

Sun™ Compute Cluster for MCAE, Structural Analysis

Pre-integrated, pre-tested HPC solutions



Highlights

- Greater throughput — Run more simulations and computational jobs to get more work done faster
- Agile deployment — Systems are factory integrated for faster, easier installation
- Higher quality, lower risk — Help reduce installation issues by leveraging Sun's factory testing and real-world experience in MCAE and grid computing
- Flexible architecture — Standard interfaces, off-the-shelf components and a flexible Sun Rack solution make the system easy to adapt and scale as needs change; increase computational power as required
- Better utilization — Using Sun Grid Engine software, customers have reported up to 90 percent system utilization rates. Use the Sun xVM Server and Ops Center to easily manage the cluster



Across a variety of industrial disciplines, engineers are pressed to meet their company's demands for improved quality, innovative designs, and faster time to market. At the same time, they typically face shrinking budgets and, perhaps, staff reductions.

Tapping our decades-long history of experience and expertise in the engineering community, Sun has developed ready-to-deploy high performance computing (HPC) solutions that are specifically designed and tested to support Mechanical Computer-Aided Engineering (MCAE) applications.

Integration equals higher quality

The Sun Compute Cluster for MCAE is a reference design that has been tailored to meet the needs of those running finite element analysis (FEA) applications. The Sun Compute Cluster for MCAE is a complete solution containing compute nodes, storage devices, and a fast networking component that results in faster application times. With reduced application running execution times, products can be designed quicker, brought to market faster, and boasting higher quality.

Based on the Sun Blade™ 6000 family of compute nodes, the Sun Blade X6250 with Intel quad-core processors has shown outstanding performance while running some of the most popular MCAE applications, specifically those for structural analysis. By utilizing blade architectures, compute nodes can be added easily, resulting in more computing power. In addition, blade technology from Sun offers very dense, power-efficient computing.

The Sun Compute Cluster for MCAE, specifically for structural analysis, is a solution designed for applications that run extremely well on a single node, currently utilizing up to 8 cores. By clustering 20 nodes in a single rack, with highly optimized storage, entire organizations can confidently run many simulations at once. Components have been selected that run each instance of an application optimally, yet reduce the cost of the system by only bundling those components that are required. Fast and efficient storage architectures have also been selected that maximize throughput, so that many applications running at once on the cluster will not slow down. Running up to 20 applications simultaneously often will perform as fast as just running one.

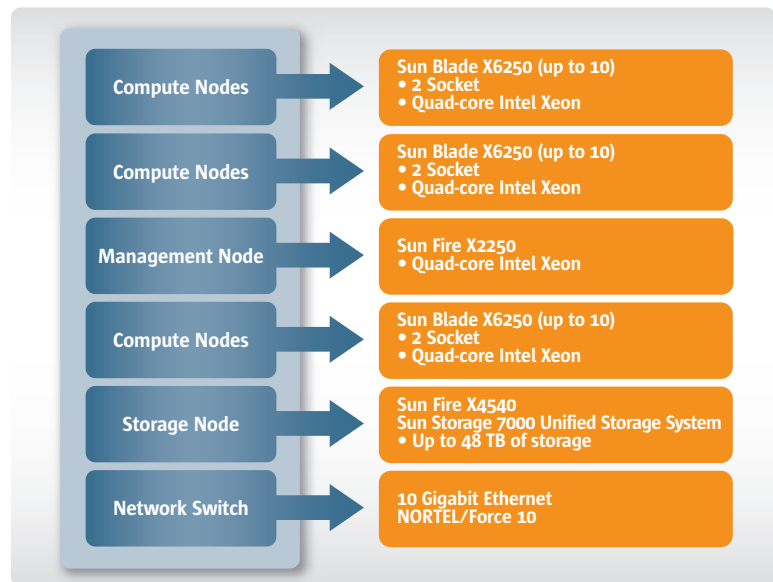
Faster time to results

Sun delivers these pre-integrated solutions through the Sun Customer Ready program, which provides component software installation as well as factory integration and testing of the full solution. By leveraging Sun experts to perform the initial installation, integration, and testing, you can greatly reduce your deployment time and start generating results more quickly. Sun's pre-integrated solutions also help eliminate the complexity and risk inherent in designing and deploying an MCAE environment, enabling you to reduce the risk of installation and setup issues.

All of the components of the Sun Compute Cluster fit into a single rack enclosure. This results in easy, fast installation and setup, so your organization can be up and running sooner. By selecting only those components that are critical to the efficient startup and running applications on the cluster, costs are reduced and performance and reliability are improved.

Related software

- **Sun Grid Engine** — Software that provides policy-based workload management and dynamic provisioning of application workloads.
- **Sun xVM** — The Sun xVM portfolio addresses your complete virtualization needs from the desktop to the datacenter. Optimize and manage both virtual and physical industry-standard IT environments.
- **Sun Studio** — Sun Studio software delivers a high-performance, optimizing C, C++, and Fortran developer toolchain for Solaris™, OpenSolaris, and Linux operating systems, including support for multicore x86- and SPARC®-based systems.
- **Sun Visualization Software** — The Sun Visualization System integrates workstations, servers, networking, interconnects, graphics, and innovative software to provide both scalable and sharable visualization solutions.



Components of the Sun Compute Cluster for MCAE

Recommended services

Sun has extensive knowledge and expertise in implementing HPC solutions. Based on our experience, we recommend a suite of services to help streamline your implementation. Sun™ HPC Quick Start Services help you architect and manage your solution. Enterprise Installation Services get you up and running fast and effectively. Sun Datacenter Express Onsite Implementation Service provides project management for service delivery, integration, acceptance testing, and a transfer of information. For long-term satisfaction with your solution, upgrade to a SunSpectrum™ hardware support and software service plan, and Sun Single Point of Contact Service for incident management with support contracts from multiple vendors.

For more information

For more information on the Sun Compute Cluster for MCAE, visit sun.com/hpccluster.

For information on Sun's HPC products and services, visit sun.com/hpc.