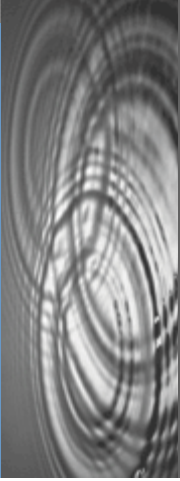




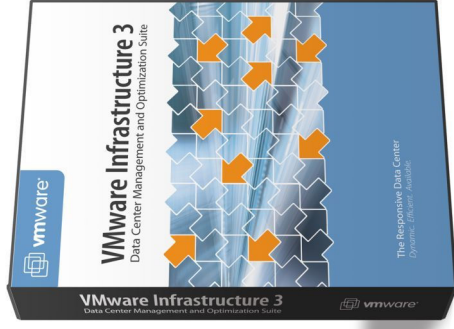
VMware Solutions@Work
Seminars, Workshops, Round Tables



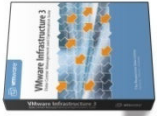
VMware Solutions@Work

Q3/2008

Thinapp and extended VDI Concepts



Petr Juricek
Partner Systems Engineer
VMware Global, Inc.



Agenda

What is Application Virtualization?

- > How does it compare to machine virtualization?

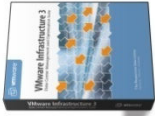
The Challenge of Application Deployment

- > What makes application deployment so expensive?
- > Where are the biggest pain points?

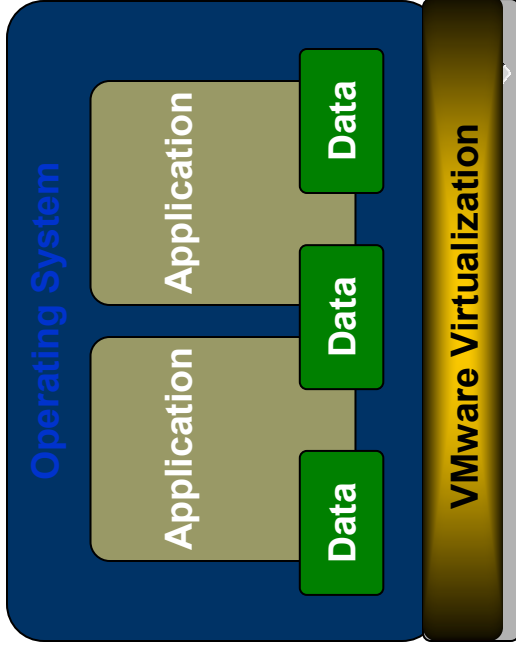
A New Way to Approach the Problem

- > Introducing VMware's Thinapp
- > Unique Features

Q&A



VMware customers know that monolithic HW and OS bundles reduce efficiency



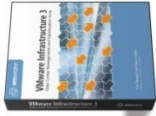
Problem : Tightly coupled relationships between HW, OS, Applications and Data.

Symptoms:

- Under-utilized HW resources (CPU, Memory, I/O, Disk)
- Severe inflexibility for deploying, migrating, and managing workloads
- Expensive HA, Backup, and DR

Solution:

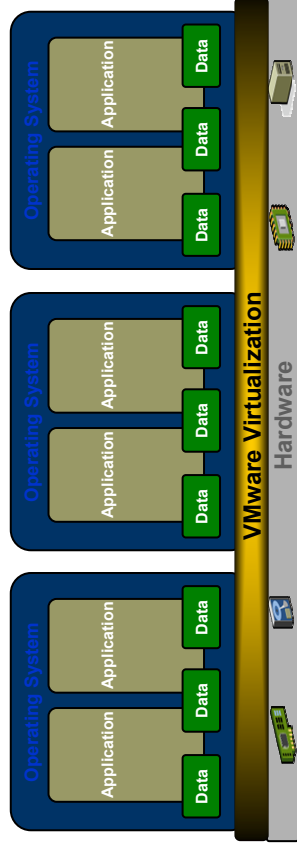
- VMware machine virtualization to decouple operating systems from hardware



