

A photograph of a server room. In the foreground, a laptop is open on a server rack, displaying a command-line interface. The server racks extend into the background, creating a perspective view of the aisle.

Reference and Capacity Planning for Citrix Presentation Server in a VMware ESX Server Environment

Technical Product Management
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Reference & Planning for Virtualizing Citrix

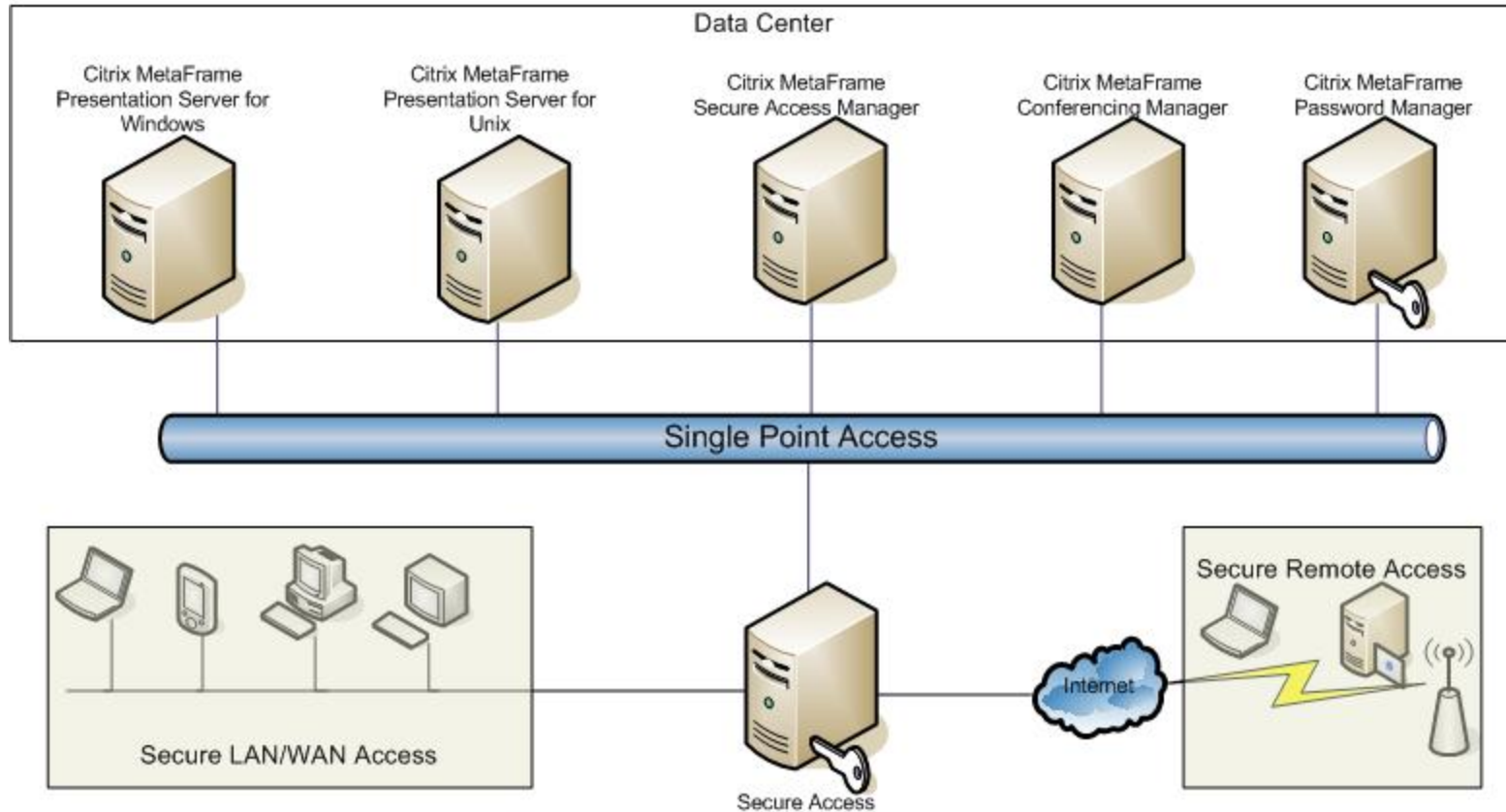
Overview

- Introduction to Citrix Products
 - How they work together
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 - VMware ACE and Citrix
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- Implementation Guidelines
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Introduction to Citrix Products

