

Three Advantages of Using SharePlex as a Streams Alternative

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Three Advantages of SharePlex over Streams

1. **Features/Overhead**

- No overhead on the source database
- Ease of install, configuration, administration

2. **All-inclusive/ no add-ons**

- Compare/Repair
- Monitoring/ Web Admin Console
 - › Replication performance – queues filling up, processes stopped, OOS
 - › Alerting – email, SNMP traps, corrective action (script execution)
 - › Detect out-of-sync

3. **Cost/ Flexible Licensing**

- Vs Golden Gate – half the cost
- Perpetual or Term
- Enterprise or Standard, Prod/Dev/Test

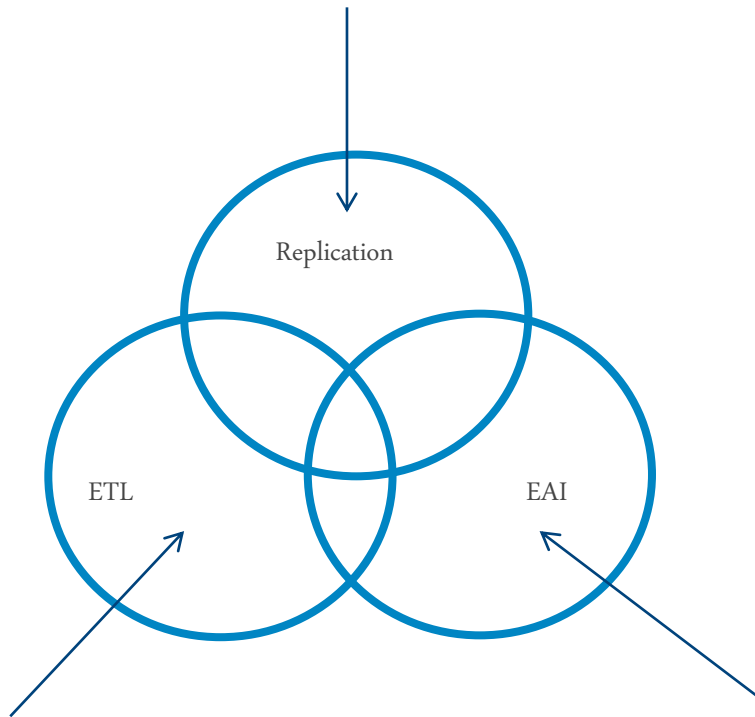


Methods for data sharing

Sophistication / Simplicity



- Dell SharePlex
- Oracle GoldenGate
- Oracle Streams
- ETL
- Change Data Capture
- Oracle Data Guard
- Export/Import
- Disk Mirror splits



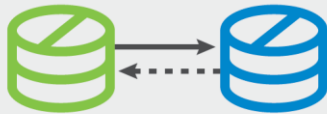
SharePlex database replication: scalability, availability, and near real-time data integration

Affordably replicate Oracle data on-premises, remotely or in-the-cloud for special purposes:

- Ensure high availability and disaster recovery
- Minimize risk and downtime associated with migrations and upgrades
- Improve performance of OLTP systems
- Harness real-time reporting and data warehousing
- Optimize analytics and the use of business intelligence applications



High availability/
Disaster recovery



Migrations, patches
and upgrades



Operational
reporting/Archiving



Data integration/
Data warehousing

Bodybuilding.com keep visitors coming

Business need

Reporting workloads began dragging down website performance.

Results

- Website performance remains strong while enabling advanced analytics and ad hoc reporting 24x7.
- Safer, seamless migrations save the company up to \$280,000 each by reducing downtime.
- Slashes query run times from 20–30 minutes to just 4–5 seconds.
- Eliminates two hours of daily reporting database downtime.

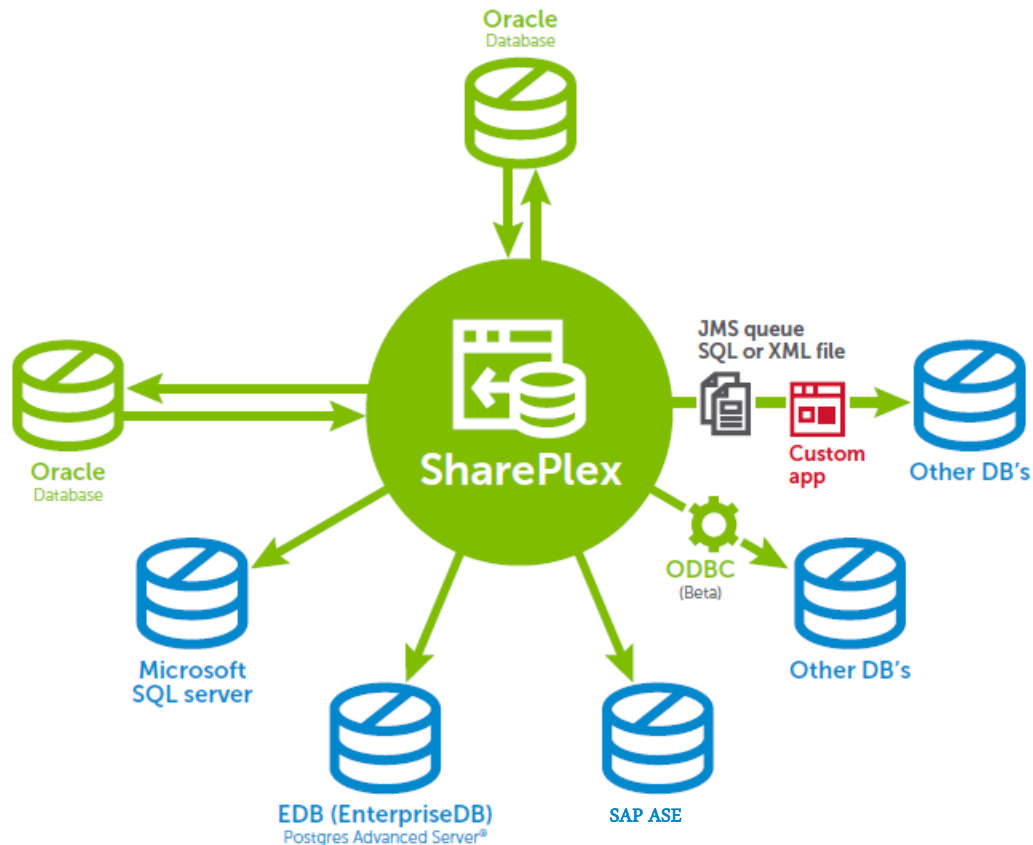
“By drastically reducing the downtime required by a traditional migration, SharePlex is saving us as much as \$280,000 in lost revenue — and that’s for just one migration.”

