

SharePlex[®] 10.0

Release Notes

Revision: 5/5/2024

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About SharePlex

SharePlex provides high-speed replication from Oracle database to different target databases and messaging containers on major Unix, Linux and Windows operating systems— both on-premises and in the cloud. SharePlex supports a wide variety of configurations to meet different and complex data availability needs.

SharePlex supports reliable Oracle high availability configurations where replication maintains a duplicate database in a different location that is ready for fast, seamless failover and failback in planned or unplanned mode.

You can also use SharePlex to replicate data from Oracle source to maintain a change history database in an Oracle target. Rather than updating or deleting target rows based on the source change, SharePlex inserts a new row on the target for every source change. The result is an archive that reflects the chronological history of every change made to the source database.

SharePlex also includes, at no extra charge, the compare and repair tools that you need to verify the accuracy of a target maintained by replication. These tools not only detect hidden out-of-sync conditions, but they also repair the target to restore parity of your source and target data.

SharePlex value and versatility continues to grow with the requirements and requests of our customers. Although SharePlex is a reliable, relatively low-maintenance solution, our top-rated support team is ready around the clock to help with any trouble you may have. To get you started with your deployment, our professional services team is highly experienced and readily available.

Join our community

For expert advice and the latest news about SharePlex, join the SharePlex Community at <https://www.quest.com/community/products/shareplex>. Take advantage of our forums, blogs, videos, and more from our own experts, as well as input from our customers and partners.

About this release

This is a minor release with new and enhanced functionality.

Revision History

| Document Version | Date | Change History |
|------------------|--------------------------|--|
| 2 | 6 th May 2024 | <ul style="list-style-type: none">Updated the supported Solaris platform versions in the Supported Operating Systems for Oracle section. |

New Features in this Release

SharePlex 10.0

Database Support. This release of SharePlex includes support for the following database versions:

- **Oracle 19c.** This release includes support for capture from and replication to Oracle 19c on all platforms (except HP/UX).
- **Oracle 19c on RDS.** This release includes support for capture from and replication to RDS running Oracle 19c.

NOTE: Advanced Row (OLTP) Compression is not supported by SharePlex 10.0 for replication of objects using DML operations in Oracle 18c and 19c. This limitation applies to objects in the source database.

New Features for Oracle Source

Oracle Cloud Infrastructure as a Service (IaaS) Compute Virtual Machine is now supported as a target.

Support for Extended Data Types. SharePlex now supports the Extended Data Type sizes introduced in Oracle 12c. The following maximum sizes are now supported for the following data types in Oracle to Oracle replication:

- VARCHAR2 up to 32767 bytes
- NVARCHAR2 up to 32767 bytes
- RAW up to 32767 bytes

NOTE: The following limitations apply to support for Extended Data Types:

- Extended Data Types are not supported for the **copy** command.
- SharePlex does not support the Extended Data Type size on a key column.

Support for Invisible Columns. SharePlex now supports replication of a column that has been defined as invisible, a feature that was introduced in Oracle 12c. Invisible columns are supported in DML and DDL replication for Oracle source to Oracle target.

Improved Performance in the Post Process for CLOB Data. Enhancements designed to improve Post performance when posting CLOB data to Oracle have been implemented in this release. These improvements are applicable to CLOB or BLOB data with a maximum size less than 32768 bytes.

Support for Kerberos Authentication in Kafka. This release includes support for replication from Oracle to Kafka using Kerberos authentication.

Other New Features

Database Support. This release of SharePlex includes support for the following database versions:

- **Kafka 2.0.x and 2.1.0.** This release includes support for replication to Kafka 2.0.x and 2.1.0 targets.

Use Provision to Change IP Address Only. The **provision** command includes a new option which allows you to change the IP address only.

- To change the IP address only, use the following syntax:

```
provision -o old_ipaddress -s new_ipaddress [-p port] [-n]
```

New Parameters

New Open Target Post Process Parameter. The new parameter `SP_OPX_ONELINE_DEBUG_COLUMNS` controls whether or not column values are logged when `SP_OPX_ONELINE_DEBUG` is enabled. This is useful for diagnosing out-of sync conditions. To log column values for the objects specified when online debug is enabled, set `SP_OPX_ONELINE_DEBUG_COLUMNS` to 1.