How they work together

Citrix MetaFrame Access Suite

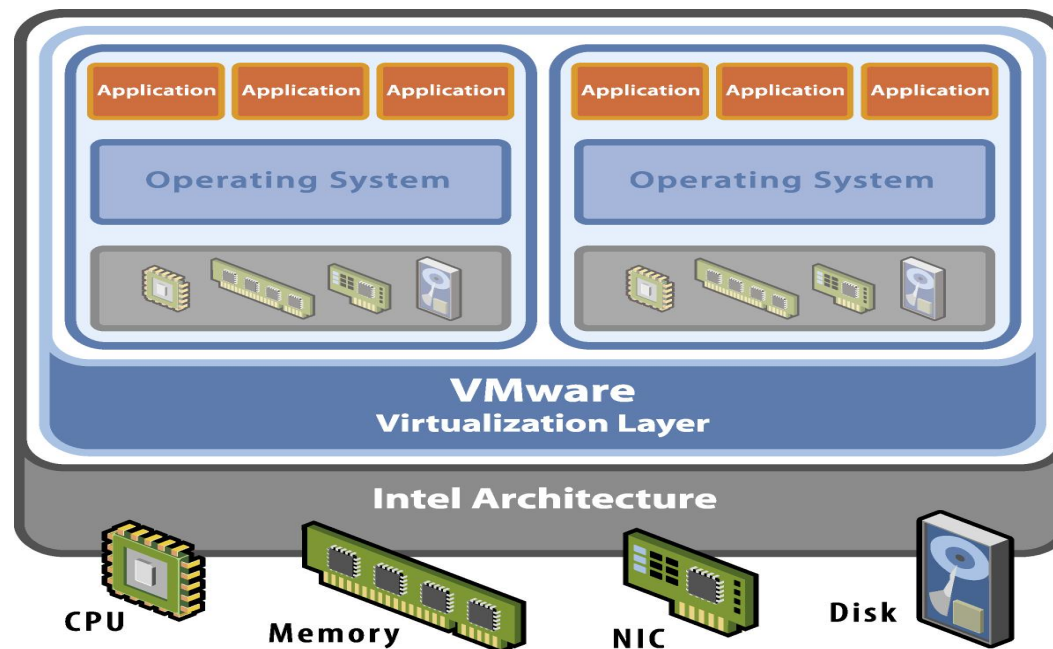


CITRIX[®]

Introduction to Virtual Infrastructure

VMware ESX Server & Terminologies

- Virtual Infrastructure – simulation of hardware or a total computer environment other than the one in which the software is actually running
- VMware ESX Server - runs directly on the hardware



VMware ESX Server

Citrix using ESX Server Features

- Virtual machines may be administered centrally.
- Virtual machines are isolated.
- Virtual machines can be configured to use specific hardware resources.
- Virtual machines are easily copied and deployed.
- Virtual machines can be moved between physical machines.
- Machines can be consolidated.

VMware Assured Computing Environment (ACE)

Differences with Citrix

- VMware ACE - an enterprise solution for IT desktop managers who want to provision secure, standardized environments throughout the extended enterprise.
- VMware ACE and Citrix Metaframe server are complementary

Task	ACE	Citrix
Management	Distributed	Centralized
Data	Runs as a virtual machine on user desktop	Pulled from server typically in a data center
Connectivity	Online or offline	Online only
Shared Instance	No, dedicated to user	Yes, shared by number of connected users
Administration Policies	Virtual machine controls	Server controls
Security	Virtual machine security	Server connectivity security

Benefits to Virtual Infrastructure

Citrix MetaFrame Suite with ESX Server

- Scalable
 - Avoid some operating system limitations
 - Efficient use of multiprocessor systems
- Isolation
 - Operates independently in virtual machine
 - Protects users from monopolization of resources
- Convenience
 - Growth easier to manage and afford
 - Runs on the heterogeneous hardware

Implementation Guidelines

Planning

- Selecting the Correct Hardware
 - Disk and Memory Requirements
 - Processor, Bus and Memory
 - Hard Disks, SAN
 - Network Interfaces
- Understanding Storage in Virtual Machine with Citrix
- ESX Server Guidelines
 - Networking Requirements in Virtual Machines with Citrix
 - Efficient Resource Use
- Virtual Machines, Guest Operating Systems and Applications
 - Guest Operating Systems Resource Requirements

Implementation Guidelines

Sizing

- Citrix MetaFrame Sizing in a Virtual Machine
 - increased flexibility with single-CPU virtual machines using ESX Server
 - Redundancy improvements with VMware ESX Server implementations
 - Ability to segment high load processes
- Sizing based on the applications and the number of users to be supported
- Understand the user loads, types of applications for deployment

Implementation Guidelines

Performance

- Properly Configure Guest Operating System
 - Install Vmtools
 - Disable CD-ROM
 - Disable Visual Effects
- Performance Monitoring
 - Citrix performance varies, depending on what is run on the Citrix client
 - Test applications prior to deploying in production
- VMware Testing Methodology
 - Using Citrix Server Test Kit (<http://www.citrix.com/cdn>)
 - Results vary based on specific environmental characteristics

Implementation Guidelines

Manageability

- Management Tools
 - VMware VirtualCenter and the Virtual Infrastructure Node (VIN)
 - Microsoft Operations Manager (MOM)
- Data Management
 - Backup and Recovery - ESX Server, Virtual Machines
 - http://www.vmware.com/pdf/esx_backup_guide.pdf

Implementation Guidelines

Availability

- Setting Expectations: What availability: Single point of failure, Quality of Service, etc.
- Increasing Virtual Machine Availability Using a SAN
 - Multiple path for redundancy
 - Automatic Path Failover
 - High-Availability Cluster Support
- High Availability in Citrix Secure Gateway Services
 - Understanding product changes in Citrix and what that means to the deployment

- Virtualization offers Benefits over Physical Deployments
- Know The Deployment Environment for Success
- Mileage May Vary. Test Virtualization with Citrix Prior to implementing in a Production Environment
- Additional Information:
http://www.vmware.com/pdf/esx21_Citrix.pdf - Note: New ESX Server 2.5 version soon to be published replacing this link.