Sean Scott, Oracle DBA, Bodybuilding.com

[Read the full case study >](#)



SharePlex: empower your **real-time enterprise**



- Please note this diagram illustrates the interoperability of SharePlex and is not the architecture

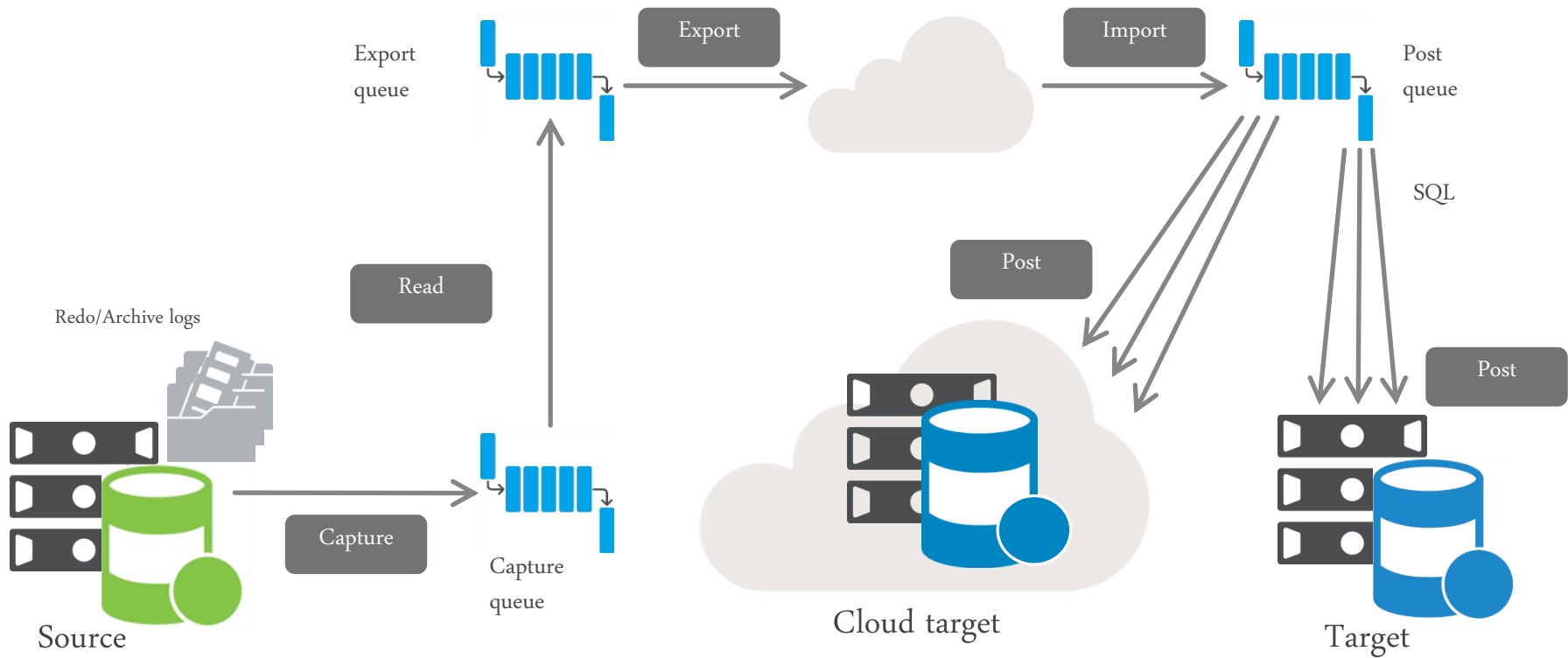


SharePlex Processes

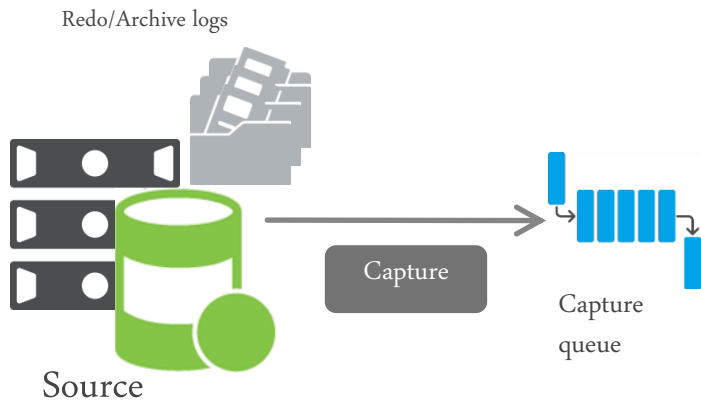


SharePlex product architecture

