

The background of the slide features a photograph of a woman with short brown hair, smiling warmly. She is wearing a light-colored, patterned blazer over a dark top. The image is slightly faded and serves as a backdrop for the text.

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Virtualization: Benefits & Pitfalls

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What can you expect from this presentation?

- No vendor slants or sales pitches
- Real world examples of both benefits and pitfalls of virtualization implementations
- Recommendations, guidance, and suggestions for implementing successfully or improving current infrastructures

Industry Insight

Gartner names virtualization #1 in its list of
“Top 10 Strategic Technologies for 2009”

“Virtualization helps organizations to cut costs, better utilize assets and reduce implementation and management time and complexity, all of which are crucial in this economic environment”

– Alan Dayley, Gartner

Virtualization Landscape

Three major vendors in the virtualization space:



vmware®

Microsoft

CITRIX®

Large third party ecosystem:

vizioncore

VEEAM

symantec.

QUEST
SOFTWARE®

PLATESPIN®

VKERNEL

Common pitfall: Look before you leap

- Capacity planning is a crucial first step in any virtualization project
- Over/under sizing the environment can lead to:
 - Significantly reduced ROI
 - Poor performance
 - Failed virtualization projects
- Remember: Don't guess – plan, then execute!

Potential Pitfall: Manage Lifecycle Carefully

- Easy to deploy new virtual machines quickly
- With ease of deployment comes challenges in management
- Management of physical server lifecycle is different than virtual server lifecycle
 - Needs physical management
 - Defined warranty periods
 - Hardware lifespan

Potential Pitfall: Manage Lifecycle Carefully

- Virtual machines can “live forever” by moving from host to host
- VMs are often deployed quickly to address specific needs, but their lifecycle may not be properly managed
 - OS patching/versions
 - Antivirus definitions
 - Security best practices
 - Application/OS licensing
 - Backup

Size virtual machines properly

- Using sizing practices from the physical world can lead to oversized virtual machines
- Typical physical server configuration:
 - Four to eight CPU cores
 - 4-8GB RAM
 - Ample disk space
- Virtual machines share resources, so sizing is important
- “Does my server really need that much?”
 - Capacity planning will tell you

Virtual Machine Backups

- There is **no** “one size fits all” backup solution for virtual environments
- Backup solutions in the physical world not automatically applicable to virtual machines
- Most often a blended approach is necessary
 - VM disk backup
 - File level backup (backup agent in guest)
 - SAN snapshots

Virtual Machine Backups

- Benefits:
 - Encapsulation makes backing up entire servers easy
 - Multiple backup options for different scenarios
 - Many tools allow for backing up entire VM while allowing file-level restore
 - Easy facilitator for disaster recovery

Big Benefit: Microsoft Licensing

- Microsoft has **very** attractive licensing for Windows Server in virtual environments
- Windows Server in a virtual machine:
 - Standard: 1 license per VM
 - Enterprise: 1 license per 4 VMs
 - Datacenter: 1 license for **unlimited** VMs (licensed per CPU)

Big Benefit: Microsoft Licensing

- Example cost savings: Standard vs. Datacenter
 - 2 physical servers with 2 x Quad Core CPUs
 - 30 total virtual machines

Windows OS	Cost*	Total
Standard Edition	\$700 per VM	\$21,000
Datacenter Edition	\$2,700 per CPU	\$10,800

Savings of
over \$10,000

* - Estimated retail prices