Xen 4.0 Data Sheet

Xen 4.0 Enterprise & Cloud Hypervisor

Xen.org proudly announces the release of its next generation open source hypervisor solution, Xen® 4.0. Xen 4.0 delivers the foundational platform needed by enterprise customers and cloud computing providers for their virtualization solutions.

The Xen 4.0 hypervisor is the fastest and most secure infrastructure virtualization open source software available today, supporting a wide range of guest operating systems including Windows®, Linux®, Solaris®, and various versions of the BSD operating system. As an open source project, customers can easily deploy their virtualization solutions based on Xen 4.0 or take advantage of the broad industry support for Xen by working with virtualization solutions based on Xen 4.0 from leading computing vendors including Oracle, Fujitsu, Novell, Citrix, Lenovo, Samsung, VA Linux, and others.

Fault Tolerance

Xen 4.0 now supports live transactional synchronization of VM states between physical servers as a basic component. Administrators can now guarantee a high degree of service reliability without requiring additional software solutions.

Netchannel2

Significant advancements in networking hardware such as SMART NICs with multi-queue and SR-IOV functionality provide virtualization infrastructure with superior data processing capabilities. Xen 4.0 takes full advantage of these new hardware technologies in the newly updated network channel feature, NetChannel2.

Blktap2

A new virtual hard disk (VHD) implementation delivers high performance VM snapshots and cloning features as well as the ability to do live virtual disk snapshots without stopping a VM process.

PVOps Domain 0

Xen 4.0 is the first release from Xen.org to formally support PVOps in the Domain0 (Dom0) Linux kernel. This new kernel option allows administrators to select a more recent Linux kernel for their control VM enabling access to the most recent devices supported by the Linux kernel.

Memory Enhancements

New algorithms are introduced in Xen 4.0 to enhance the performance and capabilities of the hypervisor memory operations. Transcendent memory gathers unused RAM from paravirtualized guests; underutilized RAM is centrally managed by Xen for immediate and efficient redeployment where needed. New page sharing features allow multiple VMs to share common memory pages thereby reducing overall memory consumption.

Xen 4.0 Feature List

The complete list of new features in Xen 4.0 includes:

- *Blktap2*
  - *High performance VHD implementation supporting snapshots & clones*
  - *Live virtual disk snapshots*
- *Fault Tolerance*
  - *Live transactional synchronization of VM state between physical servers*
- *Netchannel2*
  - *Enhanced networking scalability and throughput*
  - *Support for new Smart NICs with multi-queue and SR-IOV functionality*
- *Page Sharing*
  - *Copy-on write sharing of identical memory pages between VMs (HVM only)*
- *Libxenlight*
  - *New C library providing higher-level control of Xen that can be shared between various Xen management toolstacks.*
- *Kernel Support*
  - *PVOps Dom0 supported (Linux 2.6.31)*
- *Transcendent Memory*
  - *Spare hypervisor RAM used for accelerating guest VM paging and block caching*
- *SR-IOV PCIe Pass-through Enhancements*
- *PV-USB and VGA Pass-through*
- *gdbsx (debugger to debug ELF guests)*
- *64 vcpus per guest; 1 TB RAM per host*

Xen 4.0 Hypervisor – Next Generation Virtualization

“The delivery of Xen 4.0 with state of the art features and hardware support highlight the strength and commitment of the open source Xen.org community ,” said Ian Pratt, founder and project chairman of Xen.org. “This new release is consistent with our vision of providing a highly scalable and secure open source engine for virtualization and cloud solutions.”

About Xen.org. *Xen.org is the home of the open source Xen® hypervisor, a fast, secure industry standard code base for operating system virtualization. Founded and led by Ian Pratt the community benefits from the hundreds of contributors from leading hardware, software, and security vendors. Xen.org is guided by the Xen Advisory Board, which is drawn from key contributors to the project. For more information, visit* **www.xen.org**.