At-a-Glance

Highlights

- Device-independent delivery of virtual desktops and applications
- Integrated, appliance-based infrastructure
- Cloud-based or centralized delivery models
- Centralized management for cost-efficient administration
- Accelerated virtual graphics for an uncompromised user experience
- Flexible architecture choices for full virtual desktop infrastructure (VDI) or hosted delivery
- Scalable performance for customers of all sizes

Cisco Desktop Virtualization Solutions

The Changing Face of End-User Computing

Today's desktop and application virtualization solutions are rapidly transforming into a flexible, integrated approach to mobility and bring-your-own-device (BYOD) environments. Hosted in the data center, they allow users to securely access their desktops from any location through thin clients, smartphones, and other devices. Similarly, virtualized applications run directly from the server. In this cloud-based workplace, the virtual desktop offers a variety of benefits, including:

- Lower total cost of ownership (TCO)
- Improved efficiency in managing multiple devices
- Improved security that keeps intellectual property safely behind corporate firewalls
- Reduced system complexity and simplified management
- Scalable performance for organizations of all sizes

As a result of dramatic technology changes, virtualized systems provide a much better user experience than they did a few years ago. Cisco delivers the infrastructure that enables desktops and applications powered by Citrix and VMware software, giving organizations an important competitive advantage.

Securing the Desktop Within the Data Center

With the advent of the mobile workplace, businesses need to provide access to sensitive data on mobile devices and laptops, but they cannot risk the liability from the loss, theft, or damage of that device. Desktop and application virtualization solve this problem by allowing you to keep data safely in the data center while offering mobile and remote access. Virtualization also makes your business far more responsive to change without loss of continuity. For example, in a recent bank merger, newly acquired employees were set up in a single day simply by issuing them each a new virtual desktop.

New Approaches to Accelerated Graphics

Most of today's applications use some amount of graphics acceleration, whether they're regular business applications such as Microsoft Office, multimedia software, or graphics-intensive AutoCAD 3D modeling programs. In virtualized environments, the graphics acceleration needed to achieve an acceptable user experience used to be prohibitively

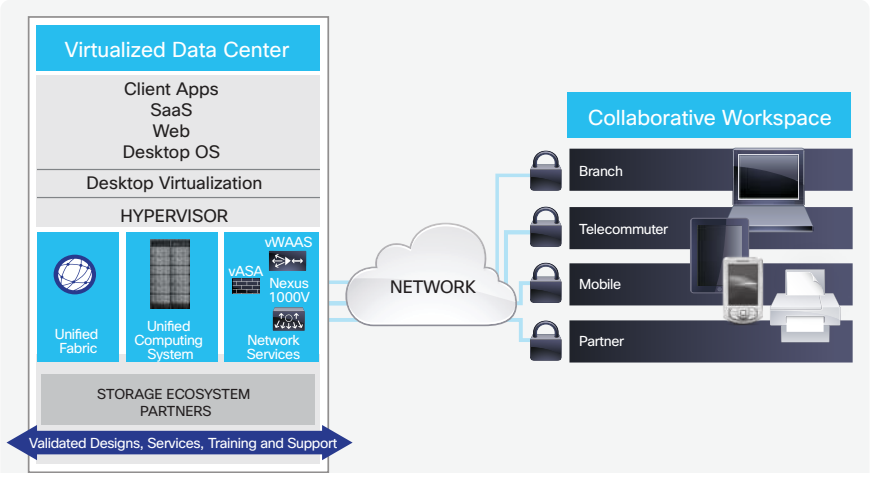
expensive. With Cisco, however, you can take advantage of much less costly capabilities by sharing a high-performance NVIDIA GRID card among several desktops. Whether the user is a designer creating advanced designs for cars, buildings, or oil rigs; or the radiologist who reads your recent MRI result; or an office worker creating a new presentation; or a delivery person looking up directions on a map app: all gain the advantages of faster performance and responsiveness.

Cisco Desktop Virtualization Solutions

Cisco® desktop and application virtualization solutions are built with industry-leading partner solutions VMware Horizon and Citrix XenDesktop. They are built on the Cisco Unified Computing System™ (Cisco UCS®), which is designed to accelerate and simplify IT for initiatives such as desktop virtualization and data center operations. By relying on Cisco UCS, your organization can provide the flexibility of virtualized systems in the physical world while lowering costs and improving ROI.

Cisco and its technology partners have developed a comprehensive portfolio of reference architectures aligned with specific IT environments and business goals. Built on best-in-class technologies, they include onboard, simplified, and scalable models for desktop virtualization. In addition, integrated infrastructure solutions such as FlexPod, VSPEX, VersaStack, and SmartStack systems provide you with modular, ready-to-deploy approaches. Our hyperconverged infrastructure also offers a modular, scalable platform that supports predictable, phased growth. These designs meet the needs of organizations ranging from small and medium-sized businesses to large enterprises and service providers.