New Compare Parameter. You can use the new `SP_DEQ_THREAD_SELECT` parameter to generate an additional thread to keep the TCP/IP connection alive while SharePlex selects the rows for comparison. The selection process runs in the child thread while the parent thread is used to keep the TCP/IP connection alive. This is useful for a table with a very large number of rows where the selection process can run for an extended period of time.

Disable Replication of Add Comment DDL. The new parameter `SP_OCT_REPLICATE_COMMENT` controls whether or not SharePlex replicates `ALTER TABLE` to `ADD COMMENT` and `COMMENT ON` operations on tables that are listed in the configuration file. To disable the replication of these operations, set this parameter to 0.

Deprecated Platforms and Operating Systems

Platforms and operating systems that have been deprecated in version 10.0:

Oracle Solaris x86 11.0

Resolved Issues and Enhancements

The following is a list of issues addressed and enhancements implemented in this release of SharePlex.

NOTE: All Resolved Issues and Enhancement from SharePlex 10.0 and older are included in this release.

NOTE: SharePlex has put bug fixes into a cumulative update rollup (denoted by third digit in the version number) — starting with the 9.2.3 release. Customers that require bug fixes which are already available in a patch update rollup will be required to apply that patch release to get the bug fix.

SharePlex 10.0

| Issue ID | Description |
|-----------|---|
| SPO-20762 | Fixed 'show export detail' statistics to be more accurate. |
| SPO-20453 | Fixed table name greater than 30 characters not replicating in Windows 2019. |
| SPO-20452 | Fixed copy issues where target database name contains a period. |
| SPO-20780 | Fixed issue getting stale data capturing remotely where both SP_OCT_OLOG_USE_OCI and database ASYNC mode is enabled. Under this condition, when stale data is detected SharePlex will automatically force a log switch by issuing the ALTER SYSTEM SWITCH LOGFILE command and begin reading from the archive log until it is current. The workaround is automatic and no manual intervention is needed. |

SharePlex 9.4

| Issue ID | Description |
|-----------|--|
| SPO-19998 | Fixed overflow processing DLOADs from OLTP table |
| SPO-19920 | Fixed Capture error using ASM disk with udev |
| SPO-19919 | Fixed Capture error using ASM partition with AFD |
| SPO-19910 | Fixed Post issues replicating compressed LOB data |
| SPO-19882 | Fixed Post exits due after executing reconcile |
| SPO-18858 | Fixed columns ignored when positioned after UDT column |
| SPO-18529 | Fixed CLOB data not replication to XML & JSON |

