SmartStack Integrated Infrastructure

Cisco Validated Design Using Cisco UCS Mini and Nimble Storage CS300

What if you could quickly and easily deploy and manage your business-critical applications in your data center and in your remote offices and branch offices? With SmartStack™, you can.

SmartStack integrated infrastructure from Cisco and Nimble Storage enables you to deploy, manage, and protect an entire remote solution from your central data center. It allows you to increase the efficiency of your employees and IT staff at an affordable price without compromising performance, while also proactively improving reliability.

This SmartStack solution, using Cisco UCS® Mini, Cisco Nexus® switches, Nimble Storage® CS300, and VMware vSphere (Figure 1), is well suited for midsized businesses that want a single, scalable platform on which to deploy their virtualized applications. This solution is also excellent for remote-office and branch-office (ROBO) deployments and for enterprises seeking smaller integrated infrastructure solutions for specific departmental or line-of business needs.

The solution allows you to quickly deploy and scale enterprise-class infrastructure. It enables you to start small and use modular building blocks to incrementally scale either capacity or performance or both as your business needs dictate. And it allows you to simplify by standardizing on a consistent platform, helping reduce management costs and the risks associated with ad hoc deployments.

Speed

Your business needs and user expectations require rapid deployment while also limiting risk. You can quickly and easily deploy this integrated infrastructure, achieving faster time to revenue and lower operating expenses (OpEx) through improved productivity.

Your business also needs peak application and workload performance. SmartStack combines Cisco UCS Integrated Infrastructure, with world-record-setting performance across all workloads, and Nimble Storage Adaptive Flash technology, which efficiently
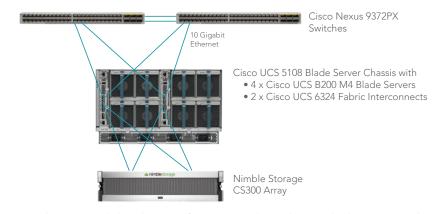

Cisco Nexus 9372PX Switches

10 Gigabit Ethernet

Cisco UCS 5108 Blade Server Chassis with
• 4 x Cisco UCS B200 M4 Blade Servers
• 2 x Cisco UCS 6324 Fabric Interconnects

Nimble Storage CS300 Array

Figure 1. This Cisco Validated Design for SmartStack accelerates deployments so that you can respond quickly to your business needs.

delivers greater performance and adaptability in a much smaller footprint than traditional storage infrastructure. With this SmartStack solution, you can adapt to the requirements of a wide range of applications, such as:

• Microsoft SQL Server, Exchange, and SharePoint
• Oracle's JD Edwards EnterpriseOne
• Splunk Enterprise
• Application consolidation and virtualization

Scale

SmartStack allows you to purchase exactly what you need today and easily scale your computing resources, storage performance, and storage capacity independently and nondisruptively as your business needs change. This capability saves initial capital expenditures (CapEx) because you don't have to overprovision your infrastructure. It also saves OpEx because you don't have to house, power, cool, and manage resources that you are not using. With SmartStack, you can immediately reduce your storage footprint by 30 to 70 percent, which creates more space and efficiency in your data center and ROBO environments.

Simplicity

With SmartStack, you can support all your applications and workloads within the same integrated infrastructure solution. This approach effectively eliminates the complexities of siloed architectures and dramatically reduces both cost and complexity while optimizing application performance. SmartStack enables you to create pools of resources that can be deployed dynamically as business requirements dictate. This capability further reduces cost and complexity, and ultimately makes your business more responsive. SmartStack has significantly fewer network components, cables, interface cards, and management points than traditional integrated infrastructure. With fewer devices to purchase, manage, power, cool, and maintain, SmartStack solutions dramatically lower your total cost of ownership (TCO).

SmartStack with Cisco UCS Mini and Nimble Storage CS300

Cisco and Nimble have performed extensive testing across a broad range of business applications and workloads to create reference architectures using industry best practices. This Cisco Validated Design (summarized in Table 1) provides an easy-to-follow blueprint to help ensure successful deployment in a fraction of the time needed for traditional, siloed architectures. After the solution is deployed, you will have a configuration fully optimized for your workload. In addition, if problems arise, Cisco and Nimble will work together with your IT organization to get your system up and running quickly. You get a rapid, coordinated resolution to your technical problem. SmartStack support keeps your critical infrastructure running when you need it most.

SmartStack can be deployed quickly and easily, on day zero, using SmartStack SmartSetup™, an intuitive, wizard-based setup utility that configures both the Cisco UCS and Nimble Storage environments in minutes. After the infrastructure is deployed, you can use Cisco UCS Director to deploy and manage additional infrastructure stacks. After Cisco UCS service profiles are set up, you can use them for

Table 1. SmartStack Integrated Infrastructure with Cisco UCS and Nimble Storage

SERVERS	Cisco UCS Mini with • Cisco UCS 5108 Blade Server Chassis • Cisco UCS B200 M4 Blade Servers • Intel® Xeon® processors • Cisco UCS Virtual Interface Card (VIC) 1340
NETWORK	• Cisco UCS 6324UP Fabric Interconnect • Cisco UCS Manager • Cisco Nexus 1000V Switch • Cisco Nexus 9372PX 10-GE Switch (optional)
STORAGE	Nimble Storage CS300 array with Adaptive Flash technology
VIRTUALIZATION SOFTWARE	VMware vSphere 6.0 VMware vCenter Plug-in for Cisco UCS Manager VMware vCenter Plug-in for Nimble Storage

even faster and simpler deployment of new infrastructure. This unified management helps lower OpEx by automating routine tasks, effectively freeing administrators from the constraints of labor-intensive manual configuration and management. Nimble Storage InfoSight™, an integral part of Nimble's Adaptive Flash platform, helps ensure peak health of your Nimble Storage infrastructure by proactively identifying problems and offering actionable solutions—all in real time from the cloud.

For More Information

• To read the Cisco Validated Design, visit http://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/UCS_CVDs/smartstack_cs300_mini.pdf.

• To learn more about SmartStack, visit

  • http://www.cisco.com/go/smartstack

  • http://www.nimblestorage.com/smartstack