



SOLUTION BRIEF

Gain Superior Virtual Desktop Performance and Capacity

With FlashStack and AMD EPYC™ Processors

Imagine having the density and performance you need to consolidate your virtual desktop infrastructure (VDI) to simplify desktop operations and reduce your total cost of ownership. This FlashStack® solution consists of Cisco UCS® C225 M6 or C245 M6 rack servers with AMD EPYC™ processors and Pure Storage® FlashArray™ //X20 up to //XL170 storage systems. All are managed through a single interface—the Cisco Intersight® platform—to create a solution that is easy to deploy and manage.

Support Remote Workers

Over the past few years, the way in which your staff works has changed dramatically. Many of them are now full- or part-time remote workers. Even though offices are opening back up, many staff members now prefer to work from home or in a more flexible work environment. Many small-to-medium-size companies have decided to save on office costs and move to an all-remote-staff model. This has required IT organizations to support remote desktop and application services with immediate access, and a fast and consistent user experience, no matter where their users are working. These trends suggest that now is the time to rethink your virtual desktop and application deployments and costs.

Highlights

- Support a hybrid workforce
- Secure data
- Increase productivity
- Reduce complexity
- Simplify deployment and management
- Increase sustainability

Support for Top VDI Platforms

- VMware Horizon
- Citrix Virtual Desktops

Cisco Validated Designs for VDI

Add GPUs to support more complex graphical applications and users

FlashStack for Up to 500 Users

- Two Cisco UCS C225 M6 Rack Servers, each with two 24-core AMD EPYC 7413 processors and 500 GB of memory
- Pure Storage FlashArray//X20 100 percent NVMe array
- One year Cisco Intersight Essentials
- One year Support 24x7x4

FlashStack for Up to 1000 Users

- Three Cisco UCS 225 M6 Rack Servers, each with two 24-core AMD EPYC 7413 processors and 1 TB of memory
- Pure Storage FlashArray//X170 100 percent NVMe array
- One year Cisco Intersight Essentials
- One year Support 24x7x4

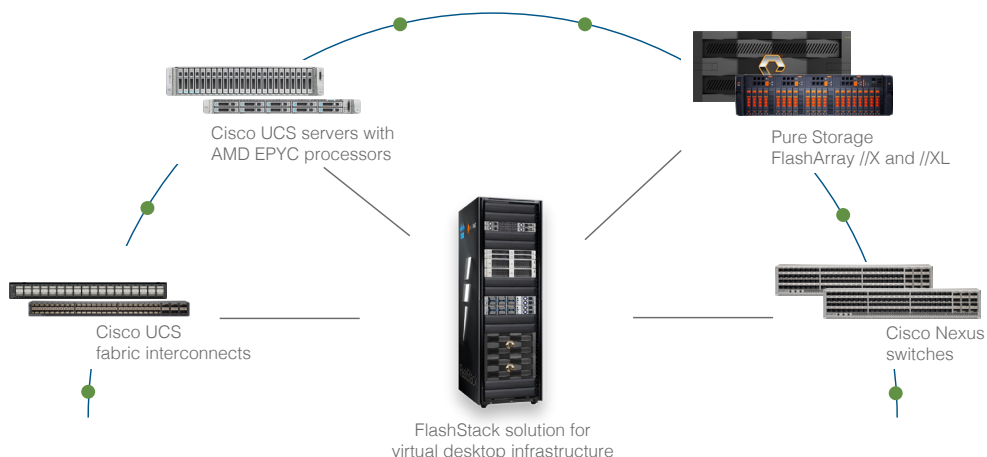
Challenges

Developing a comprehensive virtual desktop infrastructure that meets all your needs can be challenging. Some of those challenges include:

- **Data security**, which recent industry studies list as a top reason for moving to virtual desktops. Keeping business laptop and remote desktop data backed up and out of the hands of competitors or malicious people can be extremely difficult.
- **Cost and complexity** that comes with having non-standard desktops and laptops deployed across your business
- **Consistent user experience** with high performance for remote workers
- **Simplified deployment and management** of common desktop resources and applications.
- **Ease of scaling** your infrastructure to meet your needs, as you need it
- **Controlling greenhouse emissions** with improved density, reduced power, cooling, and floorspace requirements

FlashStack Is the Answer

FlashStack, comprising Cisco UCS C225 M6 or C245 M6 rack servers with AMD EPYC processors and Pure Storage FlashArray//X20 to //XL170 storage systems, all managed with the Cisco Intersight platform, can address these challenges.



Support All Your Desktop Users

VDI users fall into three general categories that help with sizing and performance calculations:

- **Task users**, such as call center workers
- **Knowledge workers**, such as professional or office workers
- **Power users**, such as architects, engineers, and animators who use very intensive graphical applications that normally require a GPU

Support for Shared and Individual GPUs

Cisco UCS C-Series rack servers provide the ability to dedicate GPU resources as desired to meet your organization's requirements.

