PHOENIX FOR ORACLE

Zero Transaction Loss DR Solution for ANY Replication, Storage, Network and Distance. Including Oracle Data Guard 11g and 12c.

The Challenge

Protecting Oracle Mission Critical Applications in a Disaster

When a disaster strikes a data center, the IT department's goal is to get the mission critical applications up and running in as short of a time as possible (minimal RTO), with zero transaction loss (RPO zero), while ensuring application consistency. Critical applications such as SAP, Oracle E-Business suite, CRM and others, are driving enterprises' business today; once these applications are out of sync, due to data inconsistencies, the manual work required to fix this issue may significantly affect recovery time, and result in a substantial financial impact.

To protect your mission critical applications and guarantee a quick recovery, the applications need to be consistent at all times. For this reason, many organizations implement Sync replication between close-by data centers. In cases where Sync replication cannot be implemented, Async replication is used.

Businesses can recover their IT infrastructure fairly quickly; however, re- constructing consistency between databases and applications may take a significant amount of time, as this requires manual reconciliation processes, and in some cases may also involve the application developers' attention. These databases have business impact; without fixing the consistency issue, the organization cannot return to normal operation.

In addition to longer and unexpected recovery time, the loss of the replication data lag, leads to actual loss of valuable transactions. Most organizations do not really know the magnitude of the lag until they experience a disaster; the actual amount of transactions lost is often much greater than the planned RPO.

Current technologies have clear shortcomings. Synchronous replication involves high costs; it affects Oracle performance; and the DR site needs to be close to the primary one, thus increasing the risk of losing both sites in regional disasters. In addition, it is highly challenging to use synchronous replication together with advanced storage technologies, because synchronous replication slows overall performance of storage systems such as Exadata and flash-based systems.

Asynchronous solutions have their own disadvantages, with the main one being loss of the inherent lag between the primary and DR sites. When using Flash based storage, this inherent lag grows even larger, due to the incredibly fast speed of writes.

The Solution

Zero Transaction Loss. Guaranteed Consistency Across All Applications.

Phoenix for Oracle leverages Data Guard in the Max Performance and Max Availability remote replication solutions offered by Oracle. Axxana's Phoenix Black Box is installed at the primary data center and using Oracle's multiplexing capabilities, it receives and maintains a protected copy of the Oracle Redo log, Archived log and Control files. These Redo Log files, and if required also the Archived Log files, make the actual lag in the asynchronous replication between the production site and the replicated data at the remote site. When a disaster strikes at the primary site, the protected log files are conveyed from the Black Box to the remote site. At the remote data center, the Oracle database integrates the protected log files with the standby Oracle database, to recreate the exact, consistent and complete database copy of what was in the primary data center at the time of the disaster. **In a similar manner to working with Data Guard, Phoenix for Oracle also supports and works with any storage-based replication.**

Phoenix for Oracle guarantees application consistency by providing the ability to synchronize all the applications and databases that are used in the Oracle environment to one consistent point in time. Whether it is your SAP environment running on an Oracle database, Oracle E-Business Suite, CRM suite or any other critical application in the Oracle environment. This assures that in a case of failure at the production site, all applications and databases are recovered together, to the exact same time stamp, with full consistency between all applications and databases, swift RTO, and using either automatic or manual recovery process – per DBA preference. Phoenix for Oracle guarantees shorter recovery time, ease of recovery, and zero transaction loss.

Moreover, Phoenix for Oracle saves the organization money and provides a tremendous ROI. In addition to shorter recovery time and eliminating any and all reconciliation work, the Black Box enables the organization to avoid constant bandwidth upgrades of communication lines to faster and more costly ones. The organization can continue to use the current communication line and not fret about losing any transactions, since all the transactions not yet replicated to the remote site are safe inside the Black Box.