Decoupling HW from OS creates compelling benefits

Server

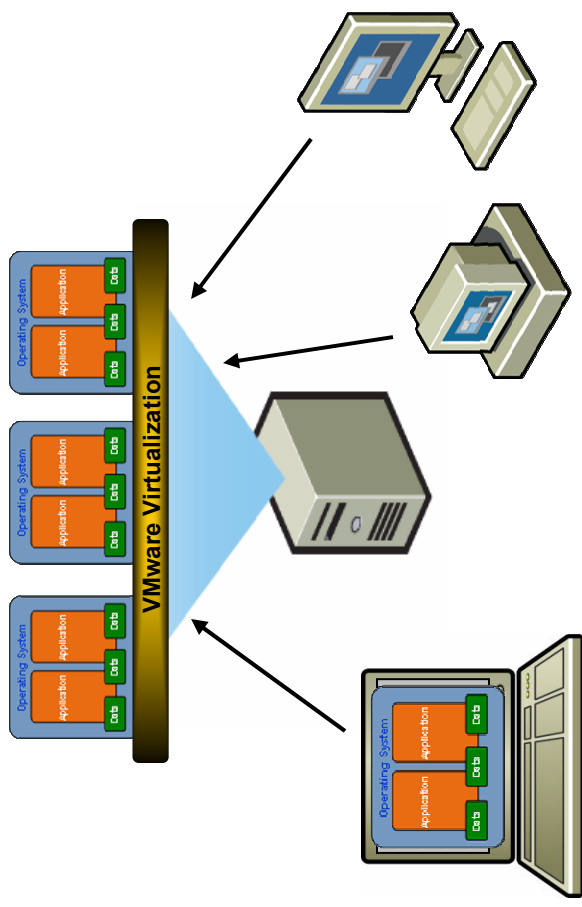
Example Benefit: Workload Consolidation



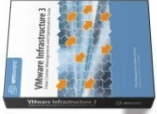
- Ability to pool and share HW resources; achieve better overall utilization
- Save on power, heating, cooling and space by reducing the number of required servers
- Provision, maintain, monitor, and configure faster
- Eliminate planned downtime and recover from unplanned downtime more quickly

Desktop

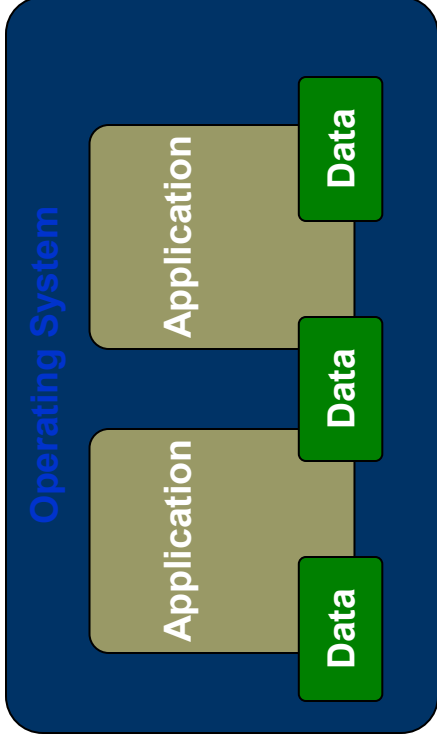
Example Benefit: Centralized Management



- Move the OS off the endpoint, and closer to the administrator for central management
- Increase control of data and IP assets by storing centrally and better enforcing policies.
- Make the OS available to end-user from anywhere



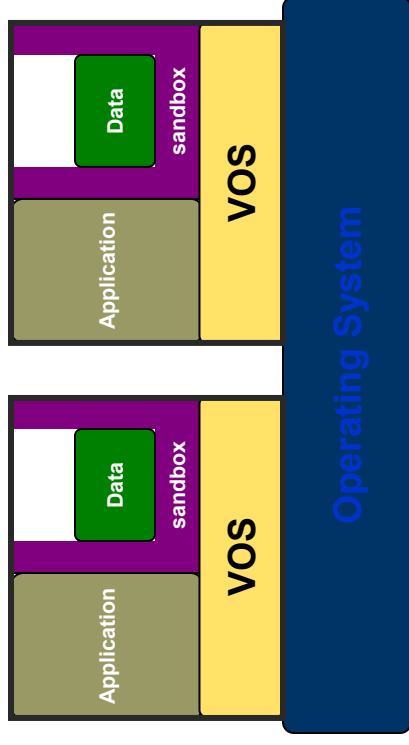
VMware Now Virtualizes Application and Data



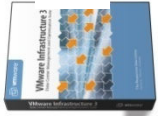
Problem: Tightly coupled relationships between OS, Applications and Data