In conjunction with the GPUs, FlashStack supports FlashBlade//S, one of the industry's leading unstructured storage solutions for AI, ML, analytics, and sophisticated graphical applications.

Heightened Security

You gain improved security by keeping sensitive data off of remote or traveling devices and in your core data center with Pure Storage always-on data protection. With fast immutable snapshot-based backup capabilities, you can have confidence that your data will be available when you need it. In addition, FlashStack with M6-generation Cisco UCS C-Series rack servers benefit from the advanced security features built into AMD EPYC processors. AMD security features are "hardened at the core." This helps protect your data within the CPU and helps secure multitenancy and protection for all your users.

Reduced Cost and Complexity

Reduce the high IT operational expenses that came with deploying VDI solely in the cloud. The public cloud made deploying VDI to your remote users easy but at a great cost. Now is the time to evaluate your deployments to reduce complexity and costs. FlashStack, a leading-edge software-defined infrastructure, enables automation to simplify deployment, automate redundant operations, and help reduce the costs of managing the system.

Increase Productivity and Density

Increase your employee productivity with exceptional FlashStack performance. We tested the Cisco UCS C245 M6 Rack Server powered by two 64-core AMD EPYC 7763 processors that deliver an excellent level of parallelism for VDI workloads. We used the [Login VSI knowledge worker](#) profile to simulate virtual desktop users running Microsoft Windows 10 and Citrix Virtual Apps and Desktops. These workloads represent the most commonly used personas and delivery mechanisms for knowledge workers. We also ran Login VSI in test mode on Microsoft Windows Server 2019 Remote Desktop Session Host (RDSH) with Citrix Virtual Apps and Desktops to determine the maximum supported number of task worker sessions. The Cisco UCS C245 M6 can support up to 400 simultaneous knowledge worker sessions running Microsoft Windows 10 virtual desktops. The results of both tests demonstrate the power, performance, and value of FlashStack powered by AMD EPYC processors deployed as your virtual desktop infrastructure.

Simplified Management

Desktop hardware, desktop operating systems, and applications are difficult to manage consistently throughout an organization. Simplify desktop provisioning, scaling, and management with the combination of VDI and Cisco Intersight. Manage everything from server firmware, to networking, storage access, and BIOS settings to Pure FlashArray configuration. The Intersight platform is a cloud-based management platform that provides correlated visibility and management across your virtual desktop and application environments, helping you centralize and simplify desktop management tasks. Intersight helps you work smarter and faster

IDC Business Value Survey of FlashStack Production Users



446%

5-year return on investment.



72%

reduced total cost of operations.



8 months

payback on investment.

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together by automating desktop and application lifecycle workflows and enabling consistency and governance with extensible, open capabilities that natively integrate with third-party platforms and tools.

Sustainability

Your IT administrators may not recognize that they can have an effect on your company's greenhouse emissions. However, they can see the benefits of reducing electricity usage through lowered power and cooling requirements as well as minimizing expensive data center square footage. FlashStack has been redesigned to meet these objectives, with a far denser footprint, new fan and cooling designs, and a more efficient, lower energy power supply. Additionally, both Cisco and Pure are committed to Net-Zero, to lower your greenhouse gas emissions by up to 84 percent.

FlashStack

The combination of Cisco UCS servers and Pure Storage FlashArray systems have all the capabilities you need to deploy a successful virtual desktop infrastructure. The 2RU [Cisco UCS C245 M6 Rack Server](#) is well suited for increasing the density of virtual desktops and applications you can support. Optimized to deliver uncompromising I/O capacity whether one or two CPUs are installed, the [Cisco UCS C225 M6 Rack Server](#) is one of the most versatile servers in the industry. This high-density, 1RU rack server supports a range of virtual desktop and application workloads. You can start small and grow seamlessly as you need, never being forced into forklift upgrades again.

You can start with the FlashArray//X20 and grow into the FlashArray//XL170 with 100 percent NVMe performance along with excellent performance density (more virtual desktops per array). The array's rich data services, including global flash management and efficiency, and both Ethernet and fabric support deliver best-in-class data reduction ratios for greater performance and responsiveness. These arrays come with always-on data protection through unlimited [Pure Storage SafeMode](#) immutable data snapshots. All this, together with Cisco cyber security solutions, helps ensure your data has never been better protected.

Simplify Your Virtual Desktop and Application Operations

FlashStack helps you make proactive moves in the ever-changing business model. It delivers the security, simplicity, performance, productivity, and sustainability your users and business need, and it does this at a cost-effective price. FlashStack can help you accelerate your desktops and applications without disruption, improve data center economics, and help you build infrastructure that will serve you well into the future with confidence.