ORACLE RAC ONE NODE

Oracle Real Application Clusters (RAC) One Node benefits from the same infrastructure used for Oracle RAC. Oracle RAC One Node provides protection from unplanned failures and eliminates common causes of planned downtime for maintenance operations. It allows many databases to be consolidated on one system without incurring the overhead common to traditional server consolidation approaches. Databases can be online relocated within the pool of servers to balance the load, ensuring service levels are met during peaks in demand or after a server failure. Oracle Database Resource Manager Instance Caging provides isolation to ensure all databases get their share of resources. Growing demand beyond the amount of resources a single server can supply can easily be addressed by online upgrading to multi-node Oracle Real Application Clusters.

Runs All Database Workloads

From an application point of view, Oracle RAC One Node appears as an Oracle Single Instance Database towards the application. Therefore, there is hardly ever any need to certify an application with Oracle RAC One Node explicitly, as long as the application is certified to run against an Oracle Database. Oracle RAC One Node can be used for online transaction processing and data warehousing applications or for mixed workloads. No changes to the applications are required. Oracle RAC One Node can be deployed with complementary database technologies including Oracle Multitenant and Oracle Active Data Guard.

Best In-Class Database Availability

Oracle RAC One Node provides customers with the best in-class database availability by removing the single database server as a single point of failure. In a clustered server environment, the Oracle RAC One Node database instance will failover to another server in the cluster should a server, instance or a related and monitored component on this server fail. For cases of planned downtime such as OS or database patching, Oracle RAC One Node provides a unique feature, Online Database Relocation, which allows relocating a database from one server to another without interrupting the database service. Oracle RAC One Node is therefore a key component of Oracle’s Maximum Availability Architecture (MAA), a set of best practice blueprints that addresses the common causes on unforeseen and planned downtime. Using complementary solutions, such as the new Application Continuity feature available with Oracle Database 12c, Oracle RAC One Node provides even better user experience by enabling the replay of failed transactions in a non-disruptive manner, effectively masking any database outage from the end user.
Foundation for Database as a Service

Oracle RAC One Node provides all the software components required to easily deploy Oracle Databases on a pool of servers and take full advantage of the performance and availability that clustering provides. Oracle RAC One Node utilizes Oracle Grid Infrastructure as the foundation for respective database as a service systems. Oracle Grid Infrastructure includes Oracle Clusterware and Oracle Automatic Storage Management (ASM) that enable efficient sharing of server and storage resources in highly available database environments. Oracle Grid Infrastructure provides all the functionality and mechanisms required for successfully running Oracle RAC One Node based systems without requiring paying for 3rd party cluster solutions.

Cost Effective Database Virtualization

Oracle RAC One Node provides customers with complete flexibility for deploying and scaling database workloads. Customers can keep IT costs down by building server and storage pools on commodity components. In this case, Oracle RAC One Node allows for easy and uninterrupted scale-up (using Online Database Relocation) by replacing existing servers with a more capable machine in the course of a hardware refresh. In addition, Oracle RAC One Node can be online upgraded to multi-node Oracle RAC as demand requires it, developing further scale-out potential. Oracle RAC One Node also improves database availability and scalability in a server virtualization environment. Oracle RAC One Node is certified with Oracle Virtual Machine (Oracle VM). When deployed in a Virtual Machine (VM) environment, Oracle RAC One Node continually monitors the health of the database and should it experience an issue, Oracle Clusterware will restart the affected Oracle RAC One Node database either in place or on another virtual server. Oracle RAC One Node also reduces the need for downtime for maintenance activities by enabling online database patching and OS patching as well as upgrades. Finally, if a VM is sized too small, the Oracle RAC One Node database can be online migrated (using Online Database Relocation) to another, larger virtual machine or larger virtual node in the cluster to allow for easier resizing.

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