Virtualization with Xen 3.0 Increases Server Utilization

Enterprises are embracing server virtualization, enabling them to increase their server utilization, consolidate servers, and dramatically reduce complexity and overall total cost of ownership. The Xen 3.0 hypervisor is the fastest and most secure infrastructure virtualization software available today, enabling every server in a Linux environment to support multiple virtual servers each with resource guarantees to ensure that its application layer SLA is met.

Open Standard Hypervisor Supported by Leading Enterprise Vendors

Xen 3.0 is an open source technology, the result of a tremendous community effort, with contributions to date from over 150 developers world wide, and more than 20 major enterprise infrastructure vendors, as well as the OSDL and ten top tier universities. Major backers of the Xen hypervisor include Intel, AMD, Dell, Egenera, HP, IBM, Mellanox, NetApp, Novell, Red Hat, Sun, Veritas, and Voltaire.

Virtualize All Operating Systems with Support for Intel® VT Hardware Virtualization

Xen 3.0 is the industry’s first virtualization infrastructure software to support Intel Virtualization Technology (VT), which allows virtualized servers to run natively on the processor. This enables the hypervisor to exploit hardware acceleration for CPU and memory virtualization and is key to Xen technology’s ability to virtualize all operating systems.

Streamline Today’s Enterprise Server Environments

Xen 3.0 now supports up to 32-way SMP virtualized guests, with an ability to “hot plug” CPUs to ensure best use of available resources, and an ability to dynamically relocate a running guest from one server to another, enabling IT managers to optimally place workload on their available resources. It also offers support for two new addressing modes for servers with large address spaces: Physical Address Extension (PAE) allows 32-bit servers to address more than 4 GB memory, and 64-bit addressing for up to 8 TB of memory.

Paravirtualization Provides High Security with Near-Native Performance

Xen technology’s paravirtualization technology is widely acknowledged as the fastest and most secure virtualization software in the industry. Xen 3.0 offers near-native performance for virtual servers, with up to ten times less overhead than proprietary virtualization software, and benchmarked overhead of well under 5% in most cases compared to 35% or higher overhead for non-paravirtualized virtualization technologies.

The Xen hypervisor’s paravirtualization technology avoids the need to dynamically patch the operating system of a running virtual server – a slow and insecure technique used in today’s proprietary x86 virtualization products – cutting virtualization overhead and increasing performance. This enables virtual servers to run...
natively, at full processor speed, while Xen technology guarantees precise control of per-virtual server CPU, memory and I/O resources. Paravirtualized guests running on Xen technology typically incur between 0.1 percent and 3.5 percent overhead for virtualization, up to 10 times less than today’s proprietary software virtualization products. The Xen hypervisor’s I/O model re-uses standard Linux device drivers, ensuring superb device support and minimizing certification headaches.

**Technical Specifications**

- Enterprise Linux guest operating systems supported: Red Hat Enterprise Linux 3.5, 4.1, SUSE Linux Enterprise Server 9.2; Also Fedora Core 4, CentOS 4, SUSE Open Linux 10, Debian and others
- Intel VT-x support
- Supports up to 32-way, 32 bit SMP guests
- Physical Address Extension (PAE) support for 32 bit servers with up to 64GB memory
- Live virtual server relocation in typically less than 100 ms

For a list of supported hardware, visit www.xensource.com

**About XenSource™, Inc.** XenSource™, Inc. develops enterprise-grade virtualization solutions based on the industry’s fastest and most secure server virtualization technology, the open source Xen™ hypervisor. Founded and run by the original Xen™ development team, XenSource™ products allow enterprises to realize the TCO savings that result from server consolidation, increased utilization, and reduced complexity in the datacenter. Find out more at www.xensource.com

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In Paravirtualization, Guest OS and Hypervisor Collaborate to Achieve Optimal Performance

**MICRO-KERNEL VIRTUALIZATION**

- User Apps
- User Apps
- Mgt Code
- Mgt API
- Binary Translation
- Device Driver
- Device Driver
- Hardware

**PARAVIRTUALIZATION**

- User Apps
- User Apps
- Mgt Code
- Device Driver
- Linux
- Windows
- Mgt API
- Virtual Hardware API
- Hardware

**Improve Business Continuity and Streamline the Application Lifecycle**

Xen 3.0 provides business continuity and high availability through dynamic provisioning, allowing applications to be migrated in cases of server failure to a backup pool of server resources with less than 100 ms migration time. It also enables IT managers to streamline the application lifecycle, enabling seamless migration of applications from test and development to data center environments by moving them from one virtual server to another.