Symptoms:

- Application conflicts and issues with “badly behaving applications”
- Inability to deploy all required applications to specific desktop image
- Expensive application compatibility testing with large testing matrix



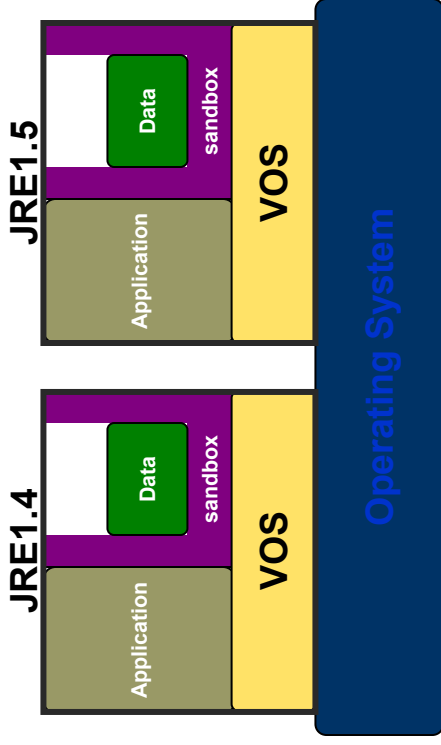
Solution: VMware application virtualization to decouple applications and data from the OS



Decoupling Apps from the OS increases flexibility

Application Isolation

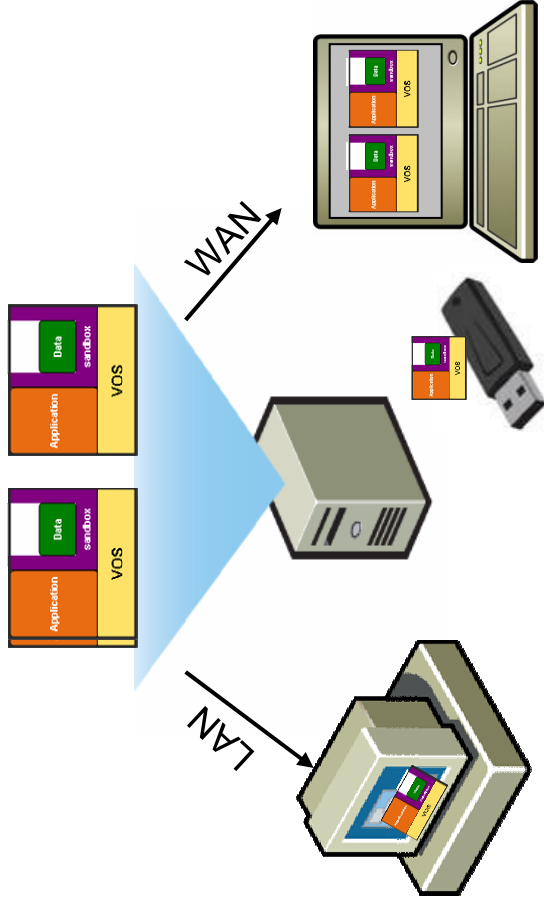
Example Benefit: Application Compatibility



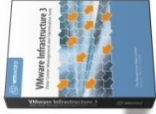
- Reduced compatibility testing matrix
- Simultaneous support for multiple versions of the same application
- Simplified application troubleshooting and problem resolution

