

Virtualization



What the Dramatic Changes in
Server Management Mean to Us

- This is a Traditional Server Room

QuickTime™ and a decompressor are needed to see this picture.

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- This is a Virtualized Server Room

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decompressor
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On average, 10% of server processor is utilized
per server*.

QuickTime™ and a
decompressor
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Virtualization allows for maximized use and dynamic allocation of processing power



Energy Use and Server Budget are Reduced

QuickTime™ and a
decompressor
are needed to see this picture.

Server Recovery and Backup is as Easy as...

QuickTime™ and a
decompressor
are needed to see this picture.

Drag n' Drop Backup

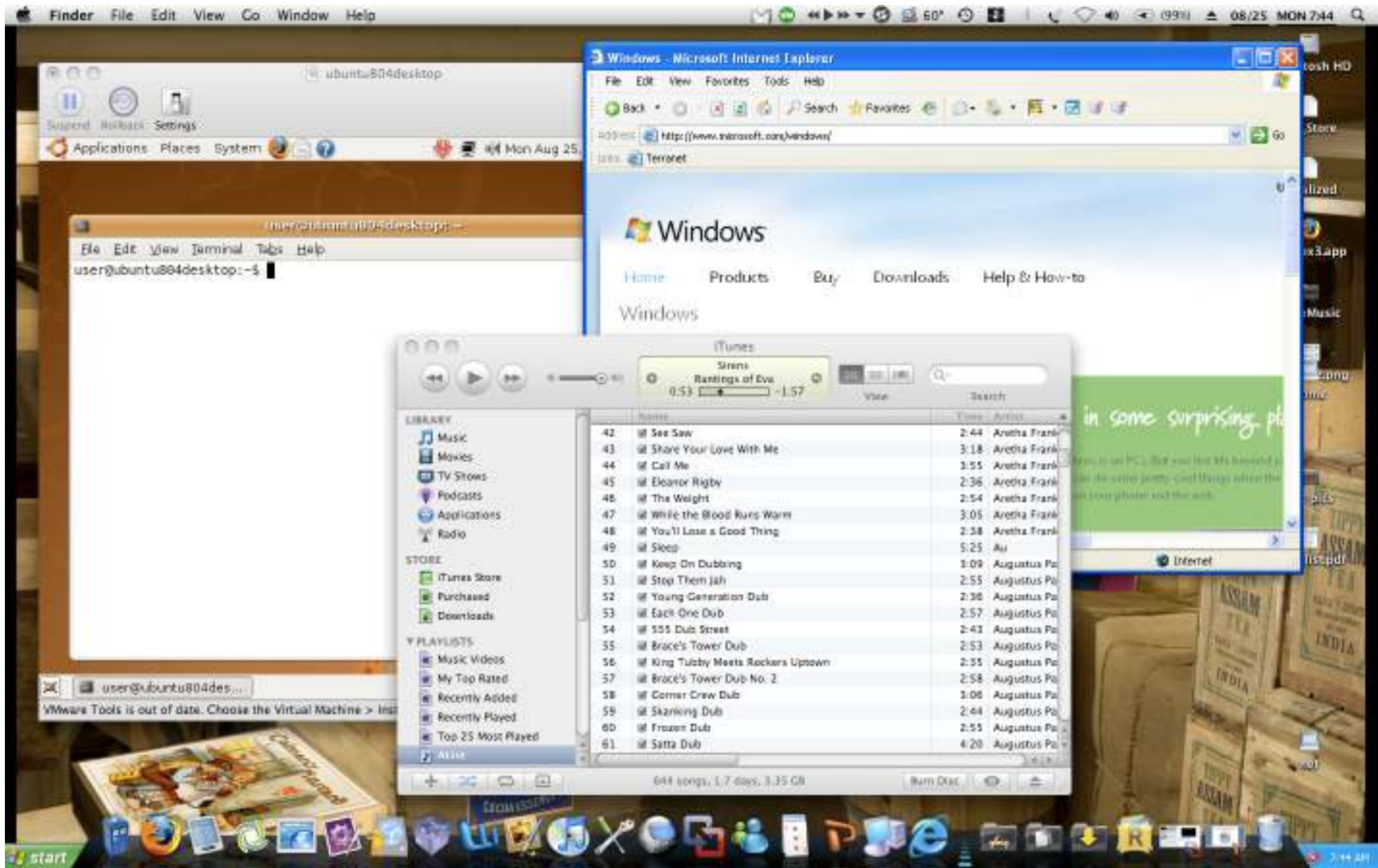


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Server Templates

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decompressor
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Mixture of Operating Systems



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24/7 Availability

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Instant Testing Environments

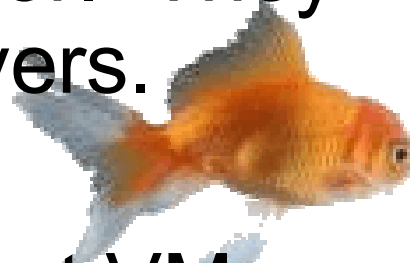
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How It Works (1)

- Server virtualization uses a Hypervisor - a streamlined Operating System with connectivity, virtualization and management features.
- Intel and AMD include virtualization support on specific chipsets; this is required for some server virtualization products.

