Cisco VXI Smart Solution with VMware View

What You Will Learn

IT departments are inundated with user demands for wider mobile access, video and interactive multimedia services, new devices, and more flexible work models. IT is also challenged by limited budgets and resources and delivery of services that demand continuity, compliance, and security. Many IT departments view desktop virtualization, or virtual desktop infrastructure (VDI), as a solution to address these demands. The Cisco Virtualization Experience Infrastructure (Cisco VXI™) Smart Solution with VMware View provides IT departments with an integrated system-level approach to scaling desktop virtualization with consistently high performance, while combining virtual desktops, collaboration, mobility, and security to deliver unified workspaces for end users.

Cisco VXI Smart Solution with VMware View

- Cisco VXI uses the only data center fabric purpose-built with VMware in mind.
- Cisco VXI delivers desktop and application virtualization with reduced cost and complexity compared to traditional approaches.
- Cisco VXI requires significantly less server infrastructure than comparable solutions, using the industry's fastest-growing blade computing platform with the highest ratio of consolidated desktops per blade.
- Cisco VXI delivers an uncompromised collaboration experience on any device, helping enable increased employee productivity, greater cost savings, and broader user adoption of virtual desktops.

## Challenge: The Rise of Desktop and Application Virtualization

Desktop and application virtualization constitutes an increasingly popular way for enterprises to reduce capital and operating expenses, improve efficiency, increase control, and expand connectivity. With virtual desktops, users now access their desktop images hosted on a data center server as virtual machines, which can be accessed from laptops, thin clients, smartphones, or other devices. Organizations are implementing desktop virtualization to address these critical needs:

- Bring-your-own-device (BYOD) initiatives: Today's workforce is increasingly adopting myriad new device options, including tablets and smartphones. This trend is increasing pressure on IT to support this new flexibility and choice, but doing so while retaining manageability, control, and security.

- Operating system (OS) migration: Enterprises migrating to Microsoft Windows 7 and 8 want to do so without the usual capital expenditure associated with replacing outdated computer hardware not supported by the newest OS releases.

- Business continuity: Enterprises need to maintain high availability, respond rapidly in the event of a disaster, and quickly integrate new users during mergers, acquisitions, or off-shoring.

- Security: Company policies and government regulations require protection against theft and lost data.

- User experience: End users want access at any time from any device while preserving the traditional PC user experience. They also need pervasive, uncompromised access to the telephony and collaboration applications they need to be productive.

- Total cost of ownership (TCO): Enterprise IT departments want to reduce operating costs by simplifying application upgrades, patches, and administration.

Cisco VXI Smart Solution with VMware View: Delivering the Unified Workspace

Cisco VXI with VMware View is an integrated, end-to-end, tested, unified workspace solution that unifies virtual desktops, applications, and collaboration, with workspace mobility. This solution provides a more flexible, secure, and efficient integrated infrastructure that delivers an uncompromised end-user experience and much greater business value than traditional solutions (Figure 1).

