

# PHOENIX FOR ORACLE FAR SYNC

Zero Transaction Loss DR Solution for Oracle Data Guard 12c Far Sync.

## The Challenge

### Protecting Oracle Mission Critical Applications and Databases through 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 Far Sync leverages Oracle Active Data Guard Far Sync operating inside the Axxana Phoenix Black Box to provide an unlimited distance RPO=0 disaster recovery solution, without the need to maintain a third, nearby site. Phoenix for Oracle Far Sync utilizes the Phoenix Black Box. The Far Sync instance is deployed on the Linux system and storage embedded in the Phoenix Black Box. While Phoenix Black Box provides a completely different level of protection, the operation of the Far Sync instance is the same as on any other server. The Phoenix can host multiple Far Sync instances, providing zero data loss protection for multiple production databases. If there is a production database outage, failover to the remote standby database initiates automatically. The Phoenix Black Box will even re-establish a Data Guard session with the standby instance at the remote site automatically over a fast and secure independent cellular communication line when after a disaster occurs, no other communication line is available. Active Data Guard will complete the data transfer of all remaining redo records from the Far Sync instance inside the disaster-proof Phoenix Black Box, and apply them to the standby database. The standby database will then complete all transactions committed to the original primary database prior to the disaster, resulting in zero data loss recovery. At this point, the standby database can be configured as the new primary database, to complete the failover process. Phoenix for Oracle Far Sync 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 across all applications and databases. Phoenix for Oracle Far Sync guarantees shorter recovery time, ease of recovery, and zero transaction loss.

Moreover, Phoenix for Oracle Far Sync saves the organization money and provides a tremendous ROI. In addition to shorter recovery time and eliminating any and all reconciliation work, the Phoenix Black Box enables the organization to avoid using a third nearby site, connected via a costly synchronous line, to host the Far Sync instance. The organization can continue to use its existing pair of primary and remote data centers, with a much lower cost asynchronous replication line between them 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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### Full protection for Oracle applications (SAP, Oracle E-Business, CRM and more)

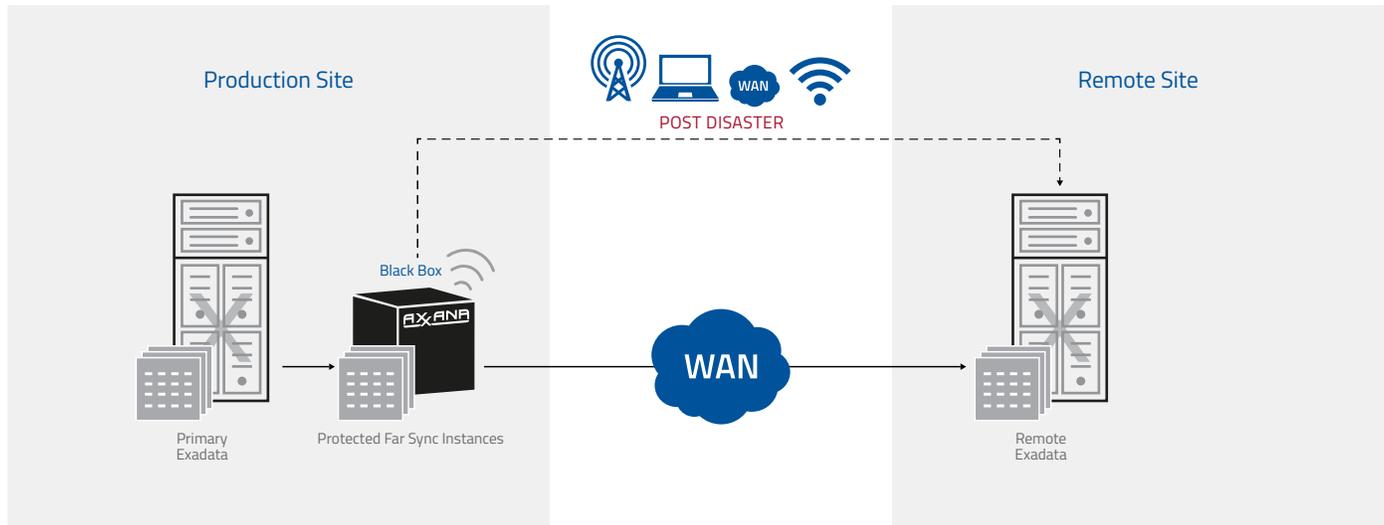
- Zero Transaction Loss protection / RPO=0
- Application consistency
- Improved recovery time

### Agnostic to the infrastructure

- 10Gb Ethernet

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. Therefore, with the addition of the Axxana protection, RPO=0 recovery will be guaranteed without the need to compromise on performance and upgrading your network infrastructure.

## The Phoenix for Oracle Far Sync Components

### Black Box:

Protected storage 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.



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