On-premises, remote, or in-the-Cloud

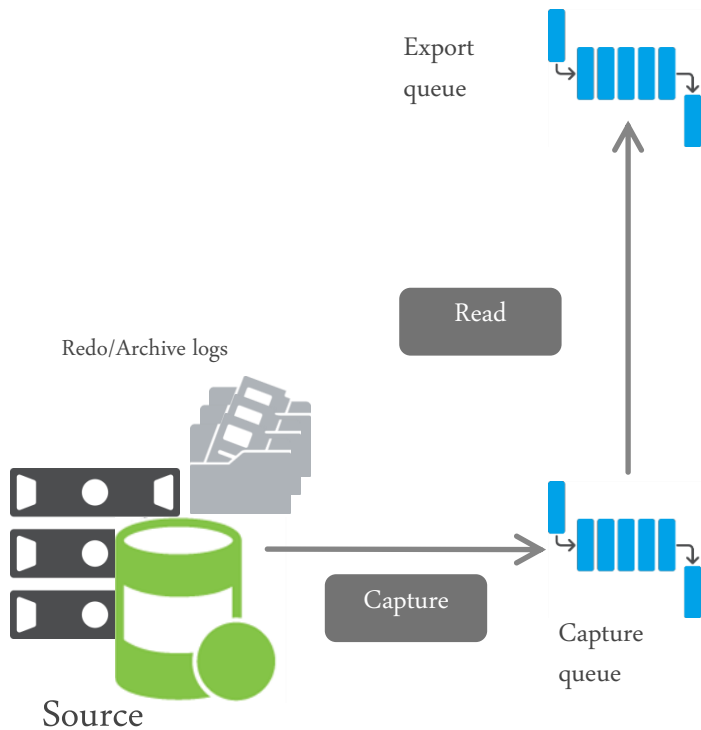


SharePlex capture process



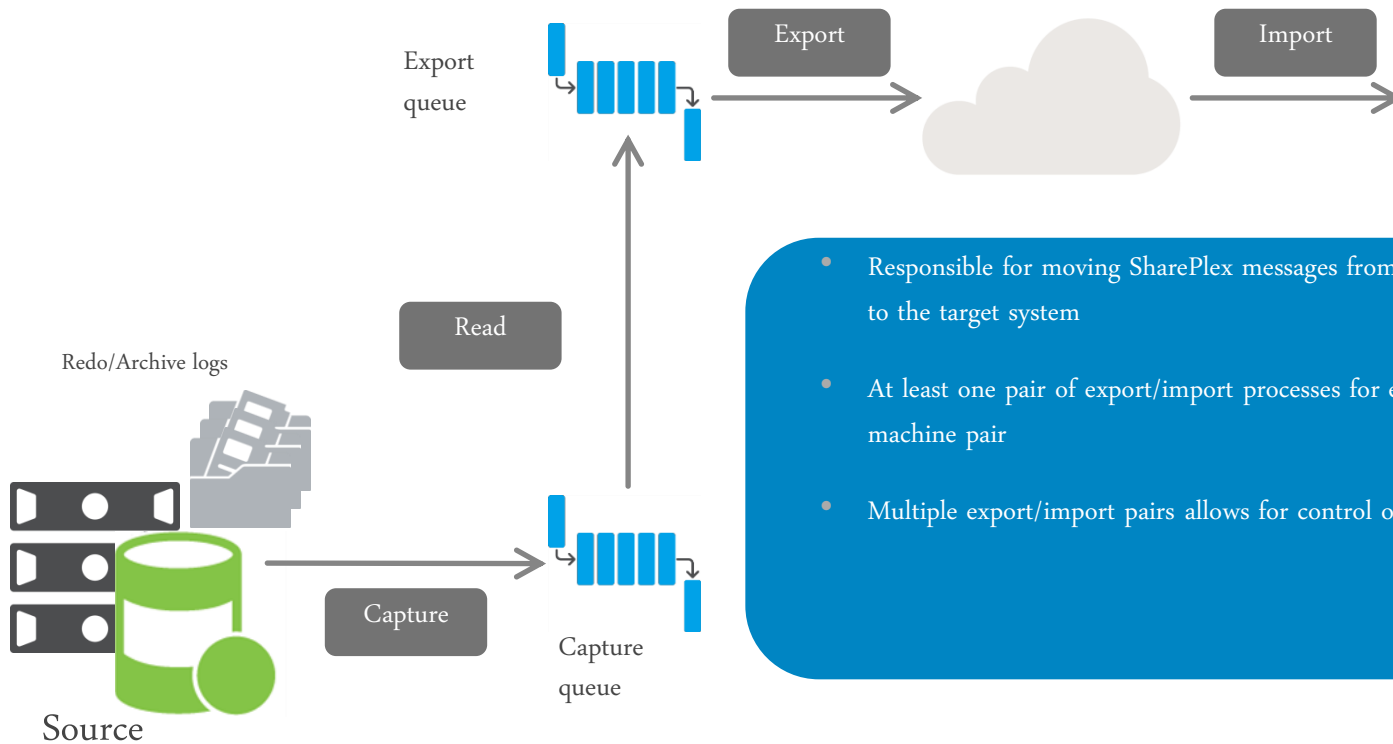
- Hi-speed, real-time, log-based capture process
- Processes both online and archive redo logs
- Reads archive logs stored in ASM or in a regular file system
- Supports both RAC and non-RAC environments
- Support for Exadata environments