Figure 1: Cisco VXI Smart Solution with VMware View
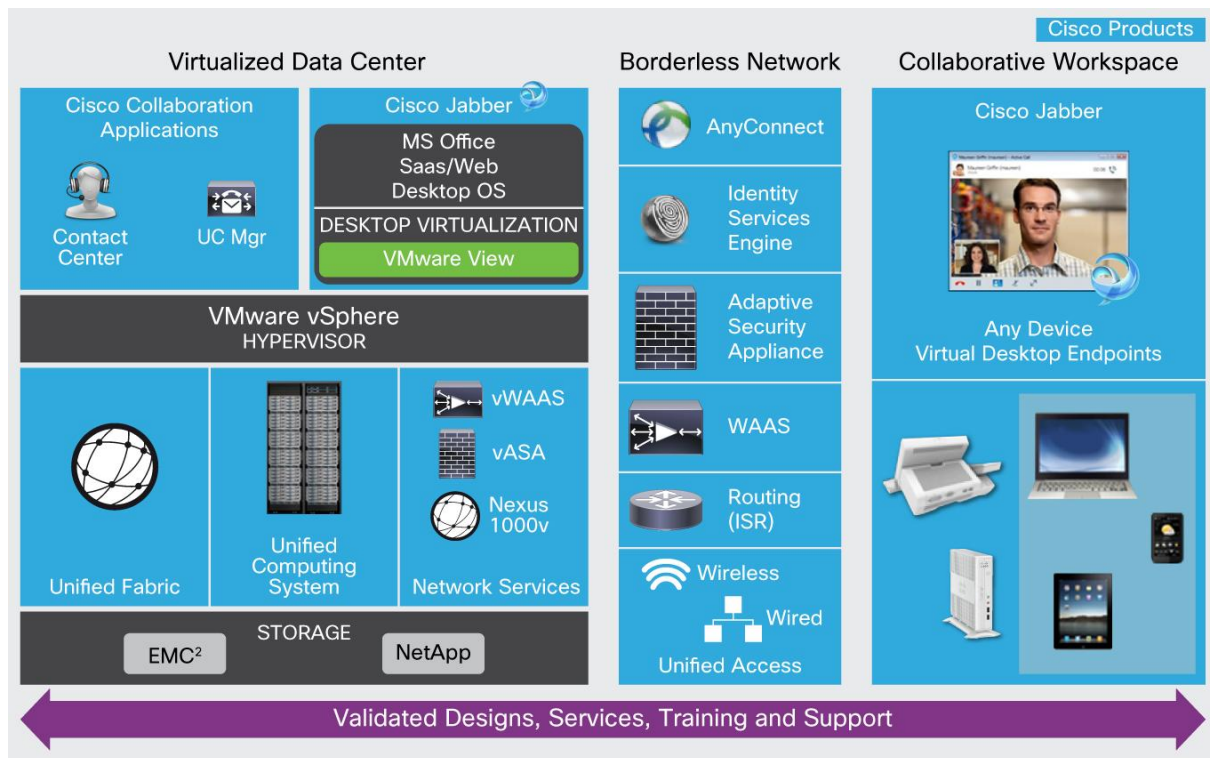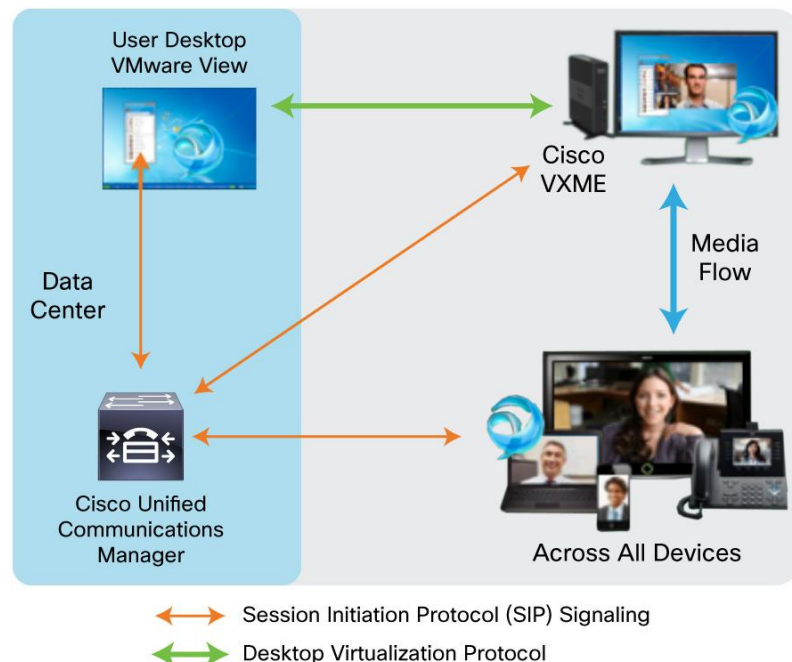

Cisco VXI with VMware View is an open and validated solution that spans Cisco® data center, network, and collaboration architectures in combination with VMware virtual infrastructure for servers (VMware vSphere) and desktops (VMware View). This solution mitigates deployment risks and simplifies implementation with a step-by-step approach that is supported by Cisco and VMware and their partners.

Cisco VXI with VMware View is built on the following architectural elements:

- The core of Cisco VXI is the highly scalable Cisco Unified Data Center, built on the Cisco Unified Computing System™ (Cisco UCS®), which securely and efficiently hosts VMware View virtual desktops and applications and dramatically simplifies deployment and management. Cisco UCS is the server industry's first solution purpose built with scalable virtualization in mind, offering rapid scalability with predictable performance, a dramatically simplified operating model, powerful computing using the latest generation of Intel Xeon processors, and an expansive memory footprint. The unified data center module of Cisco VXI with VMware View can be optimized for medium-sized deployments of up to 2000 virtual desktops or highly scalable deployments exceeding tens of thousands of desktops.