Application Delivery

Example Benefit: Access Anywhere

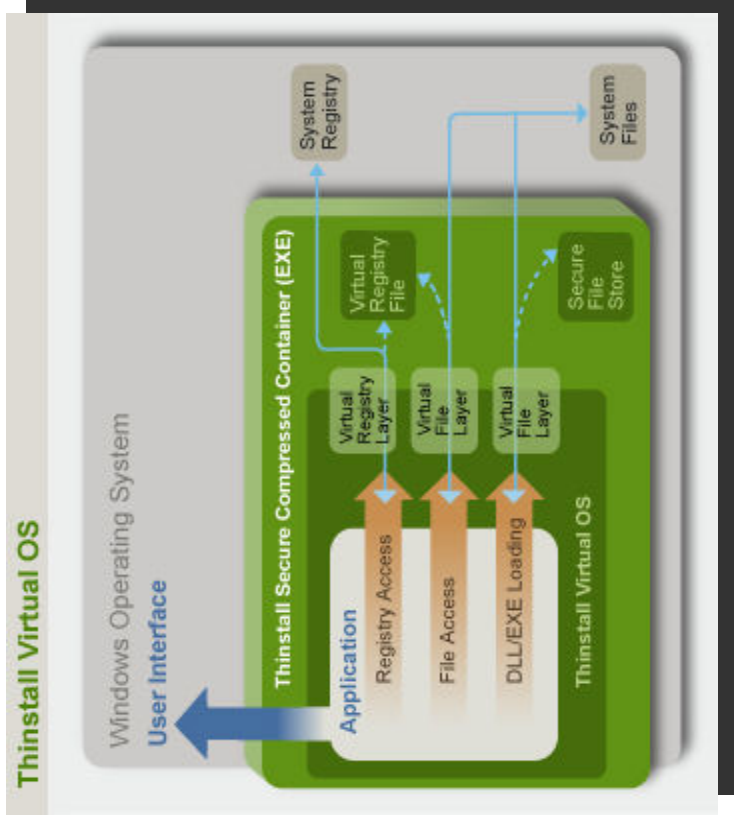


- Reduce base OS image size and complexity
- Deliver applications wherever user needs access
- Dramatically improve readiness for application migration to new/different OS environments

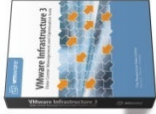


What is Application Virtualization?

VMware Thinapp links the application, Virtual Operating System (VOS), and a compressed embedded file system and registry into a single EXE file



- Applications are encapsulated in their own container
- Each application is separated from other applications and the operating system
- Application virtualization intercepts file and system calls between the application and the OS



Agenda

What is Application Virtualization?

- > How does it compare to machine virtualization?

The Challenge of Application Deployment

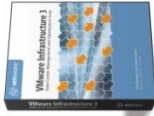
- > What makes application deployment so expensive?
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A New Way to Approach the Problem

- > Introducing VMware's Thinapp
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Demo

Q&A

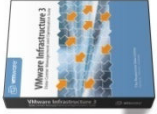


Native packaging means addressing the unique issues of each deployment OS



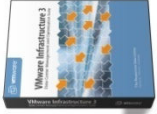
31 categories of application compatibility issues identified within Vista

- Windows Driver Display Model
- UAC: Standard User Changes
- UAC: Application Update Guidelines
- UAC: COM Per-User Configuration
 - Default Programs
- Program Compatibility Assistant (PCA)
- Graphical Device Interface (GDI)
 - Named Pipe Hardening
 - SPAP Deprecation (Pstore)
- WMI Providers: Default Security Hosting Model
 - Volume Shadow Copy Service
 - Standard User Analyzer
 - DHTML Editing Control
 - Help Engine Support
- Junction Points and Backup Applications
- MMCs Must Be Data Execution Protection (DEP) Aware
 - Networking: Turning Off the Windows Firewall
- Quick Compatibility Check
- Operating System Versioning
- Windows Resource Protection (WRP)
 - Internet Explorer Protected Mode
 - Windows Vista 64-Bit
 - IIS7
- Microsoft Graphical Identification and Authentication (GINA)
 - Session 0 Isolation
- Networking: TCP/IP Stack and the Windows Filtering Platform
- Networking: Kernel-Mode IP Helper APIs
 - Networking: IPv6
- Application Compatibility for Backup and Recovery
 - Integrating with the Search the Internet Feature



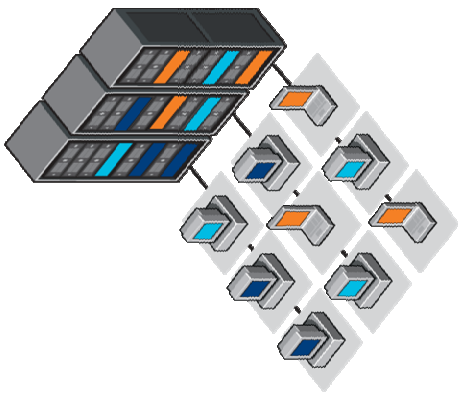
Why did VMware buy Thininstall?