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ORACLE®
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READY

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LINUX
READY

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**Full protection for Oracle applications
(SAP, Oracle E-Business, CRM and more)**

- Zero Transaction Loss protection / RPO=0
- Application consistency
- Improved recovery time

Supports any storage and any replication

- Leverages both Data Guard and storage-based replication

Agnostic to the infrastructure

- 16Gb FC | 10Gb Ethernet | 40Gb IB

Once a disaster has occurred, the Black Box has several methods of sending the transaction data to the remote site

- Over an existing WAN (if the disaster is local, and WAN still operates);
- Downloading the transaction data over Wi-Fi to a laptop and transferring it over a secured alternative WAN connection.
- Transferring the encrypted and authenticated transaction data via a VPN over a 4G network using multiple LTE modems.
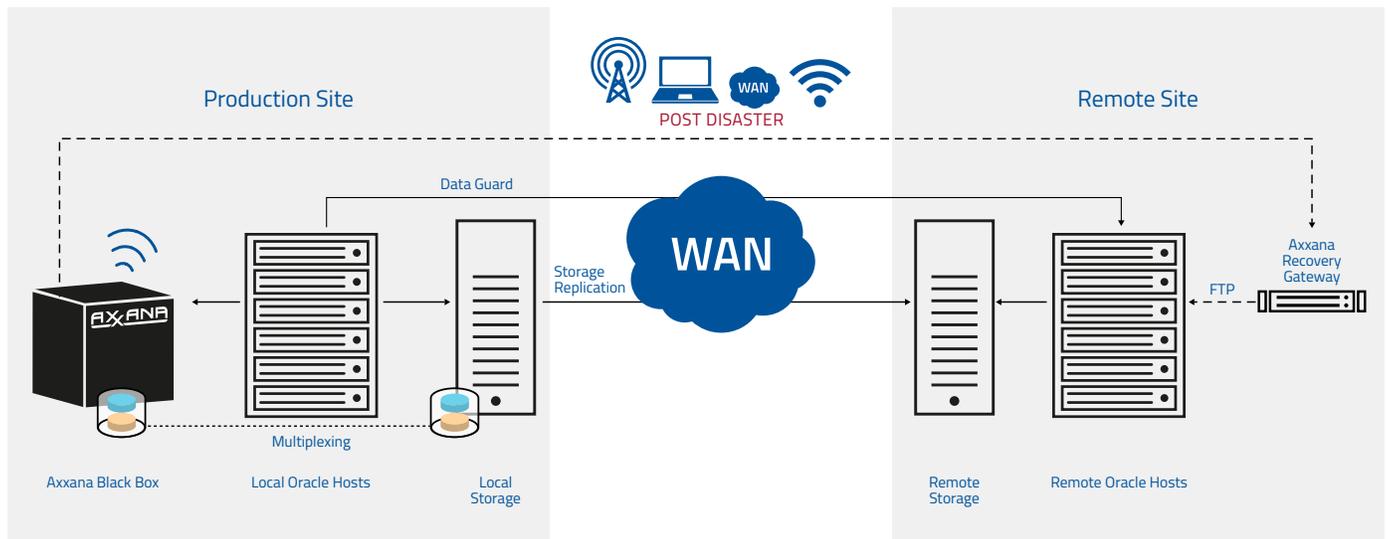
Exadata and Flash Storage

Exadata and Flash storage technologies make transaction protection for DR even more challenging. On the one hand, these technologies significantly boost the performance of mission-critical applications. On the other hand, using synchronous replication with Exadata and flash-based storage would likely result in slowing down overall performance, since the communication lines are not fast enough.

For that reason, organizations are defaulting to use Asynchronous replication - Max Performance and Max Availability. However, this results in the inherent lag growing even larger, due to the incredibly fast speed of writes on Exadata. The Redo logs at the DR site are not an exact, real-time copy of the Redo logs at the primary site. In a case of disaster, transactions will be lost and applications will become inconsistent!
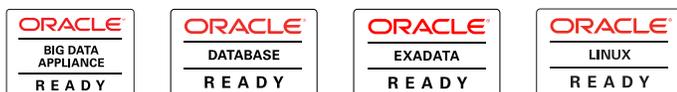
Phoenix for Oracle Components:

Black Box:

Protected storage and compute unit with DR capabilities. Installed at the production site, the Black Box is designed to withstand a wide variety of extreme conditions that may occur during a disaster.

Axxana Recovery Gateway:

Installed at the remote site, the Recoverer software manages the data recovery process.

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