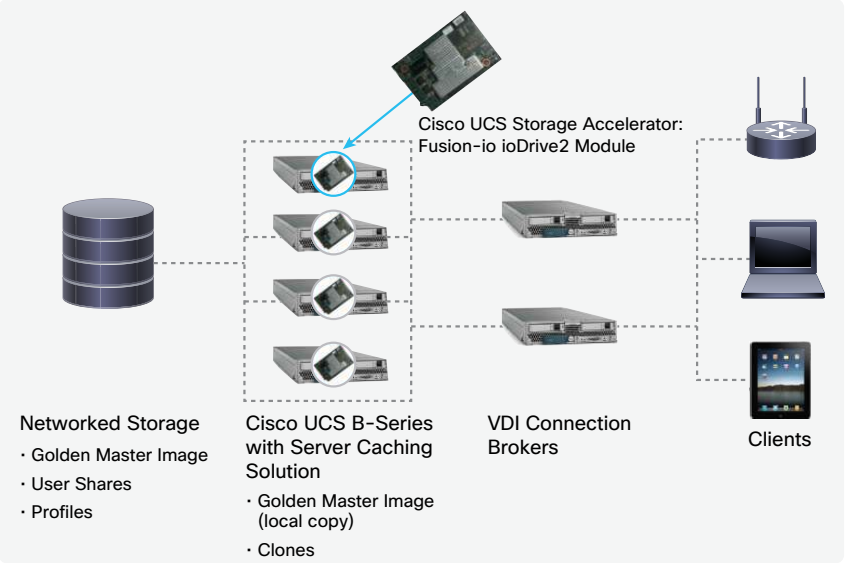
Figure 1. Cisco Desktop Virtualization Solution



Onboard Architecture

Cisco Onboard Architecture for Desktop Virtualization (Figure 2) provides your company with high-speed, low-latency, flash-memory-based storage (solid-state drives [SSDs] and PCI Express [PCIe] flash-memory modules) on Cisco UCS servers. It is well suited to environments that prefer to deliver stateless, or floating, nonpersistent desktops.

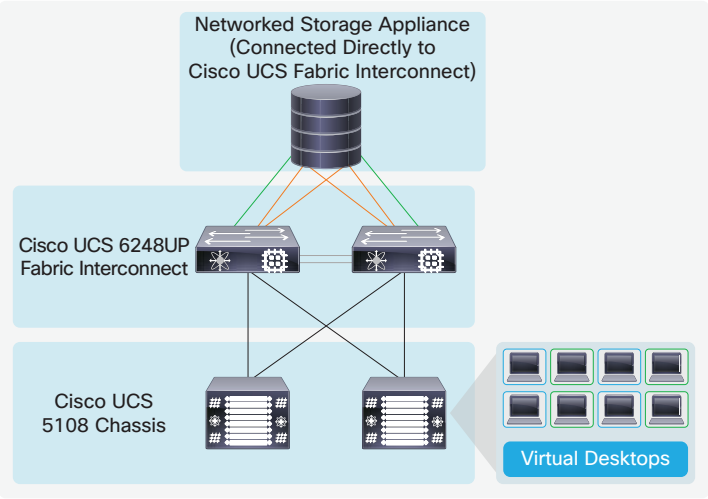
Figure 2. Onboard Architecture



Simplified Architecture

Cisco Simplified Architecture for Desktop Virtualization (Figure 3) employs an appliance-based model for virtual desktop storage. This architecture does not require an intermediate switching layer between the storage device and the server, and it includes solutions from various Cisco ecosystem partners. It offers you a lower initial cost: a good fit for organizations without an existing investment in enterprise-class SAN infrastructure.

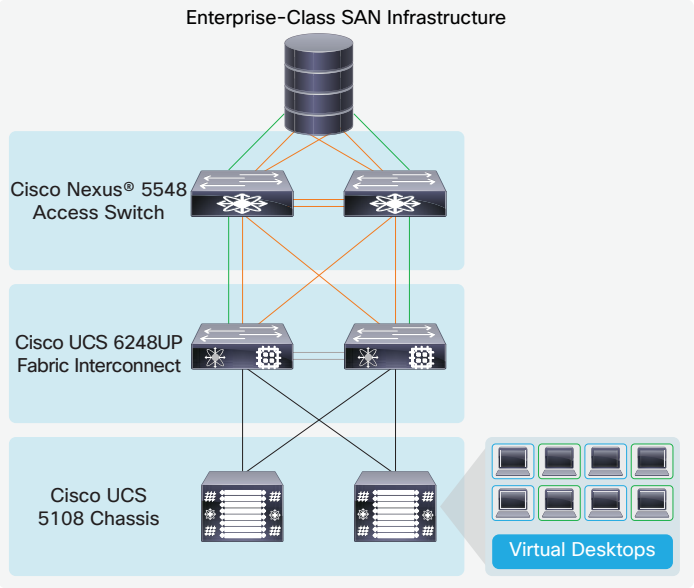
Figure 3. Simplified Architecture



Scalable Architecture

Cisco Scalable Architecture for Desktop Virtualization (Figure 4) was created to provide high performance in dense, large-scale environments. With the capability to log in to up to 5000 desktops in as little as 30 minutes, this architecture is recommended for large enterprises and service providers. It has no single points of failure and supports both single-domain and multidomain Cisco UCS environments. This expandable infrastructure allows your organization to continuously expand its virtual desktop footprint.