SharePlex reader process



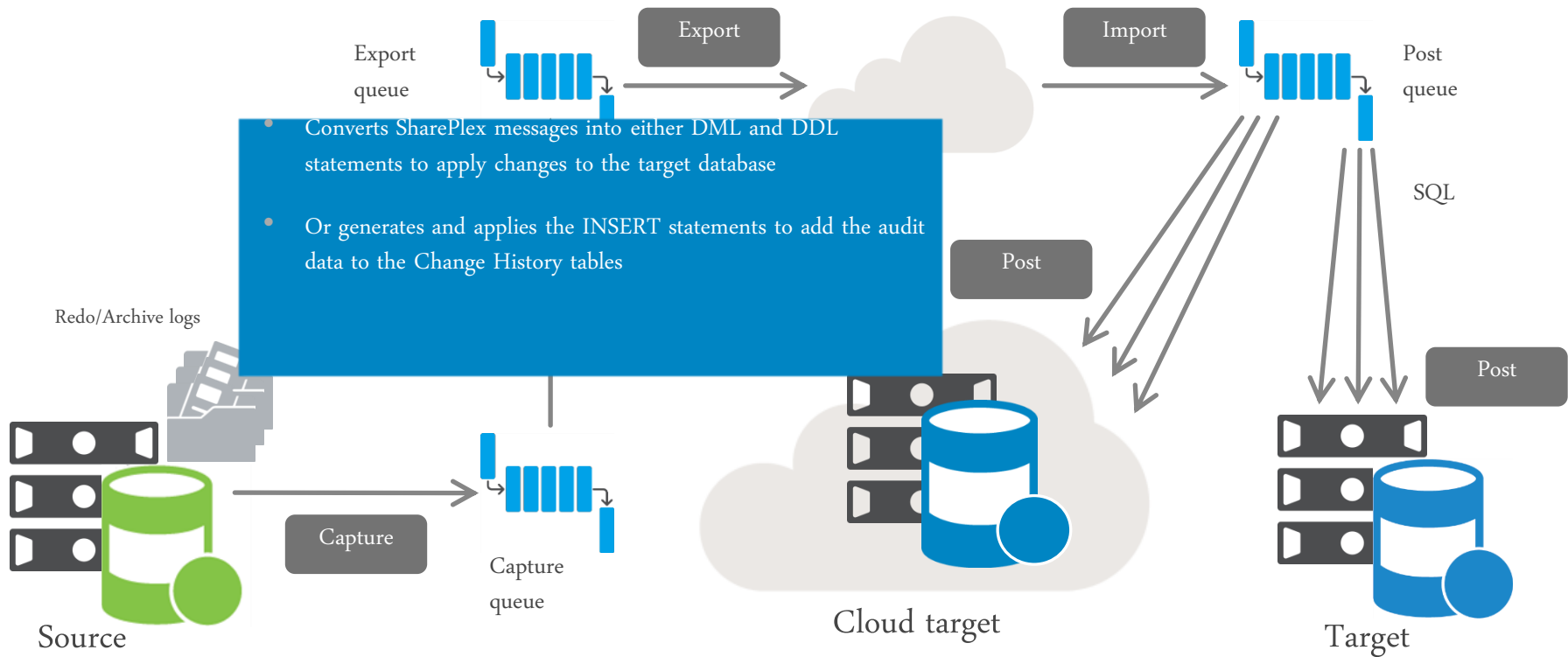
- Responsible for grouping DML statements into batches
- Horizontal partitioning – interprets the “where” clause that specifies specific rows to replicate
- Vertical partitioning – specific columns to replicate
- Query key data
 - if Oracle's Primary/Unique supplemental logging is not enabled.

SharePlex export/Import process



- Responsible for moving SharePlex messages from the source system to the target system
- At least one pair of export/import processes for each source-target machine pair
- Multiple export/import pairs allows for control of data flow.

SharePlex poster process



SharePlex queues

- **Memory-based queues** with disk-based backup storage
- Under steady state conditions (data moving through the system with no apparent backlog), **data will propagate through a queue**, with little or no disk activity being performed.
- When the number of records in a queue increases, eventually the queue memory will be exhausted and **data will moved to and from disk**.
- Although SharePlex attempts to move data without writing to disk, **the queues are completely fault tolerant and no data will be lost**, even if the system suddenly crashes with data residing in the queue memory.
- There is **no limit to how much data can be stored in a SharePlex queue**, the limiting factor will be how much physical disk space is available.



SharePlex Resource Usage / Performance

- CPU / Disk / Memory – SharePlex typically uses <1% of disk, Disk and Memory are controlled
- Poster performance enhancements allow certain types of activity to be **optimized in order to increase throughput**.
- The number of posters is configurable and usually by just increasing the number of post processes, the **desired level of throughput can be achieved**.
- The number of export/import pairs can be configured in order to **control data movement** across a network.
- If Capture performance needs to be increased, **multiple replication streams can be configured**.



SharePlex fault tolerance

- If the database server (source or target) goes down abnormally or is rebooted, **replication will automatically restart** if the sp_cop process has been configured to start on boot up.
- If the network connection is lost, or if the target machine is not accessible/available, **SharePlex will continue to try to connect**, until the problem is resolved.
- Transactions will queue to disk until the problem is resolved, thus **no transactions are lost** and **user access is not interrupted**.
- Should SharePlex be stopped on the source server, a check point would be saved such that SharePlex will be able to pick up where it left off and not lose any transactions even though it was down during user activity.



