



## SOLUTION BRIEF

# FlashStack Virtual Desktop Solution with VMware Horizon 6.2



Be the hero. Simplify the delivery of virtual desktops and applications with VMware Horizon® 6.2. Empower users with easy-to-scale and always-on Cisco® validated FlashStack™ solutions.

### FLASHSTACK SOLUTION WITH VMWARE HORIZON 6.2

FlashStack virtual desktop infrastructure (VDI) solutions from Cisco and Pure Storage help you free IT staff by reducing the amount of time spent on desktop infrastructure and management. When it's time to scale your environment, our solution, for up to 5000 users, enables you flexibly upgrade capacity and performance without downtime. Period.

Cloudlike capabilities help you provide constant access to virtual desktops across your organization, even as you grow. You won't have to rip and replace existing computing or storage when scaling. By standardizing on this integrated infrastructure platform, you can use intuitive Cisco management tools to streamline operations. We pretested and validated the solution with a Cisco Validated Design that provides a comprehensive help you accelerate and simplify your VMware Horizon 6.2 rollout.

#### **FLEXIBLE GROWTH**

*Scale up to and beyond 5000 users with a building-block approach*

#### **STREAMLINED OPERATIONS**

*Easily deploy, manage, and scale with FlashStack*

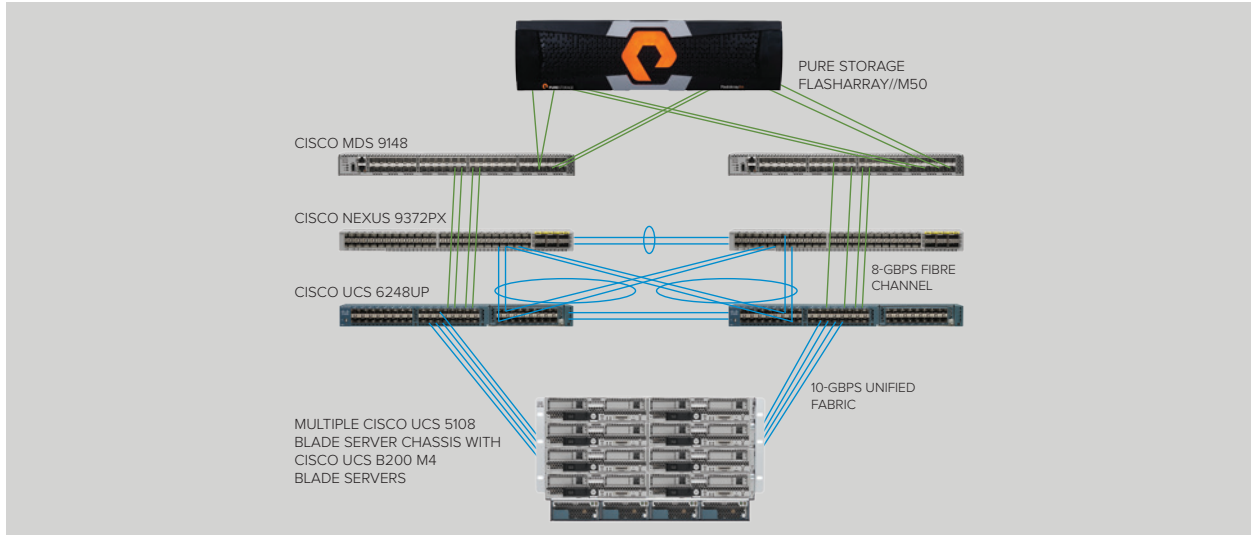
#### **CHOICE AND TRANSFORMATION**

*Transform your business and drive productivity with centralized desktops and virtualized applications*

#### **REDUCED RISK**

*Cisco® Validated Designs reduce risk and accelerate deployments with a cookbook approach*





### FLASHSTACK

FlashStack is enterprise-class integrated infrastructure from Cisco and Pure Storage. It is a tightly integrated combination of Cisco UCS® Integrated Infrastructure and Pure Storage® FlashArray storage.

### FLEXIBLE GROWTH

With FlashStack, you can increase storage, computing capacity, and network performance independently and in real time without significant infrastructure change or disruption. By taking advantage of the FlashStack flexible upgrade approach, you

can start small and grow with confidence. This 5000-seat solution provides guidance on how to scale up to 5000 desktops in a single FlashStack deployment and how to use multiple FlashStack deployments to scale to tens of thousands of users.

### STREAMLINED OPERATIONS

With FlashStack, you can reduce your staff's work time while protecting mission-critical data and infrastructure with easy-to-use, familiar Cisco management tools such as Cisco UCS Director. By consolidating many virtual

desktops onto FlashStack, you can manage your desktops in a unified and standardized way that allows you to automate and simplify your processes and workflows. With FlashStack, you can reduce both risk and costs by eliminating manual configuration processes that can cause errors and downtime.

