QLOGIC

Alliance Brief

LSI and QLogic
High Performance Computing

Overview

LSI has a long-standing reputation for superior high-performance storage technology for data-intensive, multi-vendor environments. LSI host-interface breadth is unmatched in the industry with selections now ranging from iSCSI to SAS to Fibre Channel and InfiniBand. LSI and QLogic have worked together to test and certify many of these interfaces, including InfiniBand. This joint effort has created one of the highest performing storage system for High Performance Computing.

LSI

LSI Corporation is a leading provider of innovative silicon, systems and software technologies that enable products that seamlessly bring people, information, and digital content together. LSI offers a broad portfolio of capabilities, and services including custom and standard product ICs, adapters, systems, and software that are trusted by the world's best known brands to power leading solutions in the storage and networking markets.

LSI 6498 Storage System

Based on LSI's sixth-generation XBB architecture, the Engenio 6498 storage system integrates native InfiniBand connectivity, high-performance Fibre Channel or high-capacity SATA (serial ATA) disk drives, and powerful storage management software to create a solution with exceptional performance, up to 112TB of capacity, and fully-featured functionality.

This exciting combination will appeal to HPC and technical computing environments (e.g., energy, government labs, biosciences, supercomputing, and scientific research and development), which utilize InfiniBand-based server clusters for high-bandwidth programs and complex application processing. The high per-channel bandwidth delivers maximum throughput across a minimum number of InfiniBand connections, saving switch ports and lowering acquisition and service costs. And the 6498 storage system's native InfiniBand interfaces provide a cost and performance advantage over Fibre Channel-based or gateway-based solutions for environments utilizing InfiniBand as a server clustering interconnect.

SANtricity Storage Manager Software

SANtricity Storage Manager software configures and administers the 6498 storage system. With SANtricity software, users can achieve maximum utilization of the purchased capacity through extensive configuration flexibility and custom performance tuning. SANtricity software allows continuous access to user data during administrative tasks, including configuration, reconfiguration, expansion, and maintenance of the system.

Solution Highlights

Provides Fabric and Application Scaling to 1000s of CPUs

QLogic high performance InfiniBand with it extremely low latency with substantial 20Gbit bandwidth offers support for very large clusters up to multi-thousands of nodes.

Reduce or Eliminate Costs

By better leveraging cluster compute and storage resources, customers utilizing 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 user groups resulting in better overall IT infrastructure utilization and lower overall cost of product design.

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QLogic Corporation

QLogic is a leading supplier of high performance clustering and storage networking solutions, which include host adapters and InfiniBand switches that are used by major corporations and government facilities. The company delivers a broad and diverse portfolio of products that includes InfiniBand switches and InfiniBand host channel adapters for the fast growing, high performance computing market. The company is also a leading supplier of Fibre Channel HBAs, blade server embedded Fibre Channel switches, Fibre Channel stackable switches, iSCSI HBAs, and iSCSI routers. QLogic products are delivered to small-to-medium businesses and large enterprises around the world via its channel partner community. QLogic products are also powering solutions from leading companies like Cisco, Dell, EMC, Hitachi Data Systems, HP, IBM, Network Appliance and Sun Microsystems. QLogic is a member of the S&P 500 Index.

QLogic – High Performance Cluster Technology

QLogic offers a comprehensive end-to-end product portfolio that includes Multi-Protocol Fabric Directors, Edge Fabric Switches, Host Channel Adapters (HCAs), and a complete software suite to install, operate, and maintain your high performance interconnect fabric. QLogic offers the most comprehensive and flexible interconnect fabric solutions on the market. Application requirements from 12 to 288 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. This offering, combined with the industry's only Fabric Management tools that enable an administrator to install and boot a fabric in minutes, helps to satisfy the growing demand for high-performance computational clusters and grids.

High Capacity Multi-Protocol Directors

11.52Tb/s throughput in a single chassis
InfiniBand DDR supported across full switching portfolio
Support for 20Gb/s node-to-node
Up to 60Gb/s 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) functionality
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
SDR and DDR capable
PCI-X and PCIe

Compatible Plus Software Stacks

OpenFabrics / OFED
Optional value-added capabilities
Accelerated standard MPI stacks

QLogic InfiniBand Benefits

1. Significantly improves application performance for faster time-to-solution
2. Provides fabric and application scaling to 1000s of CPUs
3. Simplifies data center design and reduce operating costs
4. Eliminates the need for separate physical server connections to storage and network resources
5. Scale servers and I/O independently pool and share I/O between servers

To Learn More:

QLogic: **www.qlogic.com**
LSI: **www.LSI.com**