SharePlex 9.2.10

| Issue ID | Description |
|-----------|--|
| SPO-21181 | Compare/Repair could report a false OOS. This issue is more likely to occur when comparing a single column table without keys. |
| SPO-21081 | SharePlex is unable to compare the tables that are not in the active configuration file using the Compare Force option. The issue is resolved now. The functionality of comparing data that is outside of the replication was removed from SharePlex 9.0 version onwards. However, now, we have added this functionality back into the product for the 9.2.10, 10.0.1, 10.1 versions. NOTE: The limitation of comparing tables outside of replicated scheme still applies. |
| SPO-21076 | The memory usage of the SharePlex capture process named "sp_ocap" started increasing after running for a month due to the allocation / de-allocation of the typecheck object. |
| SPO-21072 | SharePlex poster stopped while replicating the data from the source database to the target database due to an invalid length in a column. The issue is observed in the CDC environment. |
| SPO-21058 | SharePlex capture process stops due to an Oracle error whenever the RAC database is restarted. Users need to start the capture manually. |
| SPO-21054 | SharePlex stopped while replicating the Oracle heap organized tables that are altered with the external tables after renaming the table name. The capture was discarding the external table as invalid. This issue was observed intermittently after upgrading from 8.1.6 to 9.2.6. |
| SPO-21050 | SharePlex poster dumped core due to the column data set inappropriately in the key cache. This issue is observed only when the supplemental logging is not set on the source. |
| SPO-21047 | SharePlex capture displayed a full disc space error on a NAS drive immediately after initiating the database replication process, even when there is enough space on the disc. |
| SPO-21042 | Using non-ASCII characters as part of horizontal partitioning column conditions are not accepted via sp_ctrl. SharePlex reader process fails to evaluate such conditions. This issue exists for SharePlex versions 9.x up to 9.2.9. Reader evaluation issue is now resolved if the below workaround for mentioned sp_ctrl issue is performed. Workaround: Edit horizontal_partitioning.yaml file to input the non-ASCII characters since sp_ctrl rejects non-ASCII character input. |
| SPO-20946 | SharePlex is unable to display before and after images for the deleted records/rows in the CDC environment even when the sp_opo_track_preimage D parameter for delete is set. This issue is observed after upgrading from SharePlex 9.1.4 to 9.2.8. |
| SPO-20942 | SharePlex poster stopped while performing the cascading replication from source database to target database due to invalid columns and invalid objects in the cache. This issue is observed when bulk updates are being applied such as multiple table creation, peer-to-peer replication, and performing the DDL and DML activity. |
| SPO-20939 | sp_utils does not display the license information for the SharePlex product in the license tab but the customer is able to fetch the license information using splex_get_key. This issue is specific to the windows operating system. |
| SPO-20931 | SharePlex is giving reader core dump in a horizontally partitioned table. |
| SPO-20929 | SharePlex poster dumps core when PEP tries to obtain a row ID for the NOP messages. |

| Issue ID | Description |
|-----------|---|
| SPO-20921 | SharePlex capture dumps core and gets memory corruption issue when handling Multi-Block Undo records for 12C or above version of the Oracle database. |
| SPO-20916 | Tables get out of synchronization when a user tries to replicate a horizontally partitioned HP table without a primary key on a dependency check enabled setup. This issue is observed specifically after upgrading from the SharePlex 9.1.4 to 9.2.6 version even after a user performs the full repair. |
| SPO-20914 | SharePlex reader displays an error when a table is dropped without a table name on the source database after updates are accumulated on the capture queue. This issue is observed intermittently while running an internal upgrade application process in the database after upgrading to SharePlex 9.2.7 on a database where PK/UK is not enabled. . |
| SPO-20911 | In the peer-to-peer configuration, SharePlex is unable to replicate the updated information in a row from the source to the target database due to the conflict found in the target database. In the debug process, SharePlex is not able to find the pre-image record to resolve the conflict. |
| SPO-20780 | SharePlex encounters stale blocks in the online log during data replication when the SharePlex was in the remote-connection capture mode. The issue is resolved. When a stale block is detected a switch command is sent to Oracle to switch the log from online log to archive log and the capture reads the data from the archive log. |
| SPO-20663 | SharePlex declines the transaction, which has only LMN records without any HRID value, with 'NULL HRID' warning message. This issue is resolved now. SharePlex now declines the transaction without generating the 'NULL HRID' warning message. |
| SPO-20623 | SharePlex capture process dumps core while trying to read an archive log from a perpetually down node on a RAC environment. |
| SPO-20330 | While cross replicating the data from Oracle to the Windows SQL server, the SharePlex poster is performing the delete operation very slow on tables and most of the tables are displayed out of synchronized. Due to this, a heavy backlog is observed for a particular queue. |
| SPO-20012 | SharePlex poster stopped while executing an insert statement on an object in the target database. It stopped due to an invalid length of the variable character string even when the source and target are having the same structure. This issue is observed while processing the corrupt data specifically the special characters. |
| SPO-19967 | SharePlex capture's parser dumps core while decompressing the OLTP compressed DLOAD records. This issue is observed when the data size of the DLOAD record exceeds the size of the standard message. |
| SPO-19927 | SharePlex is getting an issue while accessing a VARDIR installed on a network drive on Windows environment. |
| SPO-19318 | SharePlex capture process stopped with an error when the DB max sessions per node (5 nodes) was set to 4000 each. Maximum number of concurrent Oracle sessions for DDL and DML are now increased to 5000 per node. |
| SPO-17695 | SharePlex was unable to replicate data from source database to target database when the table data has UDT (User Defined Data Type) and LOB data. This issue was observed on the SharePlex 9.2.1 version. |

