

**Please note all dates are subject to change.**

## Introduction

A “Maximum Availability Architecture” is one of the key requirements for any Enterprise Deployment. Oracle Fusion Middleware includes an extensive set of High Availability features, including: Process Death Detection and Restart, Server Clustering, Load Balancing, Failover, Backup and Recovery, Rolling Upgrades, Rolling Configuration Changes, Dynamic Discovery, etc. which protect Enterprise Deployments from unplanned down time and minimize planned downtime.

In addition, Enterprise Deployments need protection from unforeseen disasters and natural calamities. One solution to offer this protection involves setting up a secondary site at a geographically different location. In practice, the secondary site may have equal or fewer services and resources compared to the primary site. In this approach, application data, system metadata, configuration data, security data, etc. are replicated to the secondary site on a periodic basis. The secondary site is normally in a “Hot-Standby” mode, where it can be quickly started in case the primary site is no longer available. This deployment model is sometimes referred to as an “Active/Passive” model. This is normally adopted when the two sites are connected over a WAN and where network latency does not allow clustering across the two sites.

In this statement of direction, Oracle Corporation provides a road map for Oracle Fusion Middleware Disaster Protection.

## Current Solution

The current Oracle Fusion Middleware Disaster Protection solution is Oracle Application Server Guard. Oracle Application Server Guard is available on Oracle only deployments, which use Oracle containers, components, and applications. It leverages key Oracle Fusion Middleware capabilities like OPMN, DCM, Backup and Recovery, etc. Oracle Application Server Guard replicates configuration and metadata files from the Web and middle tiers and uses Oracle Data Guard to replicate the Oracle Database content used by Oracle Fusion Middleware components. However, this solution is not available for all solution areas within the Oracle Fusion Middleware stack.

**Oracle Corporation will continue to support present Application Server Guard customers using certified deployments for all of these components until the End of Life of these releases.**

## New Disaster Protection Solution

A core strategy for Oracle Fusion Middleware is “Hot-Pluggability”. Built for the heterogeneous enterprise, Oracle Fusion Middleware consists of modular component software that run on a range of popular platforms and interoperates with middleware technologies and business applications from other software vendors such as IBM, BEA, Microsoft, and SAP. For instance, Fusion Middleware products and technologies such as: ADF, BPEL PM, ESB, OWSM, Adapters, Oracle Access Manager, Oracle Identity Manager, Rules, Oracle TopLink, Oracle BI Publisher, etc. can also run on non-Oracle containers such as IBM Websphere, BEA WebLogic, and JBoss.

Going forward with Oracle Fusion Middleware 10g and beyond, Oracle will be supporting and recommending the following for Disaster Protection:

- Middleware Product Binaries, Configuration and Metadata Files – Use Disk Replication Technologies\*.
- Database content – Use Oracle Data Guard for Oracle Database (and Vendor recommended solutions for non-Oracle databases).

For Middleware Product Binaries, Configuration and Metadata Files, the Disk Replication based solution will involve deploying Oracle Fusion Middleware on NAS/SAN devices. Product binaries and configuration data (stored in Oracle Homes) will be stored on NAS/SAN devices using mounted locations from host machines. In addition, Disk Replication technologies will be used to replicate product binaries, configuration etc. from a primary site disk to a secondary site disk on a periodic basis. Secondary site servers will also be mounted to the disks on the secondary site. In case of a failure or planned outage of primary site, replication to the secondary site will be stopped. The services and applications will subsequently be started on the secondary site. The network traffic should then be routed to the secondary site.

For Oracle Database Content, because of its superior level of protection and higher availability, Oracle Data Guard is and will continue to be the recommended solution for disaster protection of Oracle Databases. This includes the databases used for Oracle Fusion Middleware Repositories, as well as customer data. See the following article for more details on the advantages of using Oracle Data Guard to protect Oracle data:

<http://www.oracle.com/technology/deploy/availability/htdocs/DataGuardRemoteMirroring.html>

## Benefits of New Solution

This new Disaster Protection Solution has a number of key benefits. For instance, it is “Hot-Pluggable” supporting heterogeneous middleware deployments, which may include middleware components from a variety of different vendors. In addition, adopting this approach will allow Oracle to more quickly provide a common Disaster Protection solution for new Middleware components and technologies as they join the Fusion Middleware product line.

## Scope of New Solution

Oracle has verified the new solution for following releases.

- Oracle Fusion Middleware 10.1.2 Release
- Oracle Fusion Middleware 10.1.3 Release
- Oracle Fusion Middleware 10.1.4 Identity Management Release

The table below summarizes the support for Oracle Fusion Middleware components/applications using Disk Replication technologies for Disaster Protection. Additional Oracle Fusion Middleware components/applications will be verified based on market demand.

Components/Applications	Oracle Fusion Middleware 10g		
	10.1.3.X	10.1.4	10.1.2.X
Oracle Containers for JAVA EE (OC4J)	Y	Y	Y
Oracle HTTP Server	Y	Y	Y
Oracle BPEL Process Manager	Y	n/a	N
Oracle Enterprise Service Bus (ESB)	Y	n/a	n/a

\* Examples of Disk Replication Technologies are: NetApp Snap Mirror, EMC SRDF, Veritas VVR, HP StorageWorks, etc.

Oracle Web Services Manager (OWSM)	Y	n/a	n/a
Oracle Business Activity Monitoring (BAM)	Y	n/a	n/a
Business Intelligence	N	n/a	n/a
Oracle Identity Management (OID, SSO, JSSO)	n/a	Y	N
OVD, Access Management, Identity Manager	n/a	N	N
Oracle Portal	n/a	Y	Y
Oracle WebCache	n/a	n/a	Y
Oracle Forms, Reports, Discoverer, Wireless	n/a	n/a	Y

## Summary

Going forward, the recommended Disaster Protection solution for Oracle Fusion Middleware components and applications is based on Disk Replication technology. While Oracle Application Server Guard will continue to be supported by Oracle, it is not recommended as a Disaster Protection solution for any new Oracle Fusion Middleware deployments requiring Disaster Protection. Oracle will continue to support existing Oracle Application Server Guard customers.

Oracle Data Guard is and will continue to be the recommended solution for disaster protection of Oracle Databases used for Oracle Fusion Middleware Repositories as well as customer data.

Please refer to OFM Disaster Protection FAQ for more information.

**Note:** The preceding Disaster Protection support planning is subject to change.

## **ORACLE FUSION MIDDLEWARE**

Disaster Protection

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