### CHOICE AND TRANSFORMATION

You can empower your entire organization with cloudlike capabilities that also provide you the control and security you require. With the power





and flexibility of FlashStack, you can roll out the solution quickly and transform your end-user experiences with simple, fast, on-demand IT. Our solution supports high-productivity users—even those with the most aggressive desktop workloads. FlashStack supports these users with ease through the performance and scalability of Cisco Unified Computing System™ (Cisco UCS) and the flexibility of all-flash Pure Storage arrays.

#### **CISCO VALIDATED DESIGN WITH FLASHSTACK FOR UP TO 5000 VMWARE HORIZON USERS**

The Cisco Validated Design for this solution specifies Cisco UCS B200 M4 Blade Servers and Pure Storage FlashArray//M Series storage running VMware Horizon 6.2. It was tested with both persistent and nonpersistent virtual desktops running Microsoft Windows 8 and 10 desktops along with shared Microsoft Windows Server 2008 R2 or Server 2012 R2 server desktops.

This solution provides exceptional scale and management simplicity to the virtual desktop environment.

For this design, VMware Horizon pooled nonpersistent Windows 10 desktops (1200), persistent Windows 10 desktops (1200) and VMware Horizon 6.2 remote desktop services (RDS) server-based desktop sessions (2600) on the Pure Storage array.

We tested a FlashStack solution that consisted of 32 Cisco UCS B200 M4 Blade Servers together with a Pure Storage FlashArray//M50 attached through a Fibre Channel SAN (see figure). VMware vSphere 6.0 was the underlying virtualization platform.

The design is intended to define a large-scale building block for both RDS host (RDSH) and linked-clone desktops in the following ratios:

- 1450 Horizon 6.2 RDSH server desktop sessions
- 3550 Horizon 6.2 Windows 7 virtual desktops

#### **Pure Storage FlashArray//M**

The Pure Storage FlashArray//M delivers breakthrough resiliency that doesn't quit. Its proven availability—greater than 99.999 percent—means that your user data is always available, always



performing, and always protected with no performance loss. With its predictive support, you can take preemptive action to reduce your risk of downtime.

#### **Cisco UCS B200 M4 Blade Servers**

Optimized for your data center or cloud, the Cisco UCS B200 M4 Blade Server can quickly deploy stateless physical and virtual workloads. With the programmability of Cisco UCS Manager and the simplified server access of Cisco SingleConnect technology, you can easily deploy 1 server or 1000 servers. The B200 M4 is built with the Intel® Xeon® processor E5-2600 v4 and v3 processor family CPUs and supports up to 1.5 terabytes (TB) of memory (with 64-GB DIMMs), up to two drives, and up to 80 Gbps of total bandwidth. It offers exceptional levels of performance, flexibility, and I/O throughput to run your most demanding virtual desktop workloads.

#### **Cisco UCS Fabric Interconnects**

Cisco UCS 6200 Series Fabric Interconnects provide the management and communication backbone for Cisco UCS B-Series





Blade Servers, Cisco UCS 5100 Series Blade Server Chassis, and Cisco UCS C-Series Rack Servers, and Cisco UCS fabric extenders. They create a unified fabric that carries management, communications and storage network traffic radically simplifying the network configuration.

**Cisco Nexus 9000 Family Switches**

Cisco Nexus® 9000 Series Switches deliver proven high performance and density, low



latency, and exceptional power efficiency. The switches operate in Cisco NX-OS Software or Cisco Application Centric Infrastructure (Cisco ACI™) modes with revolutionary Cisco Cloud-Scale ASIC technology. They are well suited for both traditional and fully automated data center deployments.

**Cisco MDS 9000 Series Multilayer Switches**

The Cisco MDS 9148 Multilayer Fabric Switch is a powerful and flexible switch that delivers high performance and comprehensive enterprise-class features at an affordable price. It includes up to 48 autosensing line-rate 8-Gbps Fibre Channel ports and offers cost-effective scalability through on-demand software licensing and activation of ports.

**DELIVER FLEXIBLE DESKTOPS TO YOUR USERS**

Be the hero. Deliver mission-critical workloads and empower users by deploying the extensible, continuously available, validated and tested FlashStack solution from Cisco and Pure Storage. You can upgrade capacity without downtime and deploy cloudlike capabilities to help ensure constant access to data across the organization. This solution will free your IT staff to innovate by reducing the amount of time managing infrastructure.

**FOR MORE INFORMATION**

- Read the *Cisco Validated Design*
- [www.cisco.com/go/flashstack](http://www.cisco.com/go/flashstack)

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