Citrix XenServer
Product Overview

Unlock the power of server virtualization

Enabling dynamic datacenters for business agility

Citrix XenServer™ is the simplest and most efficient way to virtualize and provision servers to deliver a dynamic datacenter — a flexible aggregated pool of computing and storage resources. Citrix XenServer enables IT organizations to break the bonds between servers and workloads, giving them the ability to create dynamic datacenters. XenServer combines comprehensive server virtualization and provisioning capabilities with unparalleled scalability, performance, economics, and ease-of-use.

Reducing costs through increased utilization

With XenServer, businesses can deploy multiple virtual servers on shared hardware increasing utilization and reducing the costs of equipment, power, cooling and real estate. Server virtualization can reduce the costs of delivering disaster recovery as server workloads can be instantly provisioned to any available system, local or remote. Organizations can realize benefits by consolidating existing servers or deploying new workloads more efficiently.

Dynamic control for every server

The powerful provisioning capabilities of Citrix XenServer make it possible to extend the dynamic datacenter to both virtual and physical servers. Whether an organization chooses to virtualize all of its servers or to maintain a combination of physical and virtual servers, workloads can be provisioned rapidly and dynamically, with dramatic savings in storage costs and management complexity. IT organizations can deploy physical and virtual servers using a single operating system image, reducing the cost of patch and update management.

Leveraging the innovation of Xen

The foundation of Citrix XenServer is the open source Xen® hypervisor, a proven and robust virtualization engine. Citrix XenServer combines the performance, security and openness of Xen technology with easy-to-use management and simplified deployment. Citrix XenServer is perfect for rapid deployment of servers, server consolidation, development and test environments, and disaster recovery.

CITRIX®

ViP virtualization performance

Power, flexibility and investment protection

Citrix XenServer is a native 64-bit virtualization platform, with the scalability required by Microsoft® Exchange Server, Microsoft® SQL Server® and other business-critical applications. High capacities for processor and memory resources, coupled with fine-grained control of CPU, network and disk, enable XenServer to deliver optimal quality of service. Running virtual machines can be migrated to new servers without service interruption, assigning essential workloads and enabling zero-downtime maintenance. The XenServer command line and open programming interfaces make it easy to integrate XenServer with existing processes and management tools.

XenServer Editions

Citrix XenServer is available in four editions:

- Express Edition — a free starter edition to bring virtualization to every server
- Standard Edition — a feature-rich server virtualization solution with multi-server management for the most business-critical workloads
- Enterprise Edition — a powerful virtualization platform supporting flexible, aggregated pools of computing and storage resources with dynamic workload management
- Platinum Edition — the only platform that not only virtualizes but also provisions server workloads, extending the power of the dynamic datacenter to both physical and virtual servers

Users can upgrade between editions by the simple entry of a license key, requiring no downtime.

Major server manufacturers also deliver integrated XenServer Editions that are tailored to the capabilities and management tools of their server platforms — enabling customers to simply power on and virtualize.

What is Xen?

Xen is a unique open source virtualization technology originally invented by a University of Cambridge team led by Ian Pratt. Current Xen development, led by Citrix engineers and technologists, cooperatively involves some of the world's best software engineers at approximately two dozen of the most innovative IT organizations. With Xen virtualization, a thin software layer known as a hypervisor is installed directly on "bare metal" hardware — thereby inserted between the server's physical hardware and operating system. This provides an abstraction layer that allows each physical server to run one or more virtual servers, effectively decoupling the operating system and its applications from the underlying physical server.

The Xen hypervisor introduced a lightweight virtualization approach called paravirtualization (or cooperative virtualization), a technology that is widely acknowledged as the fastest and most secure virtualization architecture in the industry. Xen is further enhanced by taking full advantage of the latest Intel and AMD hardware virtualization assist capabilities in their server processor families. Finally, the Xen hypervisor is exceptionally lean — in the neighborhood of only 50,000 lines of code — which translates to extremely low overhead and near-native performance in the virtualized environment.