SharePlex configurations



SharePlex Replication Use Cases

On-premises, remote, or in-the-cloud

Availability



High availability/
Disaster recovery



Migrations, patches
and upgrades



Active-Active/
Load balancing

Scalability



Operational
reporting/Archiving

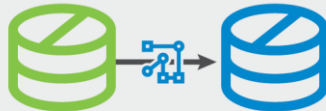


Data distribution/
Distributed processing



Cascading using
intermediary systems

Integration



Data integration/
Data warehousing



Change history/
Metadata repository



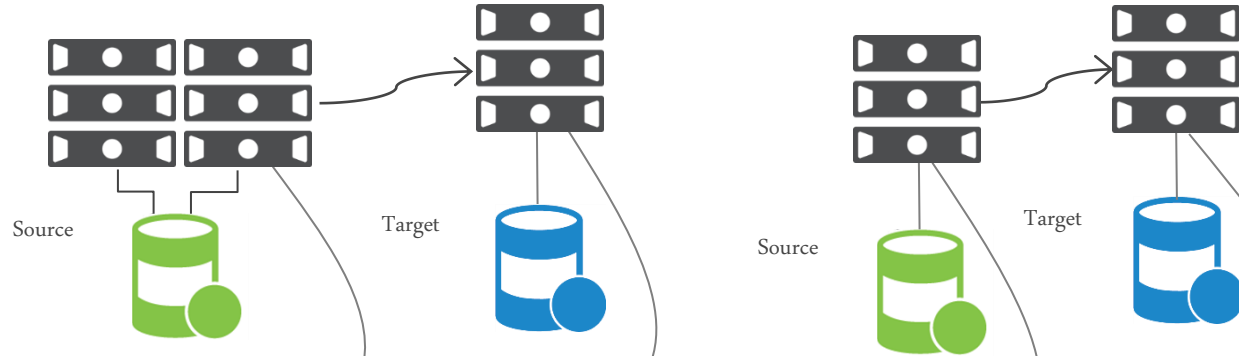
Centralized reporting/
Consolidation

SharePlex Manager

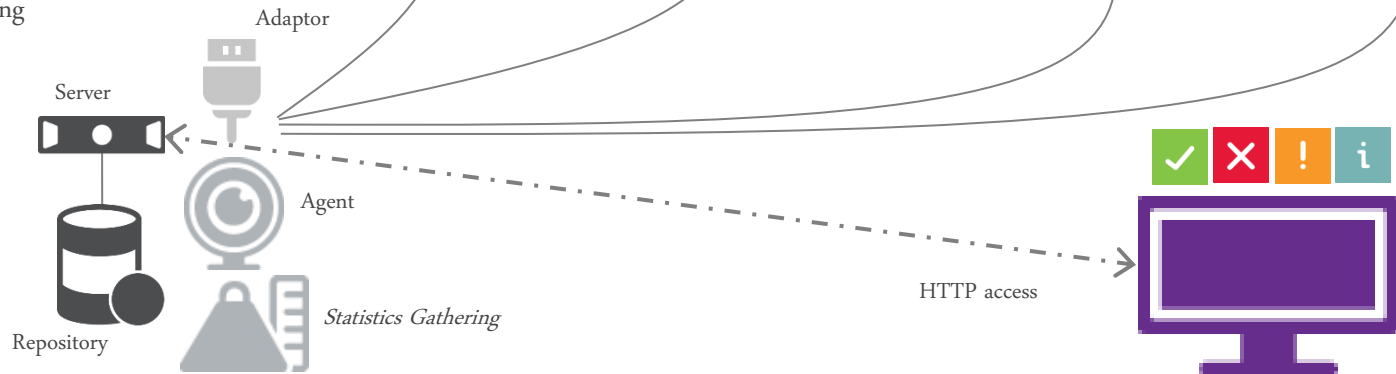


SharePlex Manager (GUI) architecture diagram

SharePlex Replication



SharePlex Monitoring



Discovery #1

- After installation, discover a SharePlex infrastructure for first time.

Replication Overview > SharePlex Administration > **Manage Monitoring**

 **Welcome**

Define Replication Model

Discovery

Manage View

Finished

Welcome

The Discovery Wizard is used to identify a replication model in your SharePlex infrastructure.

You will begin by specifying the connection properties instance. The Discovery Wizard will then identify the instances of that stream and then the instances of any that may be connected to it.


If the instance specified has not been activated, you will have the option to create a new replication stream.

Make sure that SharePlex is properly installed and run click **Next** to begin the discovery process.

Next >



Replication Overview > SharePlex Administration > **Manage Monitoring**

 **Welcome**

Define Replication Model

Discovery

Manage View

Finished

SharePlex Instance Connection Properties

Enter the connection properties of the SharePlex source instance that you want to use as the starting point of the discovery process.

