



Virtualization: a reality check for IT

For any large enterprise, the cost and complexity of the IT environment can be overwhelming. For many, the answer is server consolidation through virtualization.

The idea is to make fewer servers do the work of many by turning rigid data centers into agile, virtualized environments.

Virtualization can lower your total cost of ownership, significantly reduce the space you need for hardware, cut your staff requirements, improve disaster recovery, decrease power consumption, and make it easier to manage your entire IT environment. In short, virtualization is virtually mandatory for most large businesses and many smaller ones.

HP and AMD—the right combination for virtualization

By combining the strengths of HP ProLiant servers and server blades with AMD Opteron™ processors, HP and AMD offer a platform that is the foundation for running your applications in virtual machines—a virtualization environment that can lower your costs, promote growth, and mitigate risks. The HP platforms powered by AMD Opteron™ processors can support more applications at a higher performance level than competing products. That's because HP and AMD

- Drive advances to meet the demands of business through:
 - An industry-leading architecture based on proven technologies
 - Platforms designed for speed and scale
 - Future-ready, energy-smart systems that easily migrate

- Design systems that deliver more for every IT dollar, watt, and hour with
 - Facility-friendly mode for thermal and power efficiency
 - Server consolidation solutions to make the most of IT assets
 - Integrated management that gives total control to IT professionals
- Build peace of mind with proven, cost-effective choices, including
 - Industry-standard leadership
 - The most diverse product portfolio
 - AMD and HP quality and reliability
 - Stable, consistent platforms

HP ProLiant servers: more than 30 models certified for VMware

HP is the world's leading brand for x86 servers, storage, management software, services, and support. HP ProLiant servers and the HP ProLiant BladeSystem provide ideal platforms for virtualization on industry-standard hardware.

As the use of virtualization has grown, so has the need to manage these virtual machines. VMware is a comprehensive suite of virtualization software designed to create and manage virtual machines (VMs). HP extends the capabilities of VMware through the unique HP Systems Insight Manager software,



HP ProLiant DL585 G2 Server

which centrally manages your VMs and your physical machines—the HP ProLiant and BladeSystem servers that host the VMs. HP Virtual Machine Management Pack is a plug-in tool for Systems Insight Manager that allows you to manage both your virtual and your physical machines from a single console.

HP tests and qualifies many of its products with VMware and other major virtualization vendors, including drivers, management agents, installation software, and much more. In fact, more than 30 ProLiant server models are certified for VMware ESX Server—more than any other vendor. That means you can run business-critical applications with confidence.

The HP ProLiant DL585 G2 Server is density optimized for rack-mounted environments. The HP ProLiant BL685c Server Blade gives you increased flexibility and control in a blade-based environment. In addition, both the ProLiant DL585 G2 and BL685c Servers provide maximum memory and I/O slots—an important requirement in virtual environments.



HP ProLiant BL685c Server Blade

AMD Opteron™ processors featuring AMD Virtualization™: AMD-V™, the V stands for virtualization

The AMD Direct Connect Architecture helps reduce the serious challenges and bottlenecks of virtual system architectures. To provide superior performance, the memory is connected directly to the CPU. For balanced throughput, I/O is also connected directly to the CPU. CPUs can also connect directly to other CPUs for symmetrical multiprocessing.

Hardware-assisted AMD-V™ (for virtual) technology and Direct Connect Architecture provide a balanced approach to help improve virtualization performance, giving it many advantages in the virtual environment. For example, AMD-V™

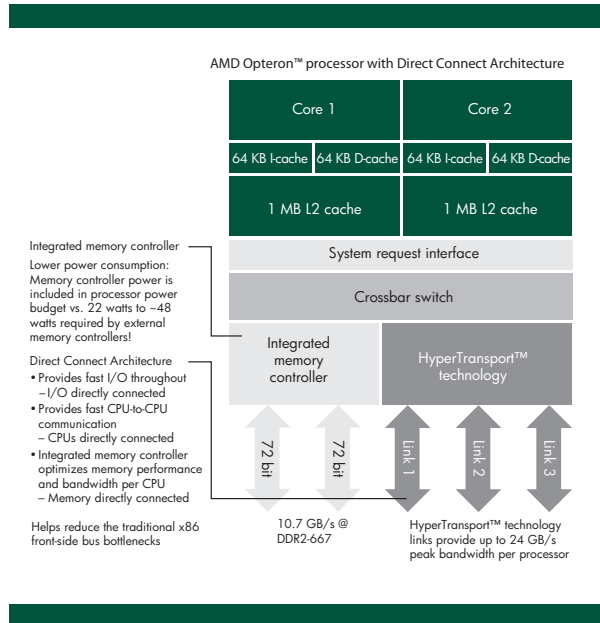
- Reduces the complexity of virtualization software
- Allows more virtual machines to run per server
- Enables guest operating systems to run unmodified for easy implementation and support
- Improves security of virtual machines
- Improves efficiency when switching between the hypervisor and guest operating systems
- Improves memory isolation of virtual machines with integrated memory controller
- Provides easy implementation and support for superior system performance

The bottom line: excellent performance at an excellent price

Together, AMD and HP are driving new advances that build on industry standards. This makes it possible for you to work with the technologies and skills you already have—and those you'll add in the future.

The result is the foundation for a virtual environment with industry-leading performance at a price that's often much lower than competing solutions.

For more information, visit: www.hp.com/go/vmware



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