configurations.

"With traditional infrastructure, it could take days just to decommission a server and close to three weeks to have it in production with a different workload," says Dehlinger. "With the assistance of Cisco UCS Manager, we had the blades in production back within a week–including extensive stability testing. The outcome was far better than we had expected, enabling us to over-deliver on an ambitious promise."

Management automation and a streamlined data center environment have reduced the amount of time that nGenx spends managing the data center. Standardizing on Cisco solutions reduces touch points in the environment and eliminates time previously spent training on new equipment, reconfiguring equipment, and testing configurations. Automation and repeatable processes add efficiencies to the workflow and improve staff productivity. "We've been able to refocus staff on new features and value-added services instead of maintenance of standalone servers, and we have been able to reduce our operational costs through efficiency and increased densities on the UCS platform" says Gibson.

## Next Steps

With more than 700 business applications and communication solutions already available for users, nGenx is using the efficiencies from Cisco and Microsoft to continue adding new products and services to its lineup. Due to their increased productivity, IT staff can continually focus on further enhancing application performance.

## 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 Cisco Nexus, please visit: www.cisco.com/go/nexus.
To find out more about Microsoft applications on UCS, please visit: www.cisco.com/go/microsoft.

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