Cisco Expo 2009
Bratislava
“You can't stop the waves, but you can learn to surf.”

Jon Kabat-Zinn

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VMware Initiatives

vSphere
Foundation for the Internal Cloud

vCloud
Choice and Cloud Federation

View
Manageable Endpoints
The desktop dilemma: User Freedom vs IT control

User
- Anytime, anywhere access
- Device, OS and apps diversity

IT
- Increasing IT costs
- Security and compliance risks
The costs of managing PCs is staggering

For every $1 spent on hardware, companies spend $3 to manage...

Source: IDC Study 2009
VMware View – Value Proposition

*VMware View enables Desktop as a Service*

**Efficiency**
- Reduction in helpdesk calls
- Drastic reduction of desk-side service for end-users (break & fix)
- Reduction in time to resolve issues
- Simplified patching, upgrading, re-imaging
- PC boot-up/uptime
- Increase life span of current PC hardware

**Improved business agility**
- Desktop/Application provisioning from days to hours
- Flexibility of access (Any device, any location)

**Increased security**
- Availability/reliability of Desktop (also DR)
- Data protection (centralized backup)
- Secure desktop data
- Full control over security policies
OPEX – TCO Saving opportunities

- Providing deskside service for users
- Desktop imaging/reimaging
- User Administration (Move/Add/Change)
- Hardware configuration
- OS/Application Patching
- Patching, upgrading and supporting applications
- Packaging and deploying applications
- Managing and supporting the desktop images
- Application Testing & Provisioning
- Providing help desk support for users
- Security management of data or access

Source: IDC ‘Quantifying the Business value of View’
Centralized Enterprise Desktop Management

VMware decouples Desktop image from the PC

Desktops run in secure datacenter

Present Desktop into clients over Network
PC Experience Over the Network (PCoIP)

Purpose Built for Desktop Virtualization

Software Implementation

Hardware Acceleration (Optional)

Task Workers

Designers
Hosted Virtualization for “Employee-Owned IT”
Bare-Metal Virtualization for “Corporate-Owned IT”

- No host OS: Less management and patching
- 3D graphics and local performance

Manageability, security, and performance capabilities of Intel® vPro™ technology
VMware Initiatives

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The Power of the Platform

**Application Services**
- VMotion
- Storage VMotion
- HA
- Fault tolerance
- Data recovery

**Infrastructure Services**
- DRS
- DPM
- Host profiles

**Availability**
- vShields zones
- VMSafe

**Security and Compliance**
- DRS
- Hot-add resources
- Hot-plug devices
- 8-way vSMP and 255 GB RAM

**Scalability**
- DRS
- DPM
- Host profiles
- Storage VMotion
- Thin provisioning
- Hot volume grow
- VMDirectPath I/O

**VMware vSphere**
- VMotion
- Storage VMotion
- HA
- Fault tolerance
- Data recovery
- vShield zones
- VMSafe
- Distributed Switch
- VMDirectPath I/O
VMware vSphere VMs: Ready to Virtualize All Major Applications

Percent of Applications | VMware Infrastructure 3 | VMware vSphere 4
---|---|---
CPU | 1 to 2 CPUs | 4 VCPUs | 8 VCPUs
Memory | < 4 GB per VM | 64 GB per VM | 256 GB per VM
Network | < 300 Kb/s | 9 Gb/s | 30 Gb/s
IOPS | < 10,000 | 100,000 | 350,000
VMotion: Foundation of the Giant Computer

Maturity
Breadth
Automated Use
VMotion Breadth Continues to Grow

Storage VMotion (Dec. 2006)

Network VMotion (May 2009)

Long Distance VMotion (Demos Today)
Cisco: Enabling Long Distance VMotion

Datacenter extension up to 200 kilometers

Datacenter 1
- Apps
- DB
- E-Mail

Datacenter 2

VMware vCenter

Cisco: Data Center Interconnect
Connectivity: Long Distance VMotion Applications

- Longer Distance
  - Follow the Sun/Moon
  - DC Disaster Avoidance

- Shorter Distance
  - DC Maintenance
  - Flex Capacity
VMware vSphere 4 Focus

EFFICIENCY
Cut capital and operational costs by over 50% for all applications...