- The centrally hosted virtual desktops are delivered to user devices at any location across a secure wired or wireless network infrastructure, optimized to deliver virtual desktop, communications, and collaboration services and based on the Cisco Borderless Network Architecture and the Cisco Unified Access solution.

- The virtualized collaborative workspace can be delivered on a diverse range of company-issued and employee-owned devices that support virtual desktop clients with Cisco Jabber™. Cisco Jabber lets you access presence, instant messaging (IM), voice, video, voice messaging, desktop sharing, and conferencing. When Cisco Jabber is delivered with desktop virtualization, you get a rich collaborative experience anywhere and on any device such as PCs, Macs, mobile devices and thin clients. For an uncompromised Cisco Jabber experience with virtual desktops, simply deploy Cisco Jabber on hosted virtual desktops (HVDs) with Cisco Virtualization Experience Client (VXC) endpoints and Cisco Virtual Experience Media Engine (VXME) software. Local media processing helps ensure a high-quality unified workspace with voice, video, and virtual desktop capabilities. Cisco VXME also integrates with innovative Cisco Unified Communications accessories from Jabra and Logitech. These accessories help deliver the optimal unified workspace experience by extending time-proven communications features to the virtual, flexible, and mobile workspace environments. You can also deploy the Cisco Jabber solution on desktops and mobile devices alongside VMware View for anytime, any-device collaboration (Figure 2).

Figure 2: Virtualized Collaborative Workspace with Cisco VXI with VMware View

- Storage is a central component of any desktop virtualization solution. Cisco VXI with VMware View supports SANs, direct-attached storage, and network-attached storage (NAS), including partner and Cisco VXI validated solutions from EMC and NetApp. Cisco VXI also supports a broad set of storage architectures and storage optimization technologies from ecosystem partners to help ensure the performance and costs efficiencies required for different deployments (Figure 3).

Figure 3:   Cisco VXI with VMware View Supports a Broad Range of Storage Solutions

Cisco plus VMware: Functionally Integrated to Deliver Better Unified Workspaces

Cisco VXI with VMware View further simplifies the operating environment for desktop IT and data center managers through tight functional integration of the computing infrastructure, server virtualization, and desktop management. Cisco UCS Manager works in tandem with VMware vSphere and VMware vSphere Orchestrator to simplify and accelerate the process by which virtual desktops are provisioned and maintained.

Building on more than a decade of industry-leading technology, VMware vSphere sets a new standard as the most robust and reliable virtualization platform, and it now provides the best foundation for building cloud infrastructures. VMware vSphere is used in over 170,000 deployments in companies of all sizes throughout the world.

Built on VMware vSphere, VMware View modernizes desktops and applications by moving them into the cloud and delivering them as a managed service to help ensure the best scalability, reliability, and availability for desktop services. Processes are automated and efficient, security is increased, and the total cost of desktop ownership is reduced by 50 percent. End users get a rich, consistent, and high-performance desktop experience from any qualified device whether in the office or on the go.

Cisco VXI with VMware View Use Cases

Cisco VXI with VMware View appeals to a wide range of organizations, including large enterprises, financial institutions, government agencies, and commercial customers. The most common applications for Cisco VXI with VMware View are:

- **Microsoft Windows 7 and Windows 8 migration:** Cisco VXI with VMware View addresses this important client computing milestone by helping organizations lower operating costs and improve the security and control associated with Microsoft Windows 7 or Windows 8 implementation on a virtualized desktop.

- **Business-process outsourcing:** Cisco VXI with VMware View enables customers to outsource critical processes while maintaining control of applications and data, so that security and compliance are not compromised.

- **Temporary workers:** Organizations can deploy and manage desktop images on third-party or employee-owned assets, thus maintaining separation between corporate and personal resources.

- **Remote and branch-office support:** Cisco VXI with VMware View enables organizations to reduce costs while maintaining centralized control of sensitive data. It also simplifies administration and management of remote- and branch-office resources.

- **Mobile users:** Cisco VXI with VMware View customers can extend anytime, anywhere access to users on the go while maintaining security and control.

- **BYOD:** Companies grappling with support for BYOD initiatives can now easily provide secure access to company work from a wide variety of desktop, laptop, and handheld devices, without the need to control or remotely wipe the devices.

- **Home-based workers and teleworkers:** Cisco VXI with VMware View enables home-based workers to access corporate voice, video, and data resources over secure links, simplifying deployments and reducing costs associated with home offices.

- **Always-on services:** Cisco VXI with VMware View helps ensure highly available access to desktop services for workers and industries where downtime is not an option.

