



ALLIANCE BRIEF

ANSYS Mechanical and QLogic

High Performance Computing

Overview

Today's challenging economic climate and globally competitive markets make lowering manufacturing costs more critical than ever. Whether you're an aerospace engineer designing a new wing for the latest commercial jet or an automotive engineer simulating multi-car crashes for the next generation of SUVs, the ability to run faster simulations will increase productivity, speed time-to-market, and improve your company's bottom line.

Companies in aerospace, automotive, consumer electronics, and high-tech machinery can realize significant benefits using QLogic high-performance computing solutions. QLogic's products enable companies to perform process simulation, modeling, and optimization at a highly increased rate so that customers can speed products to market at a much lower cost of prototyping and final production.



Solution Highlights

- **Complete Simulations Faster.** When running optimization programs that refine a design, reducing the time-to-information is critical for any company in these competitive industries. Interconnecting your cluster computing network using QLogic solutions can reduce this time interval. The end result is faster time-to-market and higher product quality levels.
- **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.
- **Improve Product Designs.** QLogic solutions enable companies to build larger node size clusters, run larger data sets, and expand simulation complexities in computer-aided design.

ANSYS

ANSYS®, Inc. develops and globally markets engineering simulation software and technologies widely used by engineers and designers across a broad spectrum of industries. The company focuses on the development of open and flexible solutions that enable users to directly analyze designs on the desktop, providing a common platform for fast, efficient, and cost-conscious product development, from design concept to final-stage testing and validation. The company and its global network of channel partners provide sales, support, and training for customers.

ANSYS Mechanical

The ANSYS® Mechanical™ solutions offer best-in-class simulation tools for product design and optimization that increase productivity, minimize physical prototyping, and help deliver better and innovative products in less time. These solutions tackle real-world analysis problems by making product development less costly and more reliable. The ability of the software to model in-cylinder engines, aeroacoustics, turbomachinery, and multiphase systems has served to broaden its reach.

ANSYS Mechanical includes a full complement of nonlinear and linear elements, material laws ranging from metal to rubber, and the most comprehensive set of solvers available. It can handle even the most complex assemblies, especially those involving nonlinear contact, and is the ideal choice for determining stresses, temperatures, displacements, and contact pressure distributions on all your component and assembly designs.

Plus, ANSYS Mechanical offers the added advantage of fundamental matrix coupled-field or multiphysics studies involving acoustic, piezoelectric, thermal/structural, and thermal/electrical analysis. These studies help give

the engineer a greater understanding of how well their models react to common combinations of phenomena.

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. QLogic offers the most comprehensive and flexible interconnect fabric solutions on the market. Application requirements from 12 to 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. 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

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

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

Compatible Plus Software Stacks

- OpenFabrics and OFED™
- Optional value-added capabilities
- Accelerated standard message passing interface (MPI) stacks

QLogic InfiniBand Benefits

1. Significantly improves application performance for faster time-to-solution
2. Provides fabric and application scaling to thousands of CPUs
3. Simplifies data center design and reduces operating costs

To Learn More

QLogic www.qlogic.com

ANSYS www.ansys.com



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