* Hostname: **SP_SYS_HOST_NAME**


* Port: **SP_COP_TPORT**

* Username: **OS USER/PASSWORD**

* Password: **OS USER/PASSWORD**

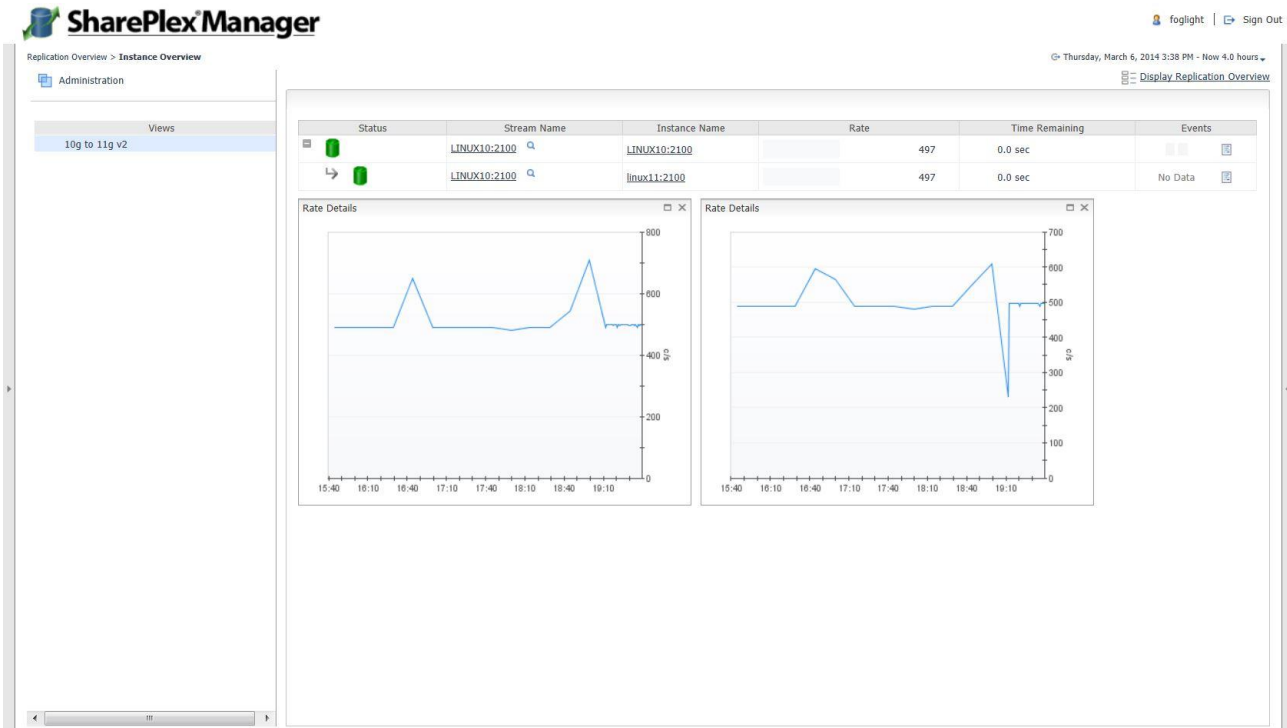
☐ Use as default credentials

Next >



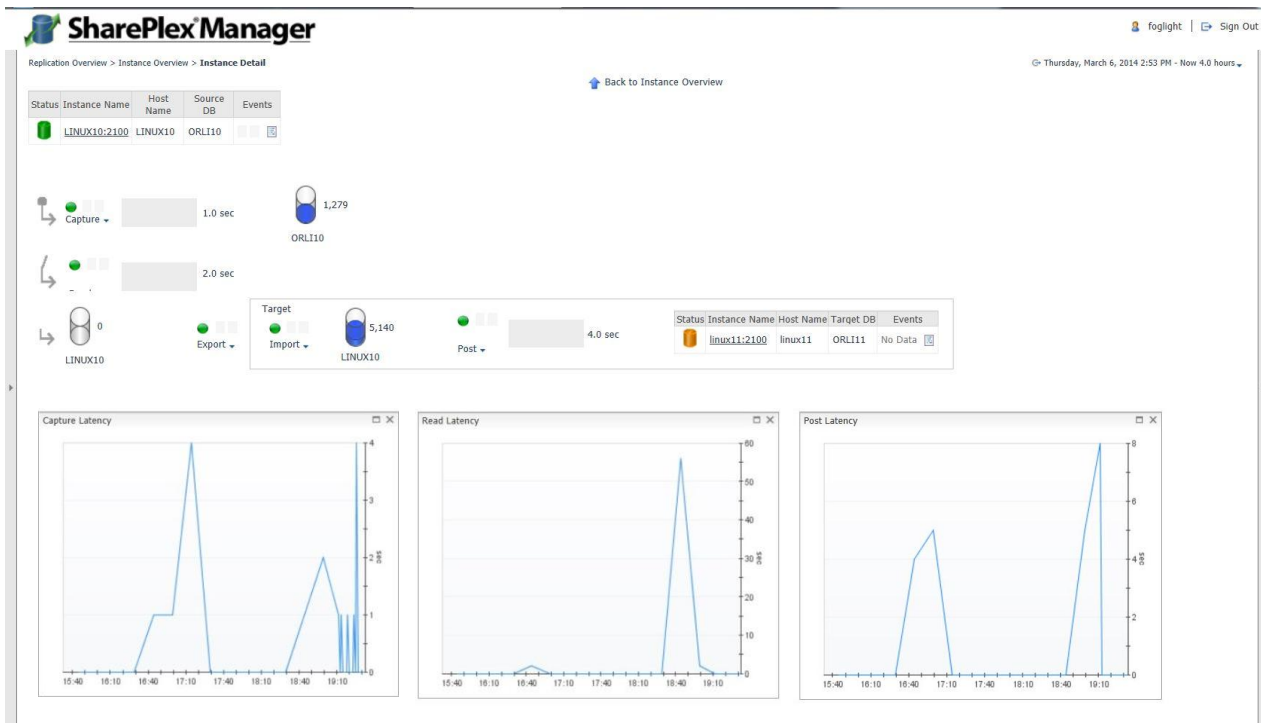
Monitoring: Instance overview

- Rate
- Time Remaining



Monitoring: Instance detail

- Processes
- Queues
- How replication is set up



Monitoring: Instance detail > Show post detail

Target



Import ▾



LINUX10



Post ▾

0.0 sec

| Status | Instance Name | Host Name | Target DB | Events |
|--------|------------------------------|-----------|-----------|---------|
| | linux11:2100 | linux11 | ORLI11 | No Data |



SharePlex Manager

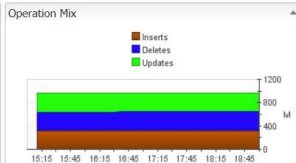
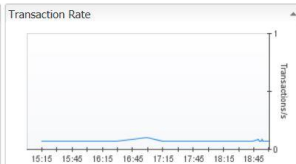
foglight | Sign Out

Replication Overview > Instance Overview > Instance Detail > Post Process Detail


Thursday, March 6, 2014 3:00 PM - New 4.0 hours ▾

| Target Status | Stream Name | Target Instance Name | Target Host Name |
|---------------|--------------|----------------------|------------------|
| | LINUX10:2100 | linux11:2100 | linux11 |

| Process Status | Queue Name | Source DB | Target DB | State | Activation ID | Checkpoint | Last Record Processed | SQL Cache Hit Ratio | Events |
|----------------|------------|-----------|-----------|------------|---------------|------------|-----------------------|---------------------|--------|
| Running | LINUX10 | ORLI10 | ORLI11 | Processing | 9 | 0 | 3/6/14 6:59 PM | 100% | |



Manage Monitoring: Instance detail > Manage monitoring

| Status | Instance Name | Host Name | Source DB | Events |
|---|----------------|-----------|-----------|---|
|  | spxsource:2400 | spxsource | SPX_SRC |  |



Replication Overview > Instance Detail > Manage Monitoring

Instances

Streams

Views

Permissions

Discovery

Setup Replication Stream

Return to Monitoring

SharePlex Configuration File Property

test_config_1

Date Activated: Sep 28, 2009 10:04:33 AM
Datasource: o.SPX_SRC
SharePlex Instance: spxsource:2400

| | datasource:o.SPX_SRC | |
|----|-----------------------|---------------------------------|
| 1 | #source tables | target tables routing map |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | TESTUSER.C_ITEM | TESTUSER.C_ITEM spxsource |
| 6 | TESTUSER.C_ORDER_LINE | TESTUSER.C_ORDER_LINE spxsource |
| 7 | TESTUSER.C_CUSTOMER | TESTUSER.C_CUSTOMER spxsource |
| 8 | TESTUSER.C_NEW_ORDER | TESTUSER.C_NEW_ORDER spxsource |
| 9 | TESTUSER.C_DISTRICT | TESTUSER.C_DISTRICT spxsource |
| 10 | TESTUSER.C_STOCK | TESTUSER.C_STOCK spxsource |
| 11 | TESTUSER.C_WAREHOUSE | TESTUSER.C_WAREHOUSE spxsource |
| 12 | TESTUSER.C_ORDER | TESTUSER.C_ORDER spxsource |
| 13 | TESTUSER.C_HISTORY | TESTUSER.C_HISTORY spxsource |
| 14 | | |



To make a new config

SharePlex Instance

Edit View Event Log Remove Create New Configuration Upload Configuration File Instances List

spxsource:2400

Connection Information

Host: spxsource
Port: 2400
IP Address: 10.30.104.220
Datasource: SPX_SRC
Username: splex3
Password: *****

