Cisco Desktop Virtualization Solutions with Citrix XenDesktop

Desktops and Application Delivery—Simple, Secure, and Scalable

The Challenges of a Rapidly Changing World

A rapidly changing global economy, with new markets, competitors, products, and services, presents challenges for nearly every business. Complicating the scene are technology-savvy users with a set of rapidly evolving demands. These geographically dispersed users want to use consumer devices for both work and personal data and applications, exposing the need for better IT management and security strategies. As a result, IT departments need IT infrastructure that delivers secure access to corporate assets at any time, from any location, on any device.

Traditional IT infrastructures and desktops are complex, inflexible, and expensive to acquire, maintain, manage, and secure—and they often fail to meet dynamic internal and external demands. New strategies are needed to effectively adapt IT infrastructure while controlling and managing budgets. Desktop and application virtualization provide IT with a powerful and proven approach to addressing an organization's evolving workspace needs by managing desktops, applications, and data centrally and delivering them efficiently over the network. This virtualized approach can be used exclusively, or in combination with other technologies, such as MDM, MAM, and data sharing to address a broader set of use cases.

Cisco and Citrix Desktop Virtualization Solutions: High-performance, Scalable, and Agile

Working together, Cisco and Citrix have developed a set of fully integrated solutions that can be used to build a high-performance, scalable, and agile infrastructure that supports mobile users without sacrificing security and compliance measures.

Citrix XenDesktop® running on Cisco Unified Computing System™ (Cisco UCS®) delivers Microsoft Windows virtual desktops and applications from a centrally hosted and managed infrastructure. These services can be accessed from any device, at any time, from any location, offering a high-definition user experience that increases workplace flexibility, business continuity, user mobility, and productivity.

The expanded portfolio of desktop virtualization solution architectures now makes the combined Citrix and Cisco technologies even more attractive by:

- Increasing the solution breadth to address customers of all sizes

- Offering greater choice of validated partner storage technologies for desktop virtualization

- Delivering a portfolio of architectures that simplify and accelerate the path to application and desktop virtualization ROI

Cisco UCS is an ideal platform for hosting Citrix XenDesktop. Using Cisco UCS as the basis of a virtual desktop infrastructure unites servers, networking, virtualization, and storage access into a unified system. This design delivers greater computing density, network simplicity, and management simplicity in a smaller footprint that reduces operating costs. All hardware and software components are managed through the unified, embedded Cisco UCS Manager to improve operation efficiency with transparent scaling. The system is available in pre-configured starter packs, bundled packs for small and medium-sized businesses, and expansion packs so that organizations can meet needs today and scale as demand grows.

CITRIX®

CISCO

Support Any Device, Anywhere

Employees want to use their own devices to access corporate assets at any time and from any location, resulting in a proliferation of consumer devices in the corporate environment and rising mobility requirements. When IT departments attempt to standardize devices to address security and manageability concerns, frustrated end users feel stifled by a lack of mobility and limited device options.

Cisco Desktop Virtualization Solutions with Citrix XenDesktop deliver individual applications or complete desktops to users across the enterprise, whether they are task workers, knowledge workers, or mobile workers. Now with Citrix XenDesktop 7 on UCS, IT can further simplify user access to virtual desktops and applications from anywhere, at any time, and on any device, with a high-definition experience.

Protect Data and Maintain Security

As users move outside the corporate network, data goes with them, increasing IT concerns related to corporate security as well as data, privacy, and regulatory compliance. The lack of tools for managing access by remote and personal devices can lead to network security breaches, loss of customer or enterprise data, and theft of corporate intellectual data.

Cisco Desktop Virtualization Solutions with Citrix XenDesktop enable IT departments to securely deliver, manage, and protect data. Because servers, applications, and storage resources are centralized, all data remains safely stored within the data center. This strategy offers a host of benefits. For example, centrally located data makes it easy for IT staff to detect and isolate threats or malware, and perform full data backups and periodic snapshots, with data residing on endpoint devices saved automatically in encrypted folders. Encrypted data is tunneled through a secure network and firewall, enabling IT to restrict access and use. Furthermore, centrally managed desktops simplify tasks and make it easier to conform to corporate, industry, and governmental regulations and policies. Extensive role-based access control and the ability to isolate virtual desktop workgroups also enable IT to protect enterprise applications and data.

Quickly Adapt to Change

Some corporate IT groups have hesitated to adapt current infrastructure and resources to support a global and mobile workforce. The need to ship physical servers, desktops, and infrastructure results in delays to key business initiatives and loss of profits and productivity. In addition, high latency and the inability to scale infrastructure impacts performance, frustrating users.

Cisco Desktop Virtualization Solutions with Citrix XenDesktop help IT to become more responsive to fluctuating business requirements. Centralized control enables more automated change management, resulting in reduced downtime and faster time to deployment for new applications, features, and security policies. Business agility improves through rapid provisioning of IT services and underlying infrastructure. Highly scalable infrastructure provides on-demand bandwidth and storage solutions. As a result, all types of users across the enterprise can access corporate applications, collaboration tools, and compute resources, creating a more mobile, flexible, interactive, and productive workforce.

Scalability with Performance

While the traditional desktop model served organizations well in the past, its static model presents flexibility, security, and management complexity. With limited performance and poor scalability, existing IT infrastructures are not optimized to effectively support desktop virtualization environments.