Cisco VXI with VMware View also brings the benefits of the unified workspace to a wide range of industries:

- **Healthcare:** Clinician mobility between desktops and terminals, compliance, and cost-reduction initiatives

- **Federal government:** Teleworking initiatives, business continuance strategies, continuity of operations (COOP) strategies, agency IT consolidation, and training centers

- **Financial services:** Retail banks reducing IT costs, insurance agents, compliance initiatives, and privacy requirements

- **Education:** K-12 student access, higher education access, and remote learning

- **State and local governments:** IT and service consolidation across agencies and interagency security initiatives

- **Retail:** Back-office, branch-office, and store IT cost reduction and remote access

- **Manufacturing:** Task and knowledge workers and offshore contractors

Main Features and Business Benefits

Foundation for Unified Workspaces

Cisco VXI is built on the integrated capabilities of the industry's fastest growing data center fabric, networking, security, and collaboration solutions from Cisco, using the most widely adopted and hypervisor architecture and desktop virtualization software from VMware.

The Cisco VXI Smart Solution with VMware View allows organizations to:

- Deploy desktop and application virtualization with confidence, providing a highly secure, scalable, and simplified infrastructure for hosting and delivering virtual desktops and applications

- Host more desktops per server by combining VMware vSphere's memory overcommit capabilities with Cisco's powerful Intel Xeon-based Cisco UCS servers with large memory footprints

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- Streamline infrastructure deployment, maintenance, and management using integrated service profile templates and best practices with VMware vSphere and Cisco UCS Manager

- Secure virtual desktops using the exclusive Cisco Nexus® 1000V Series Switches available for VMware vSphere; this capability allows security profiles to move with desktops when they are moved from one host server to another with VMware vMotion, provides visibility to the desktop virtual machine, making it possible to define security and control policy once for both physical and virtual devices, and enables network security policies to be established on a per-virtual machine basis

- Enable collaborative applications, delivering an integrated and uncompromised multimedia user experience with an advanced communications and collaboration suite

- Achieve workspace mobility, providing secure access to applications and communications transparently across corporate-issued and employee-owned devices in any location

End-to-End Validated and Tested System

Cisco VXI combines the power of the virtualized collaborative workspace with a virtualization-aware network and virtualized data center to provide a comprehensive services platform that sets a new standard for desktop virtualization solutions. By spanning Cisco Data Center, Borderless Network, and Collaboration architectures, Cisco VXI eliminates the feature gaps of existing virtualization solutions.

Cisco VXI with VMware View Solution Architecture

Cisco VXI with VMware View combines the industry's fastest-growing virtualized data center fabric and desktop virtualization software with the leading hypervisor, desktop-aware networking services, and security architecture (Figure 4).

Figure 4: Cisco VXI and VMware View
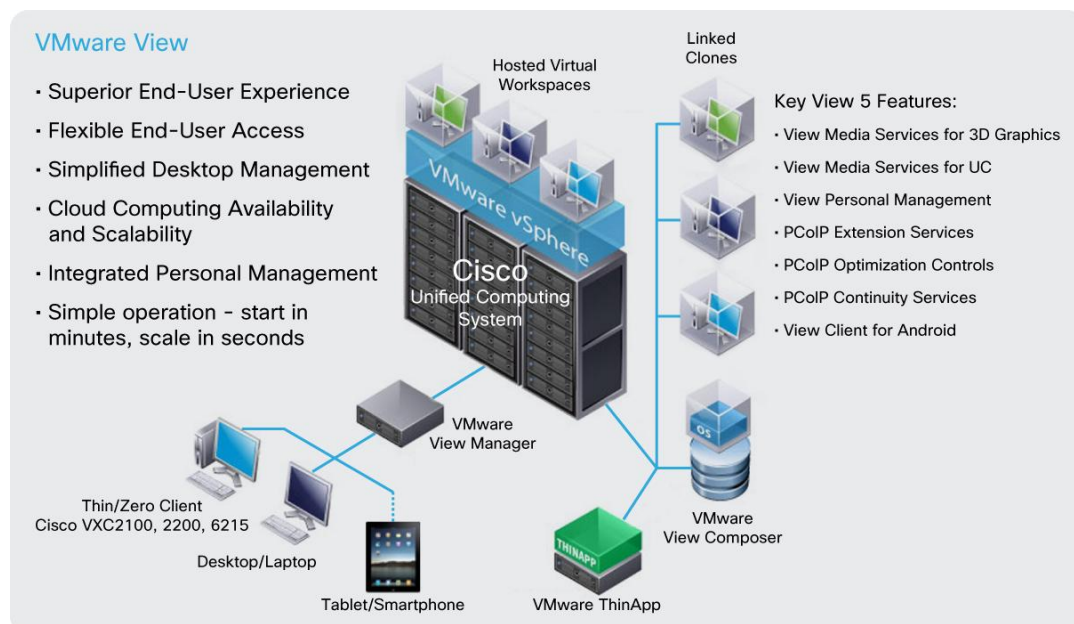
Desktop and Server Virtualization Platform for Cisco VXI

