Planning, Implementation and Operations: Optimizing VMware Software on Your HP Infrastructure

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Implementing Virtualization With HP

A step-by-step approach

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Consolidation services | ISV toolsets | Virtualization services

| HP Services | leading SIs | channel partners | solution and ISV partners |

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Phase I: Planning
Identify Virtualization Candidates

Older (<1GHz) systems even with consistently high utilization

Uni-processor applications that peak at different times of the day

Relatively recent systems with consistently low utilization

2P systems averaging above 75% or 4P averaging above 45% utilization
Phase I: Planning
Identify Virtualization Candidates

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Phase I Planning: Plan Deployment Using HP ProLiant Sizer for VMware ESX

Input your current system configurations and workloads into the web-based sizer at:
www.hp.com/go/vmware

The sizer computes equivalent utilization for newer processors and factors in overhead

The sizer outputs recommendations on which applications to share and a complete order list

#2 most used sizer on hp.com
Virtual Machine Management

Manage and migrate virtual machines

Trends
- Cost is coming down
- Performance is improving

Benefit
- Applications can run on any host
- Improved asset utilization
- VM guests are hw host independent

Implications
- Server management is for physical and virtual servers – seamlessly
- Heterogeneous VM host management
- At some point, every server will have a VM host, even if only 1 guest
The Virtualization Stack

Management Layer
- Deploy
- Migrate
- Configure
- Monitor
- Control
- Patch

Virtual Machine Guests
- vm1
- vm2
- vm3

Host Server
- vm1
- vm2
- vm3

Virtualization Layer
- Hosted Layer
  - VMware GSX, MSVS
- “Bare Metal” Layer
  - VMware ESX

Unified Windows and Linux management

Unified vm host management

Physical Platform
- Unified rack and blades, server and storage management

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Unified Infrastructure Management

HP OpenView
(and selected other enterprise management tools)

HP Systems Insight Manager

Core management services

Physical and virtual platforms

Multi-OS

Common infrastructure management platform for fault, configuration and asset mgmt

Optional plug-ins for powerful platform-specific capabilities

Managed environments

ProLiant Essentials

Integrity Essentials

Storage Essentials

Client Manager

Web Jetadmin

3rd Party & Custom

-NetWare

-NonStop

-Tru64

-SAN/NAS

-And many more …

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Adaptive Infrastructure

Delivering on the NGDC trend

Key enablers

- IT Systems & Services
  - Scalability based on standards
  - IT services and solutions

- Power & Cooling
  - Energy-efficient computing

- Management
  - Unified Infrastructure Management

- Security
  - Proactive best practices and built-in protection

- Virtualization
  - Pooling and sharing of IT resources to optimize utilization

- Automation
  - Dynamic IT re-deployment to meet changing business demand

Delivering:
- Lower cost of IT operations
- Higher quality of service
- Speed in introducing IT change
HP Services C&I Customer Experiences

- World leader in construction materials manufacturing
  - PeopleSoft implementation / datacenter consolidation
  - Needed rapid deployment of both servers and off-shore developer workstations
  - Realized almost immediately that local developer workstations needed to be in datacenter, adjacent to database server

- Financial services company with out of control x86 server environment
  - 1,500 servers, most significantly under-utilized
  - Preparing to outsource server environment
  - Processes “broken”

- Major telecommunications firm
  - Significant server sprawl
  - Outsource partner resistant to virtualization
Consulting & Integration Customer Experiences

- State IT Agency
  - Outsourcing all IT functions
  - 2,500+ x86 servers
  - 95+ agencies supported
  - Variety of technology standards and processes
  - HP is “transformation partner”
    - x86 / Unix server consolidation / virtualization
    - Datacenter consolidation
    - Directory services
    - OpenView
    - Messaging
C&I Best Practices

- Engage early
  - Start out with best practices
  - Minimize rework
  - Maximize benefit
- Minimize exceptions (a.k.a. customizations)
  - Standardize configurations
- Deploy capacity in clusters
  - Servers, networking, storage – all at once, all compatible
- Make decisions quickly
  - The losses associated with delay typically outweigh the benefit of the delayed decision
- Process is king
  - It doesn’t matter how good the technology is, if you don’t back it up with solid processes, you’re sunk
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