Cisco Desktop Virtualization Solutions with Citrix XenDesktop enable IT to balance the broad mobility, flexibility, choice, and self-service needs of different desktop users with IT department needs for security, compliance, performance, and scalability. With on-demand access to desktops, applications, and data, users can work and collaborate in a familiar environment with consistent high-definition performance. Because desktop management is centralized, IT departments can support every type of virtual desktop and tailor them to specific users.

Cisco UCS balances and optimizes memory, I/O, and CPU resources, enabling businesses to deploy more desktops per server and scale performance linearly, with a full system supporting tens of thousands of virtual desktops. An extensible end-to-end architecture supports all user profiles and use cases and scales from hundreds to tens of thousands of users. With an eye toward future growth, this modular approach enables IT organizations to build solutions incrementally and cost effectively.

Simplified Infrastructure Management and Integration

For many IT groups, the integration of multiple vendor solutions increases complexity, cost, time to service delivery, and interoperability concerns. Cisco Desktop Virtualization Solutions with Citrix XenDesktop offer simplified infrastructure management and integration. Cisco UCS Manager provides unified, centralized, embedded management of all software and hardware components across multiple chassis and thousands of virtual machines. Industry-leading management tools, as well as Microsoft App-V and Microsoft System Center, can be integrated to automate and simplify infrastructure management. In addition, these open solutions work with leading storage systems, hypervisors, value-added solutions, and external cloud services.

Help Manage IT Costs and Investments

Businesses need to satisfy increasing user and market demands while managing and controlling IT costs and investments. Cisco Desktop Virtualization Solutions with Citrix XenDesktop can help lower IT operating and capital expenditures in several ways:

- **More virtual desktops per server.** The Cisco and Citrix joint solution costs at least 20 percent less than competitors due in part to a radically simplified infrastructure architecture that requires fewer components. Upfront infrastructure and licensing costs typically extend return on investment (ROI) to three or four years with other solutions. Because more desktops can be hosted per system, time to ROI can be dramatically reduced.

- **Reduced physical desktop costs.** Centralizing compute services significantly reduces CPU needs for all user desktops and laptops. Simple desktop monitors and keyboards, as well as other endpoint devices, reduce procurement costs. Desktop and laptop refresh activities can be avoided or significantly delayed by turning old systems into thin clients, particularly those that cannot support new applications. This enables IT to deliver performance and predictability on existing hardware platforms.

- **Streamlined desktop management.** Centralized, single image management dramatically reduces desktop operations, helpdesk calls, and downtime.

- **Better resource utilization.** Single instance desktop images reduce storage capacity demands and storage management requirements.

- **Reduced storage costs.** Eliminating the need for excess storage area network (SAN) storage significantly lowers the cost of storage per desktop. Effective caching helps eliminate storage I/O bottlenecks, reducing the need for expensive networked storage solutions.

- **Environmental savings.** Desktop virtualization enables teleworking, desk-sharing, and other alternative workplace strategies to reduce office-related expenses, including workplace space, power, and cooling requirements. An added benefit is better environmental stewardship as a result of reduced computer emissions.

Conclusion

Cisco Desktop Virtualization Solutions with Citrix XenDesktop deliver desktops and applications as on-demand services to users anywhere, at any time, and on any device. Together, Cisco and Citrix offer fully integrated, scalable, and secure desktop virtualization solutions that help organizations tackle business and IT challenges, satisfy user demands, improve productivity, and lower operating costs.

For More Information

To learn more, visit www.cisco.com/go/citrix or speak with your Cisco and Citrix representatives to schedule an assessment or discuss a proof of concept. You may also want to review these white papers:

• Cisco Desktop Virtualization Solution with Nimble Storage: Reference Architecture
  http://www.cisco.com/en/US/solutions/collateral/ns340/ns517/ns224/ns836/ns978/ns1135/white_paper_c11-727694.pdf

• Cisco UCS Storage Accelerator Solution: Optimize Your Desktop Virtualization Infrastructure
  http://www.cisco.com/en/US/solutions/collateral/ns340/ns517/ns224/ns944/whitepaper_C22-726648.pdf

• Cisco UCS VDI Solution: Scaling Without Sacrifice
  http://www.cisco.com/en/US/solutions/collateral/ns340/ns517/ns224/ns944/ucs_vdi_scaling_without_sacrifice.pdf

• Desktop Virtualization Solution for Citrix XenDesktop from Cisco and EMC
  http://www.cisco.com/en/US/solutions/collateral/ns340/ns517/ns224/ns955/ns959/solution_overview_c22-681809.pdf

• Desktop Virtualization with Citrix XenDesktop on FlexPod with Microsoft Private Cloud
  http://www.cisco.com/en/US/docs/unified_computing/ucs/UCS_CVDs/ucs_xd56_flexpod.html

• Citrix XenDesktop: Best Practices with Cisco UCS
  http://support.citrix.com/servlet/KbServlet/download/32499-102-697746/XenDesktop-BestPractices-WP_rev2.pdf

• Citrix: Delivering IT to the Virtual Workforce
  http://www.citrix.com/content/dam/citrix/en_us/documents/solutions/deliveringittothevirtualworkforce.pdf

• Cisco Desktop Virtualization Solution with Citrix XenDesktop: Deliver Desktops and Applications as On-Demand Services
  http://www.cisco.com/en/US/solutions/collateral/ns340/ns517/ns224/ns955/ns1099/citrix_solution_ov.pdf

• Cisco UCS Storage Accelerator Solution: Optimize your Desktop Virtualization Infrastructure
  http://www.cisco.com/en/US/solutions/collateral/ns340/ns517/ns224/ns944/whitepaper_C22-726648.pdf