



InMage for Oracle

Comprehensive Oracle Application and Data Recovery Solutions

- The industry's most WAN-efficient disaster recovery solution for Oracle, enabling recoveries from or at remote locations within minutes for even large Oracle databases
- Rewinds Oracle to any previous point in time, enabling rapid, reliable object-level recoveries as well as entire Oracle database server recoveries directly from disk
- Fully automated Oracle database services recovery at remote or local sites without having to incur the expense of Oracle Data Guard
- A more cost-effective alternative to multiple tools and products, including Oracle tools, to provide a comprehensive Oracle recovery solution

For many organizations, Oracle databases provide the foundation for a number of applications that drive mission-critical business operations. To keep business operating at peak performance, IT managers must not only provide for rapid, reliable Oracle data recovery, but must also put processes in place to support high availability for Oracle database servers. Comprehensive Oracle recovery plans must minimize data loss on recovery and meet stringent recovery time requirements for both remote (disaster recovery or DR) and local purposes, providing options to deal with both applications and data while making efficient use of network bandwidth.

Oracle offers some features and products, such as Oracle Flashback Database and Oracle Data Guard, to help companies create comprehensive recovery plans for Oracle environments. For organizations that can deploy tools that only work in Oracle environments and are not translatable to other applications, these approaches can provide solutions, but at additional expense. Many mid market organizations are looking for approaches that are more broadly applicable, helping to keep overall management overhead and training requirements as low as possible while still providing reliable, cost-effective solutions.

InMage: A Single Solution for DR, Backup Elimination, and Oracle Failover

InMage for Oracle provides application and data recovery capabilities.

InMage provides a software-based solution that leverages the advantages of disk-based data protection to provide comprehensive DR and local recovery capabilities for Oracle environments while eliminating backup impacts. Automated recovery of Oracle database services can be configured to meet either remote or local requirements, going above and beyond the protection offered by conventional replication, log shipping, snapshot backup, and clustering products alone. InMage for Oracle provides application and data recovery capabilities that are tailored to Oracle environments and replaces multiple tools and products such as Flashback and Data Guard for easier deployment and lower costs, in a single platform that is centrally managed.

InMage foundation technologies include continuous data protection, asynchronous replication over IP, WAN optimization, and failover/failback templates tailored for Oracle. Changes are collected from one or more Oracle database servers continuously as they occur and sent to a local appliance called the CX. From the CX, data can be replicated to a local repository while at the same time it is replicated to a remote repository for DR purposes. As data is captured, it is labeled in such a way that recoveries can occur from any previous point in time by retroactively creating any desired recovery point as a disk-based image. InMage for Oracle can insert markers into each Oracle server's data stream marking not only Oracle process points (e.g. a re-indexing of the database, a hot backup point through RMAN, etc.) but also business process points that are external to Oracle (e.g. pre- or post-patch states, a quarterly close, etc.). These markers allow the state of the Oracle server at the selected process point to be retroactively created upon demand without impacting production operations at all.

For the fastest recoveries, InMage uses AppShots, which are application-consistent points in time that are automatically tracked based on policies established by the administrator. AppShots are marked in the data stream working in conjunction with the Oracle "hot backup" (RMAN) API, and can be read/write or read-only, virtual or physical copies of data, depending on how they are defined when they are created. Recoveries can also occur from any other previous point in time, each of which is crash-consistent and retroactively generated upon demand, just like an AppShot.

Three Oracle Recovery Solutions in A Single Platform

InMage supports cost-effective DR configurations that leverage asynchronous, IP-based replication and support heterogeneous servers and storage for Oracle 10g or later. Oracle updates are reflected almost immediately at target locations, whether they are local or remote, enabling the recovery of Oracle data or the entire database server at target locations within minutes. A combination of InMage WAN optimization technologies makes very efficient use of network resources, enabling protection for even large databases without requiring much bandwidth.

Today, Oracle backup is a discrete administrative operation that can present scheduling problems. InMage for Oracle eliminates Oracle backup as a discrete operation that impacts production servers while still being able to provide application-consistent recovery points (AppShots) to speed recoveries. By front ending existing tape-based configurations, InMage for Oracle can remove backup agents from Oracle servers, eliminate backup windows, and handle near term object-level recoveries directly from disk. If companies still want to migrate data to tape, backups can be performed directly from disk-based images generated by InMage using any backup software products. This can minimize the use of tape in data protection operations, and for some companies may entirely eliminate it.

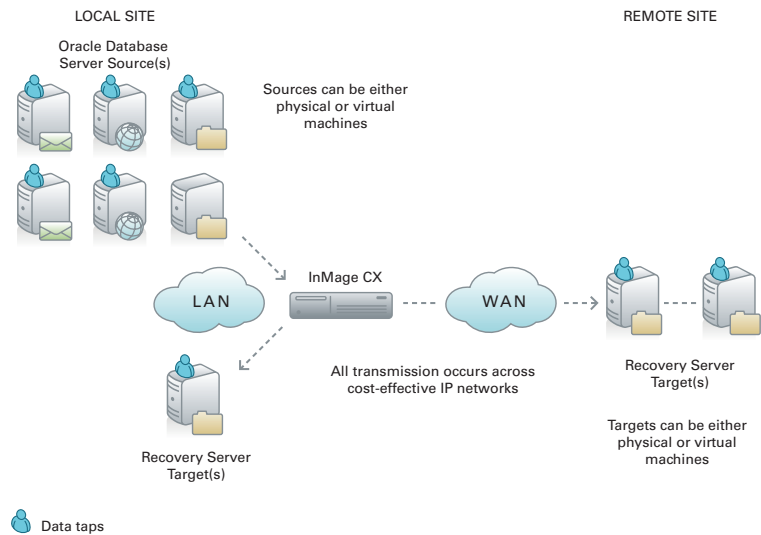


Figure 1. Using data taps, data is granularly collected from Oracle database servers as it is created and sent to a local CX, which can then store the data locally and/or remotely (using replication). InMage provides a better DR solution than log shipping: it recovers faster, does not require manual involvement, and is more comprehensive in that it can recover entire Oracle database servers, not just Oracle instances.

InMage for Oracle also supports Oracle database server failover/failback, providing an alternative to Oracle Data Guard. This capability is included with the base InMage for Oracle product and does not require separate licensing or cost. Based on policies established by the administrator, Oracle services may be recovered remotely or locally, making them available from a different physical server in a manner completely transparent to clients. Alternatively, administrators can perform a "one button" failover to a remote location, either for actual recovery, maintenance, or DR testing purposes.

Better Than Native Oracle Tools

InMage for Oracle protects all data on Oracle database servers, not just Oracle data.

InMage is similar to Flashback in that it provides the ability to reliably "rewind" an Oracle database to any previous point

in time, but differs from Flashback in that it protects all data on Oracle database servers, not just Oracle data. Exact replicas of entire Oracle database servers, including system configuration information, control files, and other data necessary to re-create Oracle database servers at alternate loca-

tions, facilitate the rapid re-start of Oracle services during failover/failback. These replicas support recovery that meets very stringent recovery point (RPO) and recovery time objectives (RTO), but also allow other administrative operations like business intelligence, reporting, test, and development to proceed against the most current copies of Oracle databases without having to impact production environments to get them. InMage for Oracle also tracks and makes available recovery points based on business processes outside of Oracle that Flashback cannot track.

As a platform, InMage can simultaneously host application-aware recovery solutions that go beyond just Oracle, providing common recovery functionality that is centrally managed. For organizations with other critical applications besides Oracle, InMage can provide a more cost-effective solution that has less management overhead and lower training requirements than multiple application-specific recovery tools.