



Real Application Clusters

Transforming Data into Decisions.

Oracle9i RAC (Real Application Clusters) offers major enhancements in the areas of scalability, availability and manageability. The most significant technology breakthrough is the complete implementation of CacheFusion that for the first time enables highly scalable applications to be built without worrying about data partitioning.

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Key Features

Scalability & Performance

- CacheFusion resolves data block read/read, read/write and write/write conflicts among ORAC nodes. Data block pinging are resolved through high performance interconnect networks, bypassing much slower physical disk operations used in previous releases. Close to linear scalability of database performance can be achieved when adding nodes to the cluster. ORAC enables better database capacity planning and conserves capital investments.
- Applications no longer need to be partitioned according to data access patterns to avoid or reduce data block pinging. A scalable application on a single node Oracle server will be just as scalable on a multi-node ORAC.
- Other performance features include dynamic lock re-mastering among nodes to further reduce interconnect traffics for data pinging and more efficient inter-node messaging mechanism.

Availability

- Through introduction of quorum disk, network failure and node failure are detected and resolved faster, resulting in faster completion of cluster reconfiguration.
- Lock re-mastering due to instance failure and instance recovery are concurrent. Built on top of the new two pass (fast start) recovery scheme, recovered blocks can be made available on a block by block base, further enhancing the availability of ORAC system.
- Fail-over capability is consolidated into ORAC and enhanced to provide more robust and generic solutions. ORAC can function as fail-over cluster with active instances on all nodes. The ORAC fail-over capacity delivers near single instance performance with only about 5% of overhead.
- Integration with Windows 2000 and MSCS to provide DB server clustering on windows platform.

Manageability

- Management support through OEM (Oracle Enterprise Manager) is greatly enhanced. OEM handles ORAC specific threshold events. It supports new charting with Data Gather in the Performance Pack. ORAC Backup/recovery through OEM is also improved.
- Diagnostics improvement includes low overhead tracing and instrumentation, tracking of important ORAC historical data, inclusion of diagnostics tool to check and validate cluster setup and configurations.
- Configuration of multiple nodes/instances is simplified by using only one SPFILE. Individual instance does not need to maintain its own configuration file.
- Database Configuration Assistant supports raw devices. Oracle Universal Installation can install ORAC database through ODCA on raw devices.
- Network configuration is simplified. Network Configuration Assistant is cluster aware. ORAC client applications can refer to all instances of the ORAC through one address or description list.

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