

# Oracle Backup Agent

Many of today's mission critical healthcare systems have an Oracle database at their core including HIS, HR tools and many web-based applications. In the event of a system outage, loss or disaster, hospitals need the ability to backup and restore their Oracle servers and database environments as quickly as possible to the desired point in time. However, as Oracle is platform independent, many healthcare IT departments find it challenging to determine the best protection approach.

The BridgeHead Oracle Backup Agent offers hospitals comprehensive, unified support for the entire Oracle platform such as databases, servers and all of the other components that make up the application [e.g. file data], ensuring speedy recovery should disaster strike.

## KEY FEATURES

- ▶ Wide support for all typical Oracle deployments – Windows, Unix, Linux, OpenVMS
- ▶ Multi-streaming tablespace backup for scalability
- ▶ Database and archive log backup management
- ▶ Online or offline backup
- ▶ Support for raw devices on UNIX
- ▶ Support for Oracle RAC on UNIX
- ▶ Support for Oracle RMAN on UNIX
- ▶ Used with other agents to create a comprehensive solution [e.g. file system backup and file archiving]
- ▶ Integrates with the core HDM Platform

## Technical Overview

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The BridgeHead Oracle Backup Agent provides a wealth of functionality to support the protection of Oracle environments.

### Multi-streamed Tablespace Backup

The BridgeHead Oracle Backup Agent supports multi-streamed Tablespace backup, essential for the protection of large Oracle environments. The Agent communicates with the database manager [DBMS] via Oracle's standard interface and puts the Tablespaces into 'backup mode'. The process generally follows these steps:

- 1** a new archive log file is started;
- 2** the Tablespaces are placed into backup mode;
- 3** the Tablespaces are backed up;
- 4** the backup mode is reset;
- 5** another new log file is started and the log files in use during the backup are protected. With the combination of database files and logs created by the BridgeHead Agent, a consistent backup is created.

Oracle databases can get so large that a single backup task could take an excessive amount of time. The BridgeHead Oracle Backup Agent, which supports Windows, UNIX, Linux and OpenVMS environments, uses a multi-streamed approach to backup to reduce the overall time. All of these Agents have the ability to manage multiple data streams [i.e. large databases, with many Tablespaces, can be backed up quickly with each 'stream' independently backing up different Tablespaces]. On OpenVMS in a cluster, the BridgeHead Agent can run different streams on different cluster members.

## Online backups

Most hospital applications are required to operate 24x7, so an online backup (which follows the process outlined above) is the usual favored choice. However, to restore the backup there is an additional step - after the files have been recalled, the database has to be recovered. The logs active during the backup have to be replayed to bring the database to a consistent state matching the end of the backup process.

## Offline backups

An offline Oracle backup provides the simplest backup and restore method, but requires the database to be taken down during the process though it requires no additional processing after the restore. If a hospital has an application that does not always need to be available, the database can be automatically taken down, backed up and then brought back online. If, at a later point, it needs to be restored, it's a simple case of recovering the data and starting the database.

## Oracle RAC and Raw device

Oracle RAC (Real Application Cluster) is supported on UNIX as are databases on UNIX raw devices.

## Archive Log Backups

The BridgeHead Oracle Backup Agent supports the backup of Oracle transaction logs which allow a database to be recovered to a point in time. For large databases without a high change rate, backing up the archived logs provides a simple 'incremental' backup option.

## Oracle Recovery Manager (RMAN)

On AIX, Solaris and Linux, BridgeHead offers an alternative to the traditional Oracle backup, providing an Oracle Recovery Manager (RMAN) interface. RMAN is an Oracle API and database manager that provides a tighter integration with the database and an easy to use user graphical user interface for restore. RMAN also allows an alternative form of incremental backup (page level differential backup) which protects only the changed pages in the database. In some cases, this may be more efficient than the traditional archive log backup where the time to make daily full backups is not available.

# Functional Specification

O/S	RMAN	Tablespace Backup
Windows	No Support	2003 - 2008
Unix 32 bit	AIX Solaris version Linux	AIX Solaris Linux HP UX
Unix 64 bit	AIX Solaris version	AIX Solaris Linux HP UX
OpenVMS	No Support	Alpha 6.1 - 8.x Itanium 8.x

Table 1 Operating system versions and support for Oracle 9-11g

BridgeHead's core services run on Windows Servers - 2003 or 2008, 32 or 64 bit

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With 20 years' experience in data and storage management, and 10 years in healthcare, BridgeHead Software is trusted by over 1,000 hospitals worldwide.

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BridgeHead's Healthcare Data Management (HDM) solutions are designed to work with any hospital's chosen applications and storage hardware, regardless of vendor, providing greater choice, flexibility and control over the way data is managed, now and in the future.

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