CONTROL
...while automating quality of service...

CHOICE
...and remaining independent of hardware, operating system, application stack, and service providers...
VMware DRS: VMotion for Global Performance Optimization

In Balance
Giant Computer

Heavy Load
Lighter Load
Extending VMware DRS to Include I/O

<table>
<thead>
<tr>
<th>Disk</th>
<th>Shares</th>
<th>Shares Value</th>
<th>Limit - IOPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard disk 1</td>
<td>Normal</td>
<td>1000</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Hard disk 2</td>
<td>High</td>
<td>2000</td>
<td>1500</td>
</tr>
</tbody>
</table>

Limit specifies an upper bound for storage resources that can be allocated to a virtual machine. IOPs are number of I/O operations per second.
VMware DPM: VMotion for Global Power Optimization

20% Average Power Savings
VMware vSphere 4 Delivers

EFFICIENCY
Cut capital and operational costs by over 50% for all applications...

CONTROL
…while automating quality of service...

CHOICE
…and remaining independent of hardware, operating system, application stack, and service providers
Simplifying Infrastructure and Application Control

- VMware vSphere
- VMware Capacity IQ
- VMware Config Control
- VMware Lifecycle Manager
- VMware Lab Manager
- VMware Chargeback
- VMware Site Recovery Manager
- VMware AppSpeed

Server Consolidation → Internal/External Cloud → Automatic Operations
VMware vSphere 4 Delivers

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VMware Initiatives

View
Manageable Endpoints

vSphere
Foundation for the Internal Cloud

vCloud
You will find fame and fortune…”
VMware vSphere

Trusted • Efficient • Reliable • Flexible • Secure • Dynamic
VMware vCloud: Connectivity

- Networks
- Storage
- Management
- Policies

VMware vSphere

Internal Cloud

External Clouds

VMware vSphere
VMware vCloud: Interoperability

VMware vCloud API: Programmatic Access to Resources

Internal Cloud

VMware vSphere

External Clouds

VMware vSphere
VMware vCloud: Interoperability

VMware vCloud API: Programmatic Access to Resources

- Self-Service Portals
- VMware vCenter Client Plug-in
- Programmatic Access by ISVs
Interoperability:
Self-Service Portals for VMware vCloud

ACMEQ, Incorporated (CIO IT Services)

Welcome, Owen


You can...

Add a new vApp. A vApp is a virtual computing environment that is like having one or more computers right on your desk. Add one now...

Manage your Catalog. Manage vApps, media and templates you provide to your users. Go there now...

You last worked on...

Sales Client

Sales Server
VMware vCloud End Goal: Customer Choice Among Differentiated Offerings

- Demo and POC
- High-end SLA
- High Security Cloud
- "Green" Cloud
- Test/Dev as a Service
- Disaster Recovery as a Service
VMware Initiatives

- **View**
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- **vApps**
  - Auto-pilot Applications
Modern Application Architecture

Virtualization + Lightweight Frameworks = Radical Simplification

Application Frameworks

Virtualization

Application Server

Operating Systems

Hardware

Application Frameworks Simplify Development and Management

Virtualization Simplifies Deployment and Management
VMware Platform as a Service (PaaS)

Run in the Enterprise or in the Cloud

Enterprise Apps
App
SLAs

SaaS Apps @ Service Providers
App
SLAs
App
SLAs

SaaS

Application Services and Tools
Policy-enforcement
Scale on demand
Visibility

VMware vSphere

VMware vCenter

PaaS

IaaS
Summary

- **View**
  - Manageable Endpoints

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- **vCloud**
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- **vApps**
  - Autopilot Applications
Otázky?

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