

Voltaire® Certified Solutions – Oracle® RAC

Unleash Oracle RAC Performance by Eliminating I/O Bottlenecks

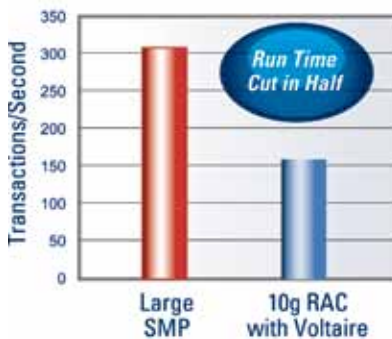


Accelerate Data Warehousing and OLTP Applications

Oracle Real Application Clusters (RAC) deliver a highly scalable, highly available application environment built using clusters of servers. Using Oracle RAC, an enterprise can deploy business applications with improved scalability and at lower costs than alternative database environments. However, maximizing Oracle RAC performance requires a high performance cluster interconnect.

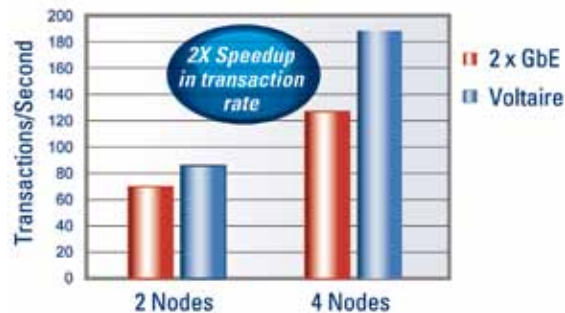
By leveraging Voltaire's InfiniBand-based I/O fabric, Oracle RAC can dramatically accelerate applications. Benchmarks show substantially improved transaction rates and shortened query times for both data warehouse and OLTP applications.

Shorten Data Warehouse Run-Time



4 Node Voltaire InfiniBand Cluster vs. 10-processor SMP Server

Speed Up OLTP Applications



Online Banking Application in 2 Node and 4 Node Configurations

The Secret Sauce for Accelerating Oracle RAC: InfiniBand with Reliable Datagram Sockets

Developed in cooperation between Oracle and the open source community, Voltaire solutions use Reliable Datagram Sockets (RDS) to provide a high bandwidth, low latency, ultra reliable inter-process communication (IPC) protocol that dramatically improves the performance of I/O intensive applications.

RDS is a socket offload mechanism used by Oracle for IPC and storage I/O communications. It allows I/O processing to be offloaded from the server's CPU to the I/O hardware. RDS also supports Remote Direct Memory Access (RDMA) providing even better performance.

Currently, Oracle has found RDS to reduce latency in 1/2 while also reducing CPU utilization by up to 50%. The result is drastically improved application performance and improved scalability up to 16 nodes (64 processors)

Leveraging InfiniBand's built-in high availability and load balancing features, RDS has been rigorously tested by Oracle and Oracle's developer community to meet the most demanding enterprise requirements. Voltaire's products have achieved Oracle RAC and Oracle Enterprise Linux certifications using RDS. Through the use of InfiniBand and RDS, applications running in Oracle RAC environments can achieve extreme levels of database performance and scalability using fully certified solutions.

Features and Benefits

- Improve Oracle RAC performance by removing I/O bottlenecks
- Double OLTP transaction rates
- Cut Oracle RAC query times in half
- Improve Oracle RAC scalability
- Reduce overall capital and operational costs by consolidating I/O
- Consumes less power by eliminating multiple LAN/SAN switches and adapters

Solution Components

- Voltaire Grid Director™ switches
- Voltaire InfiniBand HCA server adapters
- Voltaire Linux Server software with Reliable Datagram Services (RDS)
- Oracle RAC 10g or Oracle RAC 11g
- x86 Industry Standard Servers
- Fibre Channel Storage

“Working together with Voltaire to provide InfiniBand support for Oracle Real Application Clusters is an important step forward to helping our customers realize faster performance and greater scalability for their database and Linux environments.”

- Juan Loaiza, Senior Vice President, Oracle

Voltaire Certified Solution Program

The Voltaire Certified Solution Program is a key element in delivering high performance, high quality solutions that you can rely on. Voltaire Certified Solutions provide assurance that you can quickly and easily move from design to deployment to production. Every certified solution has detailed documentation including a compatibility matrix, Solution Guide and Deployment Manual that ease the way.

Once a solution is in production, Voltaire offers support resources, processes and partnerships to ensure that your environment runs dependably. In the event that you desire additional assistance during the deployment process, Voltaire professional services are available with both remote and onsite offerings to help speed the way.

Voltaire Certified Solutions pass through Voltaire's Solutions Integration Test labs where real world applications are used to test real world Oracle environments. The result is that you don't have to make guesses along the way; the resulting Voltaire Certified Solution Matrix provides a list of certified software and hardware and the required configuration steps. You can be assured that the solution is installed easily, runs smoothly and is backed by one of the industry's best support organizations.

Voltaire Support and Professional Services for Oracle

At Voltaire, we believe in a high-touch, "customer-first" approach that emphasizes long-term partnerships dedicated to the success of your Voltaire-powered solution. Voltaire's customer support team has deep, hands-on experience helping customers optimize the performance of their clusters and grids. Our feature-rich support programs are designed to ensure that our customers and partners receive the highest levels of return on their investment in Voltaire Unified Fabric solutions.

Voltaire Global Professional Service (GPS) provides immediate business benefits helping to ensure rapid adoption and maximum utilization of high performance computing and data center solutions. Corporate IT managers know the challenges of introducing new technology to their data centers. Voltaire's consultants and engineers bring substantial expertise in fabric design, configuration and deployment.

Voltaire GPS offers Oracle QuickStart Installations. QuickStart Installations leverage expert resources to ease the deployment of InfiniBand fabrics in Oracle environments. A GPS engineer will validate all Voltaire hardware and server configurations, perform a fabric health check and verify all infrastructure components comply with a Voltaire Certified Solution ensuring that your cluster is operational and error free. Upon completion of the health check, a review of fabric best practices will be delivered to the customer's staff.

For More Information

To learn more about Voltaire Certified Oracle Solutions, please go to www.voltaire.com/oracle.

Support offerings include:

- Business hours or 7X24 offerings
- Hardware support (Advanced replacement available)
- Software Maintenance and Updates
- Phone and Web access to Voltaire's Technical Assistance Center (TAC)
- Access to a comprehensive solutions and FAQ knowledgebase
- Access to Voltaire's Technical Training Center's Computer Based Training modules



Contact Voltaire to Learn More

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