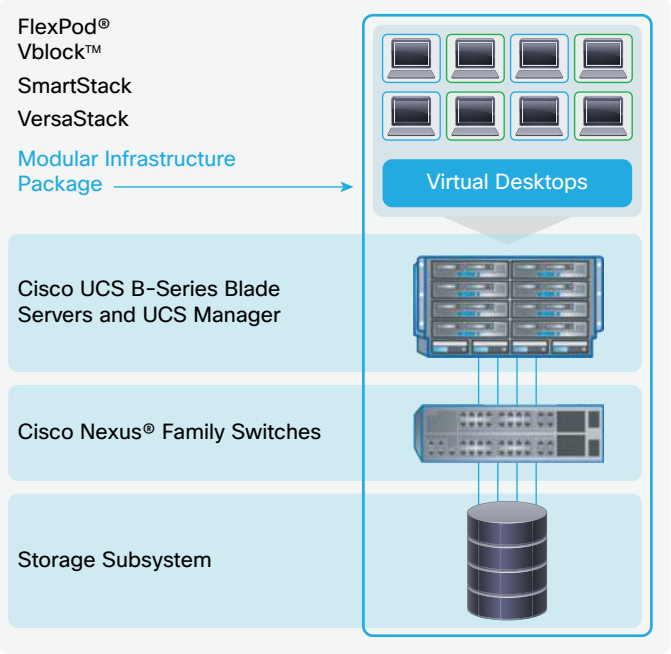
Figure 4 Scalable Architecture



Integrated Infrastructure Architecture

Cisco Integrated Infrastructure for Desktop Virtualization (Figure 5) is based on the NetApp FlexPod platform, EMC VSPEX, IBM VersaStack, and Nimble Storage SmartStack. It offers a convenient packaged infrastructure approach that modularizes your data center into easily consumable building blocks. Each unit offers self-contained computing, storage, and network fabric resources coupled with virtualization software. Your company gains all the benefits of simplicity, rapid deployment, simplified support, and phased scalability.

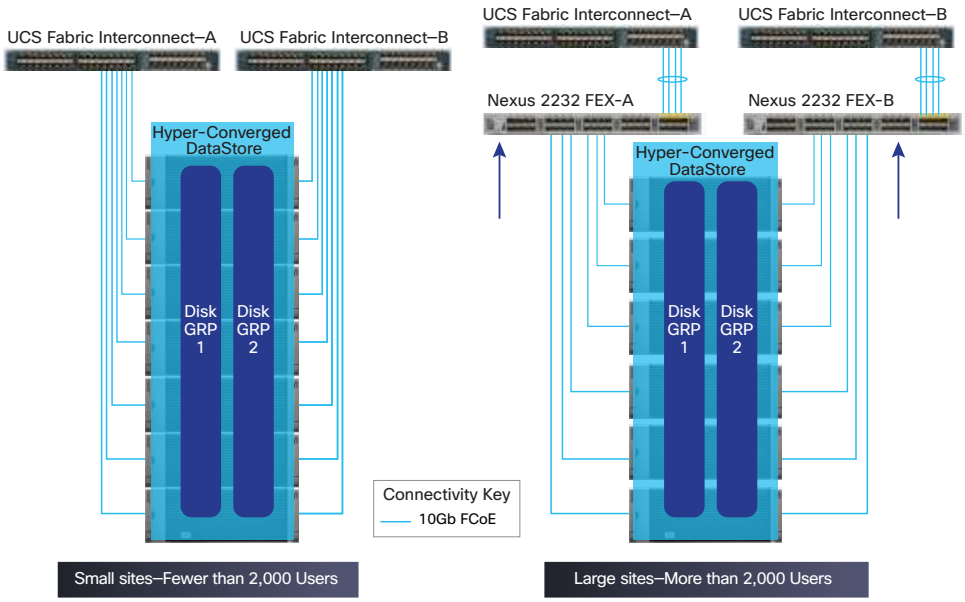
Figure 5. Integrated Architecture



Hyperconverged Architecture

Cisco Hyperconverged Architecture (Figure 6) is based on software-defined storage (SDS), which abstracts storage from the hardware to reduce latency and accelerate desktop operations, delivering greater IT efficiency. It also shortens deployment times and simplifies management for your organization. It scales easily to help you achieve cost efficiency based on predictable, phased growth: administrators need only add another computing or storage node when more capacity is required.

Figure 6. Hyperconverged Architecture



Conclusion

Cisco and its ecosystem partners offer a powerful set of virtualization solutions designed for mobile environments, combining the security and continuity of remote desktops and applications with the flexibility and agility of today's anytime, anywhere computing. These five solution architectures address IT environments ranging from a few hundred to thousands of users, offering a faster, more cost-effective approach to virtual desktop deployment with reduced risk and higher performance at scale.

For More Information

To learn more, please visit our webpages at www.cisco.com/go/vdi and www.cisco.com/go/vdi-cvd.

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