Configurations

| Filename | Datasource | Date Activated | State |
|---------------|------------|--------------------------|--------|
| test_config_1 | o.SPX_SRC | Sep 28, 2009 10:04:33 AM | Active |
| test_config | o.SPX_SRC | - | Inac |

Can see the status or can do activate/deactivate

Deactivate
Reactivate
Abort
Purge
Copy

Previous Connection to this Instance

Date: Sep 28, 2009 11:35:54 AM
SharePlex Version: 7.0.0.30
Connection Status: Connection Validated



Alarms: Administration > Rules & notifications > Manager Rules

foglight | Operations | Help

Home | Agents | Data | Schedules | Rules & Notifications | Cartridges | Setup & Support | Users & Security

Rules & Notifications

Manage Rules(Filter By Cartridge: SharePlexManager)

Filter: By Cartridge
SharePlexManager

Showing rules 1 - 23 of 23

Show 30 rules per page

| | | Rule Name | Rule Scope | Cartridge Name | | | | | |
|-------------------------------------|--------------------------|--|-------------------------|------------------|--|--|--|--|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Capture RAC Status | SharePlexCaptureProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | Halogen Events | SharePlexInstance | SharePlexManager | | | | | |
| | <input type="checkbox"/> | Halogen Instance Not Monitored | SharePlexInstance | SharePlexManager | | | | | |
| | <input type="checkbox"/> | Halogen Source Capture Process | SharePlexCaptureProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | Halogen Source Connection Status | SharePlexSource | SharePlexManager | | | | | |
| | <input type="checkbox"/> | Halogen Source Export Process | SharePlexExportProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | Halogen Source Reader Process | SharePlexReadProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | Halogen Target Connection Status | SharePlexTarget | SharePlexManager | | | | | |
| | <input type="checkbox"/> | Halogen Target Import Process | SharePlexImportProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | Halogen Target Post Process | SharePlexPostProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | SharePlex Capture Process Latency | SharePlexCaptureProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | SharePlex Capture Process Time Remaining | SharePlexCaptureProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | SharePlex Capture Queue | SharePlexReadProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | SharePlex Export Process Time Remaining | SharePlexExportProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | SharePlex Export Queue | SharePlexExportProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | SharePlex Post Process Latency | SharePlexPostProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | SharePlex Post Process Time Remaining | SharePlexPostProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | SharePlex Post Queue | SharePlexPostProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | SharePlex Read Process Latency | SharePlexReadProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | SharePlex Read Process Time Remaining | SharePlexReadProcess | SharePlexManager | | | | | |
| | <input type="checkbox"/> | SharePlex Replication Stream Latency | SharePlexStream | SharePlexManager | | | | | |
| | <input type="checkbox"/> | SharePlex Source Instance Time Remaining | SharePlexSource | SharePlexManager | | | | | |
| | <input type="checkbox"/> | SharePlex Target Instance Time Remaining | SharePlexTarget | SharePlexManager | | | | | |

Delete Selected

Add Rule



Alarms administration: Rule definition

The screenshot displays the Foglight web interface for managing rules. The top navigation bar includes links for Home, Agents, Data, Schedules, Rules & Notifications, Cartridges, Setup & Support, and Users & Security. The 'Rules & Notifications' section is active, showing a 'Rule Summary' tab for the rule 'SharePlex Capture Process Latency'. A red arrow points to a button in the top right corner of the rule summary section, labeled 'Click here'. Below the tabs, the 'Conditions, Alarms & Actions' section is visible, showing a list of severity levels: Fatal, Critical (Not active), Warning, Normal, and Undefined (Not active). A 'Save All' button is located at the bottom left of the severity list.

Home Agents Data Schedules Rules & Notifications Cartridges Setup & Support Users & Security

Rules & Notifications Rule Summary

Edit Rule - SharePlex Capture Process Latency

Rule Definition Conditions, Alarms & Actions Schedules Behavior Rule Variables

Conditions, Alarms & Actions

Rule Name: SharePlex Capture Process Latency

Rule Type: Multiple-Severity Rule

Successfully saved the changes

☒ Fatal

☒ Critical (Not active)

☒ Warning

☒ Normal

☒ Undefined (Not active)

