



Microsoft and QLogic

High Performance Computing

Overview

Microsoft® Windows® HPC Server 2008 is based on the Windows Server 2008 operating system and is designed to increase productivity, scalability and manageability. Windows HPC Server 2008 offers the ability to efficiently scale to thousands of processing cores. QLogic® through its InfiniBand switches, adapters, and drivers complements Windows HPC Server 2008's ability to scale by providing a high bandwidth/low latency interconnect for servers and storage.

Windows HPC Server 2008

Windows HPC Server 2008 combines the power of a Windows 64-bit Server platform with rich, out-of-the-box performance to improve the productivity, and reduce the complexity, of your High Performance Computing (HPC) environment. Windows HPC Server 2008 can efficiently scale to thousands of processing cores and provide a comprehensive set of deployment, administration, and monitoring tools that are easy to deploy, manage, and integrate with your existing infrastructure.

- **Enhanced Productivity**

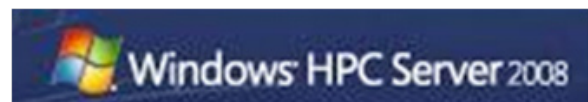
Administrators and developers can save time with a common productivity and development platform across technical workstations and clusters using existing Microsoft management tools to centrally manage their entire Windows Server infrastructure.

- **Scalable Performance**

Windows HPC Server 2008 can efficiently scale to thousands of processing cores and includes management tools that help systems administrators proactively monitor system health and maintain system stability.

- **Manageable Infrastructure**

Windows HPC Server 2008 includes wizards, tools, built-



IB Solution Highlights

- **Complete Simulations Faster**

Reducing the time-to-solution is critical for any engineering/design company. Interconnecting your cluster computing network using QLogic solutions can reduce this time. The result is faster time-to-market and higher quality products.

- **Reduce or Eliminate Costs**

By better leveraging cluster compute and storage resources, industrial engineering customers using QLogic's high performance switching and virtual cluster fabric solutions can reduce the costs and complexities of deploying and operating design and simulation data centers.

- **More Efficient Operations**

QLogic solutions also enable the deployment of grid computing architectures that allows for the pooling of compute and storage resources across multiple research teams resulting in more efficient IT infrastructure use and lower product design costs.

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in management consoles, and a to-do list to simplify the provisioning of compute nodes while enhancing Windows Server 2008 Deployment Services to allow you to create, modify, and deploy systems images across a cluster.

- **Monitoring, System Health, And Reporting**

Built on Windows Server 2008 64-bit technology, Windows HPC Server 2008 includes scalable management tools built using the new System Center interface.

- **High Performance Service Oriented Applications**

The Microsoft HPC Pack 2008 includes a flexible job scheduler that features a command-line interface, a graphical user interface (GUI), and an application programming interface for submitting jobs to the cluster.

- **Networking And High Speed Interconnects**

Windows HPC Server 2008 significantly reduces the complexity of deploying multiple networks across a cluster by providing an updated networking wizard, new network diagnostics tools, and a simplified way of performing network driver management.

QLogic – High Performance Cluster Technology

QLogic offers a comprehensive end-to-end product portfolio that includes multi-protocol fabric directors, edge fabric switches, InfiniBand adapters, and a complete software suite to install, operate, and maintain your high performance interconnect fabric. Application requirements from 12–864 InfiniBand ports can be supported in a single chassis. Multi-chassis fabrics that support thousands of host nodes can be constructed to meet the most demanding compute cluster requirements.

High Capacity Multi-Protocol Directors

- 51.8-Tbps throughput in a single chassis
- InfiniBand DDR supported across full switching portfolio
- Support for 20-to-40 Gbps node-to-node
- Up to 60 Gbps switch-to-switch bandpass

- Single wire support for InfiniBand, Ethernet, and Fibre Channel

Comprehensive Fabric Management

- Centralized configuration and fabric initialization
- Accelerated fabric deployment and verification
- Fabric health and performance monitoring
- Fabric-wide diagnostics and maintenance
- Centralized management of virtual fabric services

Multi-Protocol Gateways

- Virtual I/O Controller (VIC) capability
- 10Gb Ethernet and 4Gb Fibre Channel
- Scale I/O and servers independently
- Pool and share I/O between servers

Widest Range of Host InfiniBand Adapters

- Widest choice of adapters
- Single Data Rate (SDR) and DDR capable
- PCI-X™ and PCIe®

Compatible Plus Software Stacks

- OpenFabrics/OpenFabrics Enterprise Distribution (OFED)
- Optional value-added capabilities
- Accelerated standard Message Passing Interface (MPI) stacks

QLogic InfiniBand Benefits

- Significantly improves application performance for faster time-to-solution
- Provides fabric and application scaling to thousands of CPUs
- Simplifies data center design and reduces operating costs
- Eliminates the need for separate physical server connections to storage and network resources
- Scale servers and I/O independently pool and share I/O between servers

To Learn More

QLogic www.qlogic.com

Microsoft <http://www.microsoft.com/hpc>



The Ultimate in Performance

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