SharePlex 9.2.9

| Issue ID | Description |
|-----------|--|
| SPO-20665 | Fixed inconsistent processing of trailing NULL on chained row preventing it from properly replicating to Kafka. |
| SPO-20651 | Replication of comments on DDL can be disabled by setting SP_OCT_REPLICATE_COMMENT to 0. DDL replication is enabled by setting SP_OCT_REPLICATE_DDL to 1, 2, or 3. |
| SPO-20562 | Fixed cleanup of routing files to after activation is successful. |
| SPO-20524 | Fixed CREATE TABLE AS SELECT DDL not replicating correctly when DDL user is different from schema owner. |
| SPO-20454 | Fixed logic in Compare to work properly even when character set between endpoints are superset or subset of each other when SP_DEQ_CONV2UTF8 is enabled. |

SharePlex 9.2.8

| Issue ID | Description |
|-----------|--|
| SPO-20426 | Fixed Capture DDL replication of grant on commit refresh |
| SPO-20139 | Fixed Capture DDL processing of chained row in system table |
| SPO-20125 | Fixed Post XML missing trailing null columns |
| SPO-20033 | Fixed Windows issue with stopping SharePlex processes from Services |
| SPO-20024 | Fixed Post memory leak due to rollbacks |
| SPO-19633 | Fixed Compare/Repair issue where invalid duplicate checksums reports OOS |
| SPO-17868 | Fixed Post conflict resolution existing win log message output for most and least recent |
| SPO-19872 | Fixed performance issue with large partial rollbacks. |

SharePlex 9.2.7

| Issue ID | Description |
|-----------|--|
| SPO-19907 | Fixed ignored DDL when source and target database endianness are different |
| SPO-19834 | Fixed Post stopping when object cache missing from previous activation |
| SPO-19734 | Fixed Chinese NCHAR & NVARCHAR2 characters not showing up correctly in Kafka |
| SPO-19722 | Fixed Capture core when processing DLOAD from OLTP tables |

| Issue ID | Description |
|-----------|--|
| SPO-19563 | Fixed Capture core when issuing DDL alter table modify on XML type column |
| SPO-19494 | Fixed Chinese NVARCHAR2 characters no showing up in Kafka |
| SPO-19468 | Fixed commits not routing to Post due to bad bitmaps in Read |
| SPO-19458 | Fixed compare ignoring nolocksource and nolocktarget parameters |
| SPO-19448 | Fixed Reader redundant processing rollback updates when using horizontal partition |
| SPO-19070 | Fixed VARRAY corrupting XML in Kafka |
| SPO-19003 | Fixed extra data appearing in XML from bad VARRAY parsing in Kafka.NOTE: VARRAY element in XML is fixed to now correctly be a child element of the parent column. VARRAY will no longer appear as a sibling to the column. |
| SPO-18985 | Fixed out-of-sync when operations are related using distributed transactions |
| SPO-18931 | Fixed Post DDL error creating table using materialized views |
| SPO-18875 | Fixed Post stopping when JMS not responding. Post will now retry automatically. |
| SPO-18800 | Fixed Linux endianness posting to Kafka causing invalid characters |
| SPO-18405 | Fixed posting bad records when using OLTP |
| SPO-18157 | Fixed Capture to correctly skip filtered out DDL |
| SPO-18154 | Fixed invalid numeric data by setting the value to zero when condition met in Capture |
| SPO-18146 | Fixed Open Post stopping when DDL messages are only updating object cache |
| SPO-18138 | Fixed CTAS issues when using non-qualified schema |
| SPO-17856 | Fixed Post error ORA-29877 on update table containing SDO_GEOMETRY column but not part of the update |
| SPO-17693 | Fixed upgrade issues from 9.2.1 when processing older DDL cache version |
| SPO-16944 | Fixed Post to properly update LOBs when using CDC |
| SPO-15820 | Fixed errors using Oracle Filter Driver with ASM disks in native mode |
| SPO-5032 | Fixed Poster error ORA-1805 using time zone |