Save All

Click here

Dashboard report

Foglight®

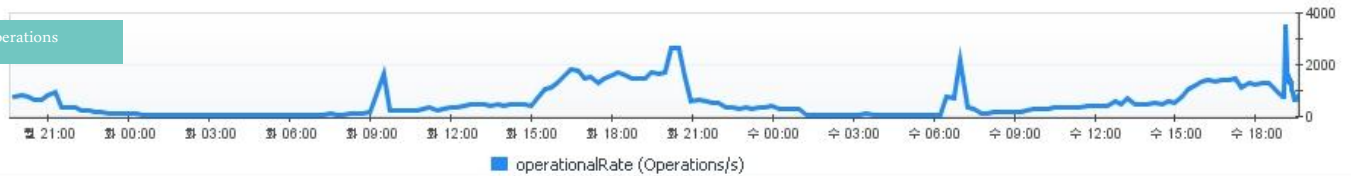
foglight | Sign Out

Performance View

2009, 12, 21 - 2009, 12, 23 2.0 days

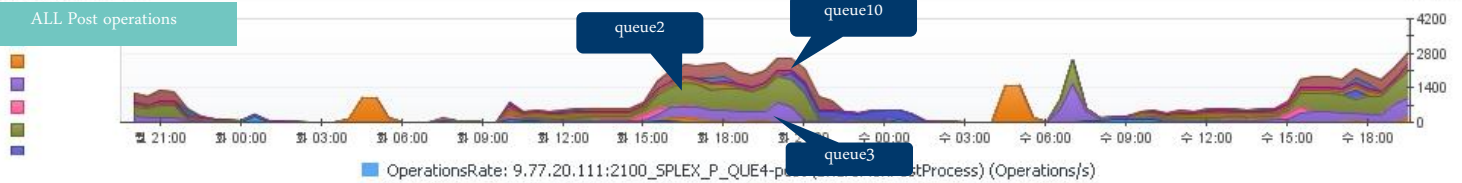
Capture's Operation

Operatio...
Capture operations



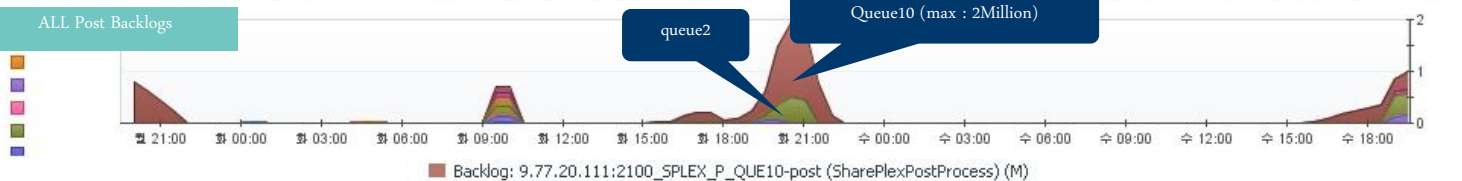
Post's Operations

ALL Post operations



Metrics for: 9.77.20.111:2100_SPLEX_P_QUE4-post (SharePlexPostProcess), 9.77.20.111:2100_SPLEX_P_QUE8-post (SharePlexPostProcess), 9.77.20.111:2100_S...

ALL Post Backlogs



10 easy steps to migrate from Oracle Streams to SharePlex



10 easy steps to migrate from Oracle Streams to SharePlex

Step 1

Install SharePlex on both source and target systems

Step 2

Create SharePlex configuration file on the source system

Step 3

"Stop post" on the target system

Step 4

Activate the configuration on the source system

Step 5

Check for long running transactions on the source system



10 easy steps to migrate from Oracle Streams to SharePlex (continued)

Step 6

Find the last SCN applied by Streams on the target system

Step 7

Run **SharePlex reconcile** to synchronize the source and target systems

Step 8

Start **SharePlex poster** on the target system

Step 9

Monitor SharePlex as long as required until satisfied

Step 10

Use **SharePlex Compare / Utility** to audit out of sync conditions



Conclusion



Why Dell SharePlex over Oracle's many tools?

SharePlex

- ✓ One single, integrated solution
- ✓ Many use cases, same product
- ✓ No additional modules needed
- ✓ Single cost license
- ✓ Download and go in 15 minutes
- ✓ Works with Oracle technologies

Functionality

Disaster Recovery
Operational Reporting
High Availability
Migrations / Upgrades
Real-time CDC
Peer to Peer/Active to Active
Scalability / Load Balancing
Data Transformation
Data Warehousing / ETL
Monitoring/Management
Data Comparison
Data Repair

ORACLE®

Oracle
Data Guard

Oracle Active Data
Guard

Oracle
Streams

Oracle
GoldenGate

Oracle RAC

Oracle Data
Integrator

Management Pack for
Oracle
GoldenGate

Oracle
GoldenGate
Veridata

- Too many products
- Different use case = different product
- Non-integrated tools
- Multiple licenses, more cost
- Adds complexity



What makes SharePlex different?

Overall: a great customer experience

1

Flexible/creative pricing

- Prod/non-prod
- Perpetual
- Term
- EE vs SE



2

Superior TCO

- Tightly coupled architecture
- Consistency/ platform independent



3

World-class 24x7 support

- NPS 74.3% avg
- CSAT 96.5% avg
- 6 ACE Awards, 5 in row



4

Professional services

- Project based
- Global
- References



5

Agile development

- In spirit with ad-hoc functionality
- In letter with formal methodology



6

Unique capabilities

- Optimistic commit
- Compare/Repair
- In flight data integrity
- Live activate, more...



7

Solid roadmap

- Goal: "Best replication solution in the world"
- New functionality
- Continuous improvements



8

Dell difference

- End to end solution provider
- Winning with integrity, Ethisphere 2014 & 15 "World's most ethical company"



SharePlex – Half the cost

Embedded utilities – no added cost!

Key features to consider when choosing a replication solution

Compare and Repair

- Validates the integrity of data between the source and target.
- If a discrepancy is found, it fixes the anomaly.

Oracle
GoldenGate
Veridata

SharePlex Manager

- SharePlex Manager
- Graphical user interface to monitor & manage all SharePlex installations.
- Alerts to issues.

Management
Pack for Oracle
GoldenGate

Sync Utility

- Built on top of Oracle export & import; allows instantiation or re-synchronization.
- Handles in-flight changes to objects

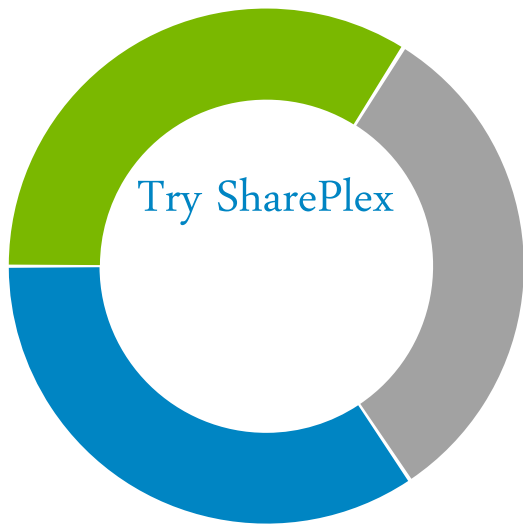
Oracle
GoldenGate



Questions



Next steps



Visit the SharePlex webpage

www.shareplex.com

- Datasheets, videos, case studies, white papers, technical briefs, events, webcasts, etc.

Schedule a Proof of Concept (POC)

- Download free 30-day trial software (complimentary SC and Support assistance)
- On your own test environment
- Dell Cloud Sandbox

Join the SharePlex Community

www.shareplex.com/community

- Beta's, discussions, blogs, expert advice, demo's, technical documents, etc.



To learn more about

SharePlex™

replication and integration

visit www.shareplex.com



Thank you.

Susan Wong, Solutions Architect

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