Choosing the right availability solution for Oracle

MAXIMIZING SERVER, APPLICATION AND DATABASE AVAILABILITY

Database and application downtime can be attributed to the unavailability, or failure, of a resource that is trying to run a service. This downtime reduces revenue, employee productivity and user satisfaction. In the case of an application running on an Oracle database, the users have one of two options to achieve high availability:

- Failover Oracle database with clustering
- Switch to Oracle RAC

Symantec supports both failover clustering (active-passive) with single instance Oracle and parallel clustering, like Oracle RAC (active-active). As data center architects consider the best approach for deploying the latest Oracle solutions across their workloads, many wonder why they should pay the higher price for RAC when so many cheaper and better Oracle high availability solutions exist for mission-critical Oracle deployments. It's a good question, so let's look at different scenarios where other high availability solutions can be a more cost effective and efficient alternative to RAC.

Is Oracle RAC the only solution to reduce downtime?

No. Many organizations do not require zero downtime and can afford several seconds worth of downtime for many applications. By implementing a single instance Oracle database with clustering technologies, organizations can significantly reduce downtime, typically measured in seconds, while reducing overall cost of implementing an availability solution.

Do you need RAC to Reduce Planned Downtime?

NO. Organizations can utilize Veritas Storage Foundation for Oracle HA (SFOHA), a combination of Storage Foundation for Oracle and Veritas Cluster Server, for planned downtime by keeping data online and available when performing storage or server administration and migrating users from one available server to another while server maintenance is occurring. When maintenance is completed, the application (Oracle) can be moved to the original server. Veritas Storage Foundation for Oracle HA, eliminates the need for RAC option to guarantee availability during planned downtime.

How to reduce total cost of ownership while ensuring high availability?

High availability need not be cost prohibitive and can be achieved with multiple stand alone Oracle databases and using a stable clustering solution like Veritas Storage Foundation for Oracle HA. This solution provides customers with the required availability and the cost of switching to a stand by server is relatively cheaper. For example* consider the table below with approximate list price for a high availability solution comprising 2, 4 cpu boxes (on Linux) on mid tier storage, like Clariion Cx700:

<table>
<thead>
<tr>
<th>Option</th>
<th>Oracle RAC</th>
<th>Veritas SF Oracle HA</th>
</tr>
</thead>
<tbody>
<tr>
<td>HA Option</td>
<td>$160,000</td>
<td>$32,000</td>
</tr>
<tr>
<td>3rd party Point in Time Copy software</td>
<td>$17,400</td>
<td>$0</td>
</tr>
<tr>
<td>3rd party Multi Pathing</td>
<td>$12,000</td>
<td>$0</td>
</tr>
<tr>
<td>Total List Price</td>
<td>$189,400</td>
<td>$32,000</td>
</tr>
</tbody>
</table>

* Add $40K/cpu for Oracle database for both options

That is savings of nearly $157,400!! How is that for a reduced total cost of ownership solution?
Do you require high availability with existing infrastructure?

Maximize datacenter availability with existing database infrastructure and VERITAS Storage Foundation Oracle HA. Idle standby servers can be eliminated (or redeployed to new projects) and all customers need is an N+1 cluster. For example, if N active Oracle database servers are required, customers can cluster these N servers along with a (1) passive (or stand by) server and can achieve high availability with an N+1 cluster (see diagram below).

This limits the requirement for idle resources and eliminates the need for RAC. Downtime can be further reduced by using VERITAS Storage Foundation Oracle HA with VERITAS Cluster File System, which removes the need to un-mount and mount the file system during failover.

How to achieve Highest Availability and minimal unplanned downtime?

In order to minimize unplanned downtime for database and applications when cost is not an issue, data centers can switch to Oracle RAC with Storage Foundation for Oracle RAC (SFRAC). While 100% availability is not guaranteed for all connected users the database will be available minimizing transaction loses if any. Even though the upfront and maintenance costs are higher for this implementation, the customer will gain maximum application availability with Oracle RAC and Storage Foundation for Oracle RAC.

Conclusion:
In Summary, most Oracle high availability solutions do not necessarily include RAC and can be achieved with some upfront planning. Symantec offers all the right tools to maximize high availability for the Oracle environment of your choice. For more information Oracle high availability solutions visit:

http://www.veritas.com/Products/www?c=category&refld=120