SGI® Altix® XE Servers and Clusters with Microsoft® Windows® Compute Cluster Server 2003

System Highlights

- Top performance with Dual-Core and Quad-Core Intel® Xeon® Processor-based servers and cluster nodes
- Flexible packaging with options for maximum extensibility or ultra-dense cluster configurations
- Superior TCO with breakthrough performance density (up to 16 processor cores per 1U chassis) and energy efficiency (50 watts/socket)
- Microsoft Windows Compute Cluster Server 2003 for simple deployment and integration

DELIVERING SIMPLICITY AND POWER FOR HIGH PERFORMANCE COMPUTING

Advanced Cluster Platform Provides Top Performance for Enhanced Productivity

SGI Altix XE servers and clusters deliver top value and price/performance, based on the winning combination of dual-core and quad-core Intel® Xeon® Processor-based architecture and SGI expertise in designing and delivering the most advanced High-Performance Computing (HPC) systems on the market today. SGI Altix XE servers include advanced features such as a super-fast 1600 MHz front-side bus, 64 GB of memory per compute node, and an ultra-dense architecture that packs up to two eight-core nodes in a slim 1U form factor. Add to this support for DDR InfiniBand, quad-core processors, fully-buffered DDR2 memory, and an option to drive clusters with an SGI Altix XE250 head node for advanced extensibility, redundancy, and I/O rich-features—and you have the most powerful cluster solutions available.

Microsoft Windows Compute Cluster Server 2003 (WCCS) Delivers Seamless Integration Into IT Environments

SGI Altix XE clusters with Windows CCS combine the power of the SGI Altix XE platform with the ease of use and security of Microsoft Active Directory and the Windows operating system to provide a security-enhanced and affordable high-performance computing solution. Cluster deployment and management are simplified through automated setup wizards and an integrated software stack with a built-in job scheduler and MPI layer. Windows CCS integrates with existing Windows infrastructures, allowing users to leverage existing skills and technology for system and node management, workload management, user management, and security. Windows CCS leverages Active Directory to simplify authentication and security setup, and other tools such as Remote Installation Services, Microsoft Systems Management Server, Microsoft Operations Manager, and Microsoft Management Console.

Breakthrough Value with Low Total Cost of Ownership (TCO)

With a choice of packaging options to optimally match requirements, SGI Altix XE with Windows CCS offers outstanding price/performance and low total cost of ownership. The SGI Altix XE1300 cluster drives customer value to a new level, with ultra-dense packaging that minimizes space and power-related expense, and reduces the cost of interconnect cabling and cards. Fewer cards and cables in turn enhance overall cluster reliability, delivering breakthrough customer value. SGI Altix XE clusters are backed by SGI world-class customer support organization, and a full 3-year warranty.

SGI® Altix® XE Servers and Clusters with Microsoft® Windows® Compute Cluster Server 2003

	SGI® Altix® XE250	SGI® Altix® XE310	SGI® Altix® XE320
Node Type	Head or compute	Compute (2 nodes per XE310)	Compute (2 nodes per XE320)
Processors	Up to two Dual or Quad-Core Intel® Xeon® Processors, 5200 or 5400 Series • Front Side Bus: 1600 or 1333 MHz • L2 Cache: 6MB for 5200 series, 12MB for 5400 series	Up to four Quad-Core Intel® Xeon® Processors, 5400 Series (2 per node) • Front Side Bus: 1333 MHz • L2 Cache: 12MB	Up to four Dual or Quad-Core Intel® Xeon® Processors, 5100, 5200, 5300 or 5400 series (2 per node) • Front Side Bus: 1600 or 1333 MHz • L2 Cache: 6MB for 5200 series, 12MB for 5400 series
Memory	64 GB DDR2 800 or 667 MHz FBDIMM memory Supports memory sparing and mirroring	64 GB DDR2 800 or 667 MHz FBDIMM memory (32GB per node) Supports memory sparing and mirroring	
PCI Slots	2 x PCIe x8 gen 2 1 x PCIe x8 gen 1 1 x PCIe x4 gen 1 1 x PCI-x 133/100	2 x PCIe x8 (1 per node)	2 x PCIe x16 (1 per node)
Integrated I/O	• 2 x Gigabit Ethernet • 2 x COM port • 2 x VGA ports • 4 x USB ports • 2 x PS/2 ports	• 2 x InfiniBand port (1 per node), optional • 2 x COM port (1 per node) • 2 x VGA (1 per node) • 4 x Gigabit Ethernet (2 per node) • 4 x USB ports (2 per node) • 2 x 4 mini SAS ports (1 per node) with SAS/RAID option	
Internal Storage	Eight SATA/SAS drive bays • 3.5” SATA drive - 250GB, 500GB, 750GB • 3.5” SAS drive - 73GB, 143GB, 300GB • 1 x DVD-RW drive RAID 0, 1, 5, or 10	Four SATA drive bays (2 per node) • 3.5” SATA drive – 250GB, 500GB, 750GB Four SAS drives available via optional PCIe card (2 per node) • 3.5” SAS drive – 73GB, 143GB, 300GB Optional RAID 0, 1	
Operating Environment	• Microsoft® Windows® Compute Cluster Server 2003		
System Software	• Microsoft Active Directory for authentication and security setup • Microsoft Remote Installation Services for remote node installation • Microsoft Systems Management Server for managing node updates	• Microsoft Operations Manager for system and job management • Microsoft Management Console for snap-in system tools • Voltaire Gridstack for Interconnect Fabric Management	
Development Tools	• Microsoft Visual Studio 2005 • Platform LSF • Portland Group parallel and scalar Fortran, C, and C++ compilers and tools • Absoft High Performance Computing Software Development Kit • Intel Compilers & Tools for Microsoft Windows		
Support and Services	SGI provides support for hardware and systems software. SGI also offers services to implement and integrate applications in your environment. For more information, please see www.sgi.com/support.		

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