Cisco Virtualization Experience Infrastructure: Technology Partner Wyse

Overview
For IT departments deploying virtualization solutions, the Cisco® Virtualization Experience Infrastructure (VXI) system reduces total cost of ownership (TCO), enhances security, and maintains business continuity while helping ensure a high-quality user experience. The main Cisco VXI benefits include:

- Rapid deployment of desktops during mergers, acquisitions, and workforce expansion (Cisco Unified Computing System™ stateless computing and Cisco Unified Survivable Remote Site Telephony [SRST] for phone traffic)
- Improved control and security for centralized desktops through enhanced virtual machine-level visibility (Cisco Unified Computing System and Cisco VN-Link technology)
- Low TCO through improved resource utilization (for example, 50 percent more users)
- Integration of interactive multimedia and network services to improve performance and increase application responsiveness
- Open ecosystem to help ensure long-term industry alignment, positioning customers to adopt new capabilities
- Reduced energy footprint through endpoints using one-tenth the energy required by the PCs they replace

Emergence of Desktop Virtualization
Desktop virtualization is an increasingly popular way for enterprises to reduce capital and operating expenses, improve efficiency, increase control, and expand connectivity. With virtual desktops, the desktop images are hosted in data center servers as virtual machines, which users access by means of laptop computers, thin-client terminals, PDAs, or other devices. Organizations are implementing desktop virtualization to address these critical needs:

- Support for older applications: Enterprises migrating to Microsoft Windows 7 but using applications requiring prior OS versions can give workers easy access to both.
- 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 new government regulations require protection against data leakage.

User experience: End users want access any time from any device, while preserving the traditional PC user experience.

TCO: Enterprise IT departments want to reduce costs by simplifying application upgrades, patches, and administration.

Figure 1. Cisco VXI System

Cisco VXI: End-to-End Virtualization System
The Cisco VXI system addresses these needs by transparently integrating virtualized data centers, networks, and endpoints with essential desktop virtualization services for interactive multimedia, security, and performance acceleration (Figure 1).

- **Cisco VXI Multimedia Services**: Desktop virtualization solutions typically lack mechanisms for managing congestion and optimizing bandwidth consumption for multimedia traffic. Cisco VXI integrates WAN optimization based on Cisco WAAS to improve performance for multimedia applications. Cisco is also delivering endpoints with embedded intelligence for hosting collaboration applications.
- **Cisco VXI Security Services**: Many desktop virtualization deployments have limited capability to apply security policies systemwide and limited visibility into virtual resources. Cisco VXI uses Cisco Unified Computing System and Cisco VN-Link to provide full visibility down to the virtual machine level. The Cisco Nexus® 1000V Series virtual firewall protects traffic flowing between virtual machines. The Cisco AnyConnect™ Secure Mobility Solution provides secure access for mobile users.
- **Cisco VXI Performance Acceleration Services**: Virtual desktop infrastructure (VDI) deployments are often prone to server oversubscription, intensive SSL loads, and sluggish performance. Cisco Unified Computing System with extended memory supports up to 50 percent more users and improves application performance by 43 percent. Cisco WAAS improves performance while increasing user density by 2 to 7 times. Cisco ACE offloads SSL traffic and increases user density by up to 50 percent.

Desktop Virtualization Deployment Gaps
Although desktop virtualization has great promise, significant feature gaps exist that can reduce customer satisfaction. Voice and video multimedia fail to meet user expectations, and organizations struggle to provide a consistent high-quality user experience for all services across all connections. The complexity of scaling from hundreds to thousands of desktops may limit growth. Implementing system-level security and management policies is difficult in many environments. Today’s IT departments want transparently implemented solutions that deliver a high ROI and align servers, networks, and desktops without vendor lock-in.

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

- **Microsoft Windows 7 migration**: Cisco VXI reduces migration errors, extends the life of existing software, and reduces application incompatibilities.
- **Business process outsourcing**: Cisco VXI 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 employee-owned assets, thus maintaining separation between corporate and personal resources.
- **Remote- and branch-office support**: Cisco VXI enables organizations to reduce costs while maintaining centralized control of sensitive data. Cisco VXI also simplifies administration and management of remote- and branch-office resources.

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Cisco VXI and Wyse Have Partnered to Offer Cisco VXI Zero Clients

Cisco VXC2111 and 2211 (Figure 2) are zero clients that stand alone and can be used with other IP phones or as Cisco VXI endpoints.

- Cisco VXC is enabled for Power over Ethernet (PoE)
- Cisco VXC supports two monitors, a USB keyboard and mouse, four USB ports, and audio mic-in and speaker-out.
- Cisco VXC2211 and 2211 support PC over IP (PCoIP).
- Cisco VXC2111 and 2211 support Independent Computing Architecture (ICA) and Remote Desktop Protocol (RDP).
- Device management is common with Wyse endpoints.
- Out-of-band unified communications media is supported.

Cisco VXC Technology Partner: Wyse

Why deploy a thin or zero client:

- **Improved economic efficiencies for IT:** On average, it costs more than twice as much to provision a PC than a cloud client. PCs typically incur significant annual maintenance costs associated with software maintenance and upgrades, hard drive failure, and troubleshooting, while cloud clients are essentially maintenance free and can easily be swapped out when necessary. The average lifespan of a cloud client is six to eight years, compared to three to four year for a PC, thus extending the buying cycle and reducing costs over time. In addition, cloud clients provide a greener solution from an energy perspective, consuming 10 percent or less of the wattage (less than 7 watts compared to 100 or more) required to operate a PC.

- **Greater reliability:** Cloud clients do not have moving parts such as disk drives and fans and require no native OS to be loaded on the machine, since they are completely dependent on the centralized servers. With no PC OS to corrupt, cloud clients, and more secure zero clients, reduce or eliminate virus and vulnerability concerns. Unlike with a PC, unauthorized users cannot customize a cloud client with outside software that could potentially disrupt the workstation and the network.

- **Simplified desktop environment and ease of use:** Since information and computing resources reside on centralized servers, cloud clients are not cluttered with multiple applications and can be repurposed to meet changes in operating systems and the application environment. A single cloud client can efficiently display any application and OS supported by the virtual server cluster.

- **Rapid deployment to meet business changes:** The lower per-unit costs of cloud clients compared to PCs means that more cloud clients can be deployed rapidly, when and where needed, to address new service initiatives or to manage expansions and mergers.

**Wyse Thin Clients**

As a strategic collaboration partner, Wyse complements the Cisco virtual desktop solutions for those enterprises that have multiple use-case requirements for their workforces. When requirements go beyond the need for zero clients that fully interoperate with Cisco IP Phones or task workers who rely on the delivery of virtual desktops, Wyse has a full offering of thin clients that have been validated by Cisco to interoperate with the Cisco VXC Management Software and that have been fully tested within the Cisco VXI architecture to address high performance, mobile users, and other needs of the enterprise.

These solutions include:

**Z Class**
Highest performing Windows
Embedded Dual core CPU, USG 3.0, multi-display

**R Class**
Linux and Windows
Powerful thin client with multi-display and PCIe expansion

**X Class**
Linux and Windows
Market only View 4 certified thin laptops

Wyse also offers a full complement of software solutions to further enhance the user experience in a desktop virtualization environment, including:

**Wyse Pocket Cloud**
Market only View 4 client for the Cius, iPhone, etc.

**Wyse PC Extender**
Repurpose PC Solution with integrated View 4 client

For More Information:

[www.wyse.com](http://www.wyse.com)