Key features

Enterprise-ready performance and scalability	
"Bare metal" implementation	Runs directly on server hardware rather than on a separate host operating system for highest performance and scalability.
Hardware virtualization assist	Uses the latest optimizations in Intel and AMD processors for high performance, even when running operating systems that are not delivered virtualization-ready.
XenServer Tools	Bundled I/O enhancements deliver optimized disk and network performance for Windows® and Linux guests.
Native 64-bit architecture	Built from the ground up to support 32-bit and 64-bit guests, enabling large memory allocations needed by many workloads, as well as 64-bit workloads such as Microsoft Exchange and Microsoft SQL Server.
SMP virtual machines	Support for up to eight virtual processors in each virtual machine to deploy processor-intensive applications such as messaging and database servers, and to take advantage of multi-core processing power.
Up to 32GB memory per virtual machine	Enterprise-class virtual memory capacity for memory-intensive workloads.
NEW Optimized for Citrix XenApp™	Best in class scalability for Citrix XenApp (formerly Presentation Server) workloads.
Simple deployment and installation	
Flexible product installer	Can be installed from CD, via PXE-based network boot, or using server management processors with remote CD or ISO access.
Easy virtual machine deployment	Windows and Linux guests can be installed using CDs or DVDs, ISO images or network-accessible repositories. Virtual machines can be converted to templates for replicated installation.
Broad hardware support	Leverages standard Linux device drivers and optimized guest drivers for broad device support without compromising performance.
Rich local storage support	Support for a wide range of local storage options including IDE, SATA, SCSI and SAS.
Flexible shared infrastructure	
Pooled servers and storage	Managing multiple servers and connected shared storage as unified resource pools enables flexible deployment of virtual machines based on resource needs and business priorities.
Live migration via XenMotion	Virtual machines can be moved from server to server without service interruption for zero-downtime server maintenance. Administrators can move applications to take advantage of available compute power.
Pool-based configuration	Common settings can be set and applied automatically on a pool-wide basis, simplifying reconfiguration.
On-demand virtual machine deployment	
Templates	Virtual machines can be converted to templates for rapid provisioning of multiple like systems on a server or resource pool. With local or NFS file-backed storage or integrated NetApp storage, newly cloned guests can be available in seconds.
Import and export	Virtual machines can be exported and made available to remote locations, archived, used as a basis for disaster recovery sites and restored via import. The import operation can also be used with the XenServer appliance format that is supported by many virtual appliance vendors and other tools.
Bundled Linux P2V tool	Popular Linux distributions can be migrated from physical systems to XenServer virtual machines. (Additional tools for P2V migration are available from Citrix technology partners; see the website for details.)
Virtual machine migration tool	Convert VMware and Microsoft virtual machines to XenServer format.

Powerful storage management		
	Shared iSCSI, Fibre Channel and NFS storage	Can be configured as shared pools from which disk resources can be allocated to virtual machines, enabling best use of storage infrastructure.
	Dedicated Fibre Channel and iSCSI storage	Central SAN storage resources can be partitioned among servers.
	Optimized file-backed virtual disks	Virtual machines stored on dedicated file systems or NFS storage use the widely supported Microsoft VHD format, granting transparent access to thin provisioning and fast cloning.
	Storage Services API	Storage vendors can make advanced capabilities of their arrays and controllers (including cloning, thin provisioning and snapshots) directly accessible from XenServer administrative interfaces.
NEW	Adapter for NetApp Data ONTAP	Provides integrated access to optimized storage services including fast cloning, thin provisioning, snapshot and deduplication automatically from XenServer management interfaces for NetApp FAS, StoreVault, and V-series storage.
NEW	USB removable storage support	Allows virtual machines to be accessed from removable external storage and moved to any XenServer host.
Efficient, secure virtual networking		
	Virtual network interfaces	Each virtual machine can be configured with one or more virtual network interfaces, each having its own IP and MAC addresses. Virtual machines appear as independent physical systems on the network.
	Virtual switches	Virtual network interfaces can be connected to virtual switches offering network isolation. Each virtual switch can connect to the physical network via a physical network interface, or can be configured as a fully virtual network for private guest-to-guest traffic at memory speeds.
	VLAN support	Virtual machines can be bound to separate VLANs to isolate traffic from each other and from other physical servers, reducing network load, increasing security and simplifying reconfiguration.
NEW	Network interface bonding	Network interface failover for increased resiliency and availability.
NEW	10Gb Ethernet networking	Supports adapters for high-speed enterprise networks.
XenCenter Management		
	Easy-to-use single point of management	Whether systems are managed one at a time (Express Edition), as multiple independent servers (Standard Edition) or as unified pools of servers and storage (Platinum and Enterprise Edition), the same XenCenter interface is utilized.
	Full lifecycle management	Administrators can create, start, stop, reboot, suspend, resume, migrate and uninstall virtual machines, and reboot and shut down physical servers, securely from any location.
	Performance monitoring	Administrators can access real-time and trended performance information of virtual machine and server performance metrics for processor, memory, disk and network utilization.
	Resource management	XenCenter provides easy access to quality-of-service controls that allow configuration of priority and limits for processor, memory, disk and network I/O.
	Flexible console support	Administrators can connect to Windows virtual machines via the built-in graphical interface or the native Windows RDP protocol, and access the graphical and text consoles of Linux virtual machines, directly from XenCenter.
NEW	Rolling update support	Allows IT staff to update software or install platform hotfixes without interruption to virtual servers or applications.
NEW	Update wizard	Automates and simplifies the management of hotfixes across server pools.
Interfaces for management integration and scripting		
	XenAPI	The open XML-RPC interface for XenServer management, allows partners and customers to integrate virtualization management into their tools with the same interfaces used by XenCenter.
NEW	XenAPI language bindings	C, Python and C# language libraries offer flexibility to developers. Now updated with Java bindings
	Remotable Command Line Interface	The "xe" command line interface runs on the managed XenServer or on any Windows or Linux system, and provides a powerful tool for character-based administration sessions as well as script integration.

