

Oracle Fail Safe for SAP R/3 High-Availability Oracle Database Server for NT

The Oracle data server is by far the most widely used database for running SAP R/3 on Microsoft Windows NT platforms. High reliability, scalability and best performance are well known attributes of an Oracle database for NT. For advanced high availability requirements of R/3 on NT customers, Oracle offers a data server capability, that leads to a new quality in building up High-Availability Systems - Oracle Fail Safe for NT.

High availability of the entire R/3 System is second only to maximum performance in the list of R/3 customers' demands - regardless of the hardware and operating system used. As the central node of the R/3 System's three-tier architecture, the database server plays an important role for high availability and fail-safe operations. If no measures are undertaken to deal with it, a failure of the database server can mean a failure of the entire R/3 System, making this „single point of failure“ particularly sensitive.

Oracle Fail Safe presents an excellent solution to this problem. Based on the Microsoft Cluster Server (MSCS) for NT, Oracle Fail Safe is a key component for implementing a high-availability, fail-safe Oracle database server for R/3.

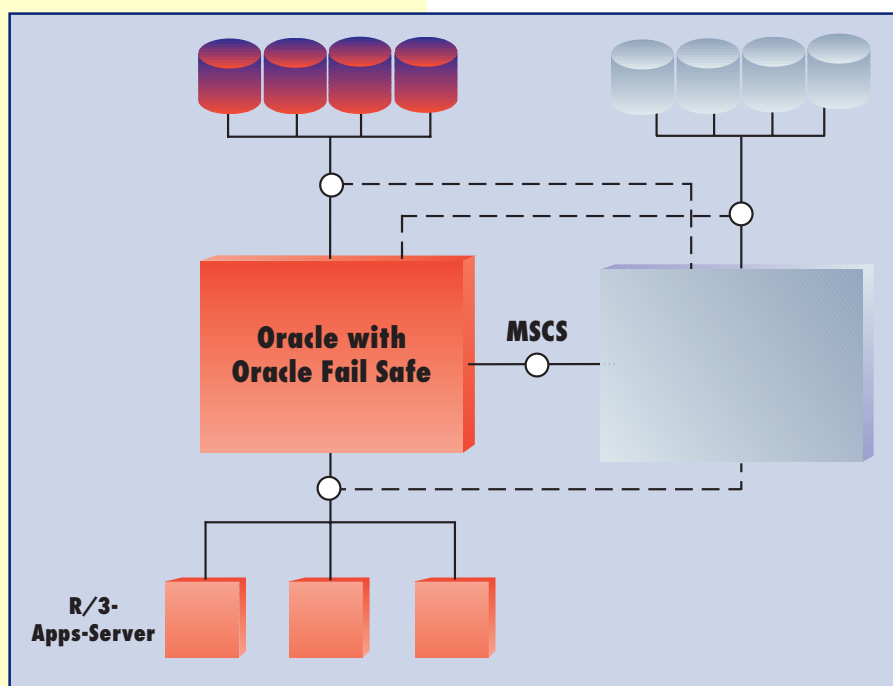
Oracle Fail Safe is the high-availability function for the Windows NT operating system, and is a standard component of every Oracle license for the SAP R/3 System.