- VMware vSphere for Desktops: With this end-to-end solution from VMware, companies can apply powerful tools traditionally reserved for mission-critical server-based applications in the data center to desktop environments. This feature allows customers to extend powerful data center capabilities to the desktop, simplify backup operations and disaster recovery for desktops, and unify management of servers and desktops.

- VMware View Manager: This enterprise-class virtual desktop manager allows you to easily manage and securely deploy desktops from a single point of control to save time and resources and reduce TCO.

- VMware View Administrator: This component of VMware View Manager can be used by desktop administrators to make configuration changes, manage virtual desktops, and set policies.

- VMware View Composer: VMware View Composer uses linked-clone technology to rapidly create desktop images from a master image. User data and settings are separated from the desktop image so that they can be administered independently. This approach reduces storage costs and management time by up to 90 percent, increases the speed of automated desktop provisioning from minutes to seconds, and allows administrators to manage hundreds of desktops from a single central location.

- VMware ThinApp: This component streamlines application management, helps preserve user data and settings across OS upgrades and refreshes, and simplifies upgrading and patching applications. It also enables applications to run independently of the host operating system version or patch level, reducing platform support and release cycles, and provides additional storage reduction for HVDs by centralizing and compressing applications.

Solution Components

- VMware View

- VMware vSphere

- Cisco UCS

- Cisco Jabber and Cisco VXME

- Cisco VXC 6215, 2100 and 4000 Series, and 2200 platform

- Cisco Unified Communications Manager

- Cisco Unified Contact Center Enterprise

- Jabra Handset 450 for Cisco

- Jabra Speak 450 for Cisco

- Logitech Unified Communications Keyboard K725-C and Logitech Mouse M525-C

- Logitech Webcam C920-C

- Cisco Nexus 1000V Series Switch

- Cisco Virtual Security Gateway (VSG)

- Cisco ASA 5500 Series Adaptive Security Appliances (ASA and Virtual ASA [vASA])

- Cisco AnyConnect™ Secure Mobility Client
- Cisco Wide Area Application Services (WAAS and Virtual WAAS [vWAAS])

Total Service and Support

Cisco and its partners offer advanced services, providing the leading practices, expertise, and skill sets needed to accelerate deployment and help mitigate risk. Cisco and partner consultants include enterprise and solution architects, professionals with broad expertise in Cisco VXI technologies, and project managers. Starting with assessment workshops designed to examine your current business environment, user profile types, existing infrastructure, and desired end state, Cisco or partner advanced services can design an end-to-end Cisco VXI solution that meets your business, IT, and end-user needs, while designing and implementing a high-performance solution that scales to meet your demands in the future. After your solution is deployed, Cisco and partner advanced services provide technical support and optimization services to help you maintain an optimal Cisco VXI solution as your data center and business needs evolve.

Conclusion

Cisco VXI with VMware View delivers an end-to-end solution that accelerates desktop and application virtualization deployments and goes beyond traditional approaches, which do not recognize the complete collaborative workspace that many end users require. Cisco VXI with VMware View spans the entire virtualized infrastructure, from the endpoint to the data center, and delivers an improved virtual desktop and multimedia and collaborative experience, massive scalability, improved operation simplicity, and lower TCO than traditional virtual desktop solutions.

Only Cisco and VMware offer a comprehensive, fully integrated solution for delivering virtualized workspaces built on industry-leading solutions in unified computing, virtualization, security, wide-area networking, unified communications, collaboration, and endpoint devices. Cisco and VMware virtualization and collaboration technologies, services, and best practices provide an open, best-in-class approach to help customers achieve resource efficiency and control, simplified management, security, policy enforcement, collaboration, and desktop delivery optimization.

For More Information

Learn more about how Cisco and VMware are delivering the best integrated solution for virtual workspaces.

- To learn more about Cisco VXI, visit http://www.cisco.com/go/vxi.
- To learn more about VMware View 5, visit http://www.vmware.com/view.

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