NEW features in 4.1

Compare Citrix XenServer Editions

Feature	Express Edition	Standard Edition	Enterprise Edition	Platinum Edition
Native 64-bit Xen hypervisor	●	●	●	●
Windows and Linux guests	●	●	●	●
XenCenter unified virtualization management console	●	●	●	●
XenAPI management and control scripting interface	●	●	●	●
Multi-server management		●	●	●
Resource pools			●	●
XenMotion live migration			●	●
Shared Fibre Channel, iSCSI and NFS storage			●	●
Configurable VLAN support			●	●
Resource QoS controls			●	●
Physical and virtual server provisioning				●
Administrative model	Single server	Multiple servers	Multiple servers and pools	Multiple servers and pools
Physical memory	1 GB – 4 GB	1 GB – 128 GB	1 GB – 128 GB	1 GB – 128 GB
Processor sockets	2	2	Unlimited *	Unlimited *
Virtual machines running concurrently	4	Unlimited *	Unlimited *	Unlimited *
Memory maximum per virtual machine	4 GB	32 GB	32 GB	32 GB

* No limit imposed by license — consult product documentation for tested limits of current release.

Citrix Delivery Center is the first solution on the market with the ability to deliver applications and desktops to any user, anytime, anywhere from a secure central location. The Citrix Delivery Center™ product family features our primary product lines: Citrix XenApp™ — the new name for Citrix Presentation Server™ — Citrix® NetScaler®, Citrix XenServer™, Citrix XenDesktop™, and Citrix Workflow Studio™.

Citrix XenApp is the industry's de facto standard for delivering Windows-based applications enabling the best performance, security and cost savings. With more than 70 million users and 99 percent of the *Fortune* Global 500 as customers, it uses state-of-the-art client- and server-side application virtualization to deliver applications to office and mobile workers from a secure centralized location.

Citrix NetScaler is a purpose-built Web application delivery solution that accelerates application performance up to five times while improving security and reducing Web infrastructure costs. It is also the delivery infrastructure of choice for most of the world's largest Web sites, touching an estimated 75 percent of all Internet users each day.

Citrix XenServer is an enterprise-class solution for virtualizing application workloads across any number of servers in the datacenter as a flexible aggregated pool of computing resources. It is the first solution to provision application workloads across physical and virtual servers making the entire datacenter more dynamic.

Citrix XenDesktop is the industry's first comprehensive Virtual Desktop Infrastructure (VDI) solution. It enables simple, secure and cost effective delivery of Windows desktops to any office worker with an unparalleled user experience.

Citrix Workflow Studio is an orchestration tool that allows administrators to far more easily create and integrate application delivery processes across Citrix and third-party products, allowing them to work together as a single cohesive system.

The Citrix Delivery Center includes the following solutions which are part of the product lines listed above. These are also available as standalone options:

- Citrix Access Gateway™ — for secure application access. Empowers users with easy "anywhere" access and provides administrators market-leading application-level control.
- Citrix EdgeSight™ — for the best end-user experience. Increases user productivity by centrally monitoring and managing the performance and availability of applications.
- Citrix Password Manager™ — for enterprise single sign-on. Improves password security and user productivity with the industry's most secure, efficient, and easy-to-deploy enterprise single sign-on solution.
- Citrix Provisioning Server™ — for datacenter and for desktop systems. Provisioning Server for Datacenters uses streaming technology to deliver workloads on-demand to physical or virtual servers. Provisioning Server for Desktops streams operating systems and software on-demand to physical desktops. Centralized system provisioning reduces operating costs, and improves security, flexibility and reliability.
- Citrix WANScaler™ — for branch and mobile user application delivery. Accelerates application performance over the WAN by 5 to 30x and deliver LAN-like productivity for WAN-based applications.

Test drive Citrix XenServer

Experience the simplicity, cost-effectiveness and power of XenServer on your own servers. Download a 30-day trial at www.citrix.com/xenserver/try today.

About Citrix

Citrix Systems, Inc. (Nasdaq:CTXS) is the global leader and the most trusted name in application delivery infrastructure. More than 200,000 organizations worldwide rely on Citrix to deliver any application to users anywhere with the best performance, highest security and lowest cost. Citrix customers include 100% of the *Fortune* 100 companies and 99% of the *Fortune* Global 500, as well as hundreds of thousands of small businesses and prosumers. Citrix has approximately 6,200 channel and alliance partners in more than 100 countries. Annual revenue in 2007 was $1.4 billion.

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