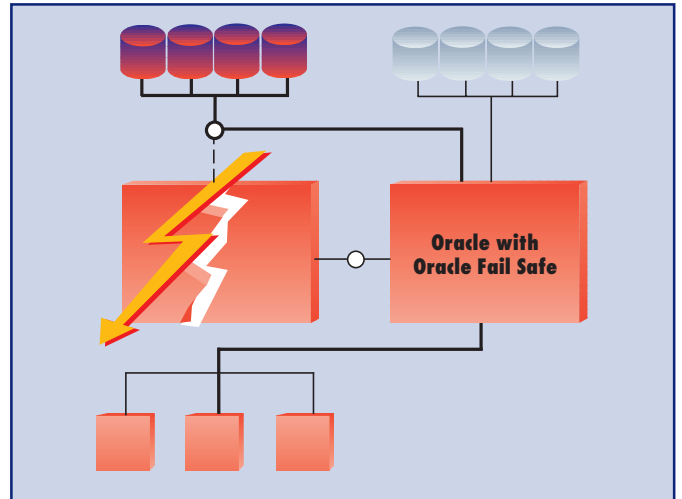
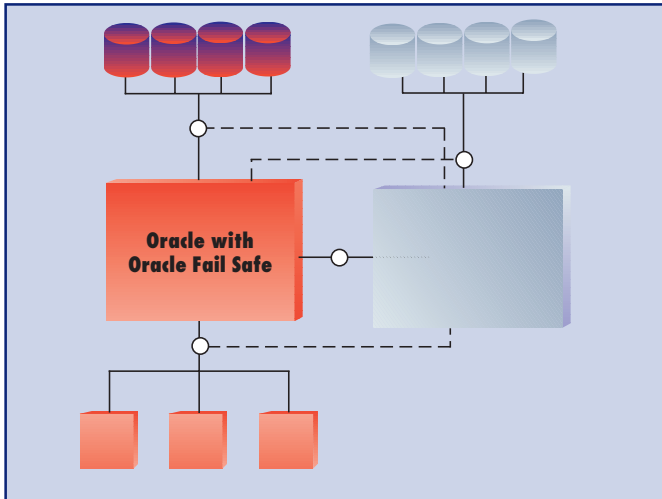
Fail Safe Oracle Database Server for R/3

The foundation for setting up a fail-safe database server system based on NT is always two NT servers that are configured as two nodes of a cluster, through the Microsoft Cluster Server concept. Each of the two nodes possesses its own, dual-ported disk subsystem, to which each node has exclusive access during normal operations.

An Oracle Fail Safe R/3 configuration defines one of the two nodes as the production system, to which all the R/3 application servers are connected. The second node of the cluster serves as the fail-safe node, but can also perform any other tasks in the meantime. In case of failure of the production database server system, the Oracle Fail Safe services immediately switch all necessary resources from the production node to the secondary cluster node, and restart the Oracle instance there.

The R/3 application servers automatically establish a new database connection (automatic re-connect) to the Oracle instance on the fail-safe node, without requiring intervention by the end-user or database administrator. They are reactivated almost immediately.





Planned Database Server Switching

By protecting against unplanned database server problems, Oracle Fail Safe offers much higher availability of the R/3 Systems, than was previously possible in the NT environment. With Oracle Fail Safe, unplanned database server faults caused for example by hardware failures or power outages, can be solved without limiting the functionality of even a single R/3 service. As a result, availability of the R/3 System as a whole is dramatically improved.

Similarly, a planned, pre-defined database server switch - from the production node to the alternate node - is possible without having to shut down the R/3 System or interrupt R/3 operations. This function, which is initiated and controlled completely through the Oracle Enterprise Manager Console allows necessary maintenance and expansion activities to be performed on the production server without affecting ongoing R/3 operations at all. Here, as well, Oracle Fail Safe takes care of transferring the cluster resources and starting up the Oracle instance on the alternate node. The application servers automatically establish a new database connection, and can resume their normal functionality almost immediately. Once the problem has been corrected or planned maintenance is complete, the Oracle Enterprise Manager takes care of switching operations back from the fail-safe node to the production node.

Oracle Fail Safe and Oracle Enterprise Manager

The Oracle Fail Safe - R/3 environment is extremely easy to install and configure, and the process is completely supported through the Oracle Enterprise Manager, which also takes care of monitoring and any planned Oracle server switching from one cluster node to another.

Oracle Fail Safe and Oracle Remote Stand-By

A further step in high availability is provided by a remote Oracle Stand-By database, the ideal complement to the local Oracle Fail Safe environment. While the Fail Safe solution solves local database server problems, an Oracle Stand-By database protects against complete destruction due to fire, earthquake, or similar catastrophes. In this process, a complete copy of the production database is kept synchronously in a remote location, through a constant recovery operation. In case of a catastrophic loss, this Oracle Stand-By database can help you resume operations in just a few hours.

Oracle Fail Safe is included in every Oracle data server license for R/3 on NT from Oracle7 Release 7.3.3 onwards, and is supported from R/3 Release 3.1G and later.

Provided the hardware and software requirements are met, existing R/3 on Oracle production systems can also use Oracle Fail Safe for NT. The installation of Oracle Fail Safe is extremely simple, and can easily be performed by experienced Oracle DBAs. For expanded concepts in the areas of high availability and fail-safe operations, the experts at Oracle Consulting Services are at your service.

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