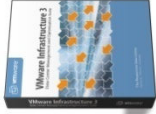
- > **Increase VMware's product breadth within desktop virtualization**
 - Thinapp will be available as both a standalone and integrated product
- > **Open up the market around application virtualization**
 - No rules around support agreements, benefits for using particular ESD tools, or requirements for server infrastructure in order to buy and use application virtualization
- > **Technology provides some key building blocks for VMware roadmap**
 - Virtualize higher in the OSI model
- > **Strong technology**
 - The list of unique features is high. Most importantly, when VMware engineering looked closely, the quality of the software was very evident
- > **Makes VDI better**



Thinapp makes VDI better

- Enables creation of fewer desktop images by separating apps and desktops
- Reduces storage cost Placement of applications outside VDI image
- Allows multiple versions of the same application to be installed in a VDI image
- Improves VMware SVI's ability to address "badly behaving applications"
- Easier deployment of software components such as JRE or .NET client





Some unique features of Thinapp

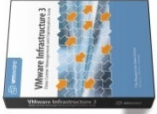
- > **Agentless architecture**
 - No compatibility issues with multiple versions
 - No backend infrastructure requirements
 - 100% User mode execution

- > **Widest platform support**
 - Support for 16, 32 & 64bit windows,
 - Windows NT, 2K, XP, Vista, W23K
 - Citrix PS 4.x and MS Terminal Services

- > **Support for the widest array of applications**
 - Support for wide variety of .NET and Java runtimes
 - Multiple versions of Internet explorer – run IE 6 & IE 7 on the same machine

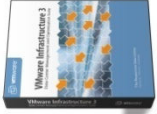
- > **Works with what you have now!**
 - SMS, BMC (Marimba), Altiris, HP, IBM, CA, LANDesk, Bigfix and more....





Limitations

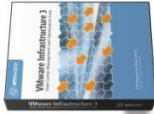
- > **Thinapp does not support 100% of applications and in some cases functionality may be degraded.**
- > **Some known limitations are listed below.**
 - Device Drivers
 - Shell-integration
 - Network visible DCOM services
 - Global Hook DLLs




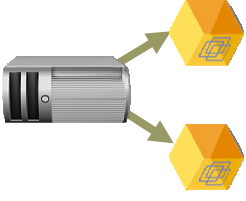

Thinapp – VMware Branded Thinstall

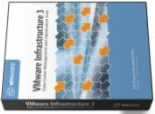


- **New Features:**
 - Application Link – Connect Thinstall packages to enable streamlined deployment.
 - Application Sync – Fast, low-bandwidth update model for deployed Thinstall applications.
 - Client License Management – Enforce access policies on a per-application basis
- **Infrastructure Development**
 - VMware 24/7 Gold and Platinum Support
 - VMware QA
 - VMware Sales, Marketing and Channel
 - VMware Professional Services Solution Offerings
 - VMware Educational Services



VDI Roadmap

	2008 H1	2008 H2	Beyond 2008
User Experience 	<ul style="list-style-type: none"> > User UI localization > Productize Linux boot client > Simple multi-monitor > MMR integration > Thin client API productization 	<ul style="list-style-type: none"> > Portal support > Native Linux client > Keystroke echo, local app. use, interim multi-monitor solution, simplified printing > Service monitoring 	<ul style="list-style-type: none"> > Robust multimedia, 2- and 3-d graphics, multi-monitor, VOIP > User experience tracking > Client hypervisor
Management 	<ul style="list-style-type: none"> > Incident logging > Delegated administration and help desk application > Location-based entitlements 	<ul style="list-style-type: none"> > ACE VDI management integration > Delegated, granular administration > Location-based entitlements > Usage and license monitoring > SAN storage reduction > Self provisioning and workflow > Adaptive provisioning > FIPS compliance > Management UI localization > Offline desktop 	<ul style="list-style-type: none"> > Dynamic VM deployment > Management appliance > Cross platform user personality > Mgt console snap-ins > Multi-tenanting > Application usage analysis > Desktop cluster analysis > Desktop and pool creation (Z2V) > User desktop SLAs
Server Platform 	<ul style="list-style-type: none"> > V1 3.5 support > Scalability to 50,000 desktops > Connectivity to Citrix PS (via ICA), Blade PCs, local PCs, MS Terminal Server 	<ul style="list-style-type: none"> > Storage and pooling extensibility > App. Virtualization > VDI cache server > Windows 2000, Linux guests 	<ul style="list-style-type: none"> > Improved server and VC scalability > Application/VM/OS streaming > Multi-tenanting



Thank you!