How It Works (2)

- Virtual machines (VMs) are loaded into memory by the Hypervisor. They emulate standalone servers.
- Users connect to VMs, but VMs can be copied and moved without interruption.
- Load Balancing and Fault Tolerance can be used to mirror VMs and insure business continuity.



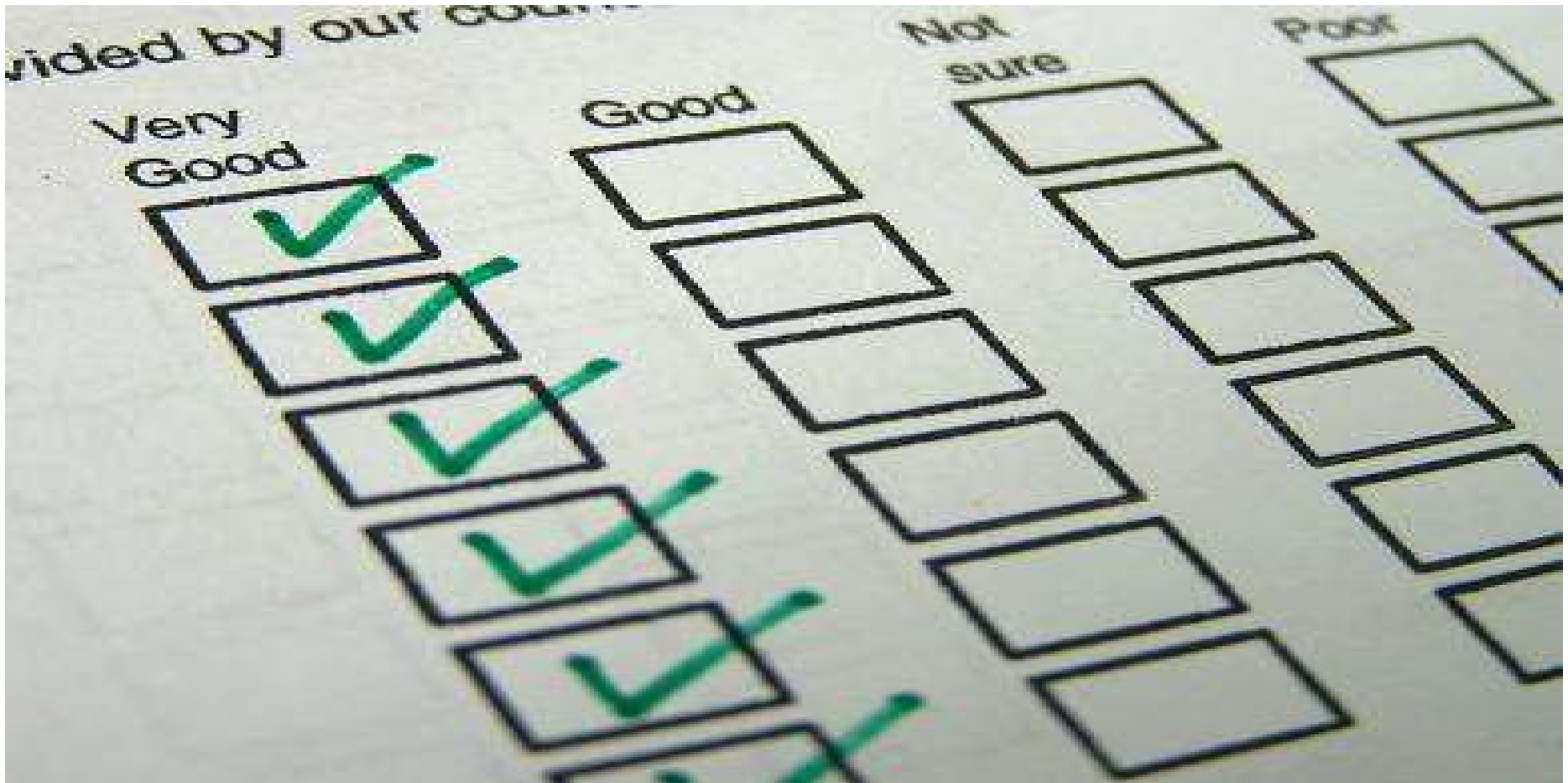
Hypervisor Dynamically Adjusts VM Hosts to Best Use Resources



Load Balancing and Automatic Failover Insures Stability



Reduced Costs, Energy Efficiency, Manageability



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Potential Issues

- This is all still pretty new - assumptions about proper configuration and server requirements still vary.
- Virtualized databases can be impacted by conflicts between virtualization and caching.
- There is some debate about whether domain controllers should be virtualized.
- Smaller vendors might resist supporting virtualized applications; large vendors won't.



Products

- Commercial
 - VMWare (Server, Desktop, Fusion)
 - Citrix Xen Server and Desktop
 - Microsoft Virtual Server, WinServer 2008
 - Virtual Iron
- Open Source
 - Xen (FOSS version of Citrix product)
 - KVM



A stack of white papers with large black question marks scattered across them. The papers are slightly offset, creating a sense of depth. The question marks are large and bold, centered on each paper. The overall image is in grayscale.

Questions