Service Provider Offers Infrastructure as a Service in Minutes

Phoenix NAP built Secured Cloud service using Unified Computing System, Nexus switches, NetApp storage, and VMware.

EXECUTIVE SUMMARY

Phoenix NAP
Data Center Service Provider
Phoenix, Arizona
375+ Employees

CHALLENGE

- Develop public cloud offering that customers could resell
- Introduce service quickly
- Simplify global support

SOLUTION

- FlexPod, a prevalidated configuration for a secure multitenancy cloud based on Cisco Unified Computing System, Cisco Nexus 5000 Switches, NetApp storage, and VMware
- Orchestration software for the storefront, service catalog, and automated provisioning

RESULTS

- Differentiated service through ease of use
- Minimized risk with prevalidated architecture
- Simplified global expansion by using standardized platform

Challenge

Phoenix NAP is a leading provider of data center services, including colocation, storage, physical servers, and cloud hosting. The company started out with an advanced data center in the Phoenix, Arizona metropolitan region, and is adding facilities in the United States, Europe, and Asia Pacific. Phoenix NAP has achieved the Cisco Managed Services Certified Partner (MSCP) certification, recognizing its compliance with established industry standards and best practices.

Anticipating that colocation customers would become interested in Infrastructure as a Service (IaaS), Phoenix NAP decided to build a public cloud that customers could use to self-provision compute and storage resources. “The value of IaaS is enabling customers to expand or contract infrastructure resources to have just the right amount for their current business needs,” says William Bell, director of Information Systems for Phoenix NAP. “Being able to scale capacity up or down on demand saves them from paying for resources they don’t need.”

Phoenix NAP saw two opportunities to differentiate its IaaS offering. One was making self-provisioning easy, even for people without previous experience. The other differentiator would be enabling customers to brand the IaaS offering as their own, to resell to their own customers. This is known as a white-label service.

To attract and retain customers, Phoenix NAP needed IT infrastructure providing leading performance, reliability, and scalability, plus the flexibility to adapt to new service requirements. “To help customers get comfortable with a public cloud service, we wanted to use infrastructure from vendors that people trust,” says Ian McClarty, president of Phoenix NAP. In addition, to gain an early-market advantage, the company wanted to avoid lengthy, painstaking efforts to integrate data center solutions from a variety of vendors.

> “Setting up a development server takes several weeks with traditional processes, but less than an hour, and often only 15 minutes, with FlexPod.”
> **— Ian McClarty, President, Phoenix NAP**

Solution

At first, Phoenix NAP planned to use leading rack-mount servers and a traditional data center switching architecture. Then the company learned about FlexPod™, a prevalidated configuration for secure, scalable multitenancy and cloud environments. FlexPod is based on the Cisco Unified Computing System™, Cisco Nexus® switches, NetApp storage, and VMware.

"FlexPod appealed to us because of its flexibility, high performance, and global support," says Bell. In addition, FlexPod prevalidated designs would minimize the risk of delays that could postpone on-time launch of the new service. "FlexPod is a reference architecture, and the detailed documentation for different types of use cases adds to our comfort level," Bell says.

> "Adding capacity is as easy as inserting a blade in the Cisco UCS chassis. Every cable we don't have to touch speeds up provisioning."
> **— William Bell, Director of Information Systems, Phoenix NAP**

To develop the IaaS offering, called Secured Cloud, Phoenix NAP assigned a dedicated team of developers to make self-provisioning easy, even for customers with no previous experience provisioning IT infrastructure. A customer who needs servers and storage visits the Phoenix NAP Secured Cloud website, enters payment information, and then simply clicks to specify the operating system, amount of memory, number of processors, and storage space. "Setting up a development server takes several weeks with traditional provisioning processes, but less than an hour, and often only 15 minutes, with FlexPod," McClarty says. "Automated provisioning eliminates the time and costs of having a human configure the infrastructure." Customers can save their settings, making subsequent infrastructure provisioning even faster.

Some customers resell the Secured Cloud service under their own brand. A SaaS provider or value-added reseller, for example, can add a "Build Your Server" button to its own website. When the provider's customers click the button, they are using Phoenix NAP's orchestration software to provision FlexPod resources, but the branding (logo, IP address, and certificate) belongs to the provider.

Results

Differentiated IaaS Offering, Creating New Revenue Stream

Introduced in November 2011, Secured Cloud is attracting customers of all sizes that need development and test infrastructure or non-business-critical websites. Many of the first customers are software developers, software as a service (SaaS) providers, and enterprise marketing departments. "The Secured Cloud makes it easy for our customers to try out a new application or website before investing in their own infrastructure," says Bell.

For example, an online gaming company can introduce new products on the Secured Cloud to assess demand. The company can then add capacity as needed until deciding whether it costs less to implement its own servers and storage infrastructure or continue to use the Secured Cloud. Similarly, a software development company that needs server resources to test a new product can set up a virtual machine for the duration of testing, and afterwards power down the virtual machine and pay for storage only.

Low Cost of Business Growth

The Cisco® Unified Computing System lowers the cost of growth for the Secured Cloud service. "FlexPod makes it easier to add compute, networking, and storage resources than in the past, helping us more quickly enter new regions or offer new services," McClarty says.

One reason for the ease of the growth is that new servers do not need to be individually cabled. Instead, up to 80 Cisco UCS B-Series Blade Servers can connect to the data network and to NetApp storage through a single pair of Cisco UCS 6100 Series Fabric Interconnects. “Adding capacity is as easy as inserting a blade in the Cisco UCS chassis,” says Bell. “Every cable we don’t have to touch speeds up provisioning.”

Another way FlexPod simplifies growth is by making it easier for Phoenix NAP to hire developers anywhere in the world as the company expands. The company can easily find people who are certified to work on the Cisco UCS.

Global Support, Global Development Resources

Finally, the partnership between Cisco, NetApp, and VMware simplifies support. “The companies collaborate to solve issues,” McClarty says. “And because the Cisco UCS platform is mature, we can focus on developing software that gives our customers a superior experience, which is our core competency, rather than hardware infrastructure.”

PRODUCT LIST

Data Center

- Cisco Unified Computing System with Cisco UCS B230 M2 Blade Servers
- Cisco Nexus 5000 Switches
- NetApp Storage
- VMware vSphere 4

Next Steps

Phoenix NAP is setting up additional FlexPod nodes along the U.S. East Coast, in Europe, and in the Asia Pacific region. Customers can provision servers and storage anywhere and manage them from anywhere. Phoenix NAP also plans to give Secured Cloud customers the option to use dedicated Cisco UCS blade servers and storage volumes instead of the multitenancy environment.

As Phoenix NAP continues to add Cisco UCS B-Series Blade Servers, the company will minimize incremental switch port costs by using Cisco Nexus 2000 Series Fabric Extenders. All fabric extenders are managed through the Cisco Nexus 5000 Switch to which they connect, minimizing points of management. The company is also investigating using the software-based Cisco Nexus 1000V Switch.

Technical Implementation

In the Phoenix NAP data center, Cisco Nexus 5000 Series Switches provide a 10 Gigabit Ethernet backbone for data and storage traffic. The switches connect to a NetApp storage platform over Network File System (NFS), providing 10 Gbps access.

“The best part of Nexus architecture is providing the high availability our customers count on,” says McClarty. “That’s because Nexus switches don’t use STP [spanning-tree protocol], which causes problems when a device goes down.” Nor do switch upgrades require downtime, thanks to the In-Service Software Upgrade (ISSU) feature. The Cisco Nexus 5000 Switch also minimizes management overhead and training costs because the NX-OS closely resembles the Cisco IOS® Software already familiar to Phoenix NAP’s network administrators.

For More Information

To find out more about Cisco Data Center Business Advantage visit: http://www.cisco.com/go/datacenter.

To find out more about FlexPod for Enhanced Secure Multi-Tenancy, visit:http://www.cisco.com/en/US/solutions/ns340/ns414/ns742/ns743/ns1050/landing_flexpod.html.

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