SharePlex 9.2.6

| Issue ID | Description |
|-----------|---|
| SPO-19151 | Resolved capture performance issues when data not ready in log |
| SPO-18872 | Fixed post issues with delete-n where some columns contains NULL |
| SPO-18866 | Resolved corruption using alter table DDL on long name table |
| SPO-18850 | Resolved offset calculation on SecureFiles CLOB with Japanese CharSet |

| Issue ID | Description |
|-----------|--|
| SPO-18838 | Resolved issue with alter table DDL using dbms_job package |
| SPO-18798 | Fixed SP_OPX_REDUCED_KEY=2 using update containing keys and non-keys |
| SPO-18628 | Fixed issue with create public synonym |
| SPO-18625 | Fixed conversion issues with SJIS Ⅱsymbol |
| SPO-18615 | Fixed SQL Server ODBC driver issues using float |
| SPO-18501 | Fixed post inserting CLOB with ORA-64204 error |
| SPO-18402 | Fixed corruption issues in object cache on tables with UDT |
| SPO-18169 | Compare now properly supports configurations that use compound routes |
| SPO-18029 | Fixed issue with converting exponential number with some SQL Server ODBC drivers |
| SPO-17592 | Fixed conversion issues with UTF16 Chinese |
| SPO-17318 | Fixed installation issues as root on Red Hat |
| SPO-17005 | Fixed issue replicating insert operation on compressed tables |
| SPO-10528 | Resolved issue with parsing SecureFiles LOB where data object ID not extracted |
| SPO-10282 | Fixed capture to better handle alter table shrink table |
| SPO-3828 | Changed read update of SharePlex marker to once per second |

SharePlex 9.2.5

| Issue ID | Description |
|-----------|--|
| SPO-10592 | Fixed post failure when executing 'alter index' with a fully-qualified index name for table replicating to a different schema on target. |
| SPO-15132 | Fixed messages not getting sent when using DML filtering. |
| SPO-16402 | Fixed XML/JSON document types to format null & empty data as attributes. |
| SPO-17528 | Fixed XML document emitting extra tags for CDC. |
| SPO-17863 | Fixed network issue when using SSL. |
| SPO-17991 | Fixed sp_utils not properly showing port numbers. |
| SPO-18202 | Fixed post error recovery accessing row of a record after insert error. |
| SPO-18224 | Fixed read error when using DML filtering |
| SPO-18259 | Fixed better recovery handling after encountering SSL error. |

| Issue ID | Description |
|-------------------|--|
| SPO-18321 | Fixed export using SP_SYS_HOSTNAME IP when set |
| SPO-18419 | Enhanced capture performance. |
| SPO-18487 | Fixed post shutdown due to ORA-01458 after upgrade and SQL cache is enabled. |
| SPO-18501 | Fixed automatic detection of UTF16 CLOB data. |
| SPO-18527 | Fixed internal routing data to better handle non-UTF8 characters. |
| SPO-18617 | Fixed parsing of DLOAD record with OLTP. |
| SPO-18794/4506554 | ON CASCADE DELETE constraints are now supported. |

SharePlex 9.2.4

| Issue ID | Description |
|-----------|---|
| SPO-16402 | Corrected XML messages not properly tagging NULL or EMPTY columns |
| SPO-17528 | Resolved XML messages including extraneous metadata |
| SPO-17991 | Fix Windows 'SharePlex Utilities' not showing correct port number for associated processes |
| SPO-18321 | Fix export not using SP_SYS_HOST_NAME parameter value |
| SPO-18419 | Resolved capture performance issues |
| SPO-18487 | Fix post stopping due to ORA-1458 after upgrading when SQL cache is enabled |
| SPO-18501 | Fix post stopping due to ORA-600 or ORA-64204 when using CLOB caused by incorrect character set parsing |

SharePlex 9.2.3

| Issue ID | Description |
|-----------|---|
| SPO-17377 | Corrected an issue that caused the Post process to stop with the following error: "ORA-01741: illegal zero-length identifier." |
| SPO-17384 | Corrected an issue in which a DDL transaction (alter table to add partition) was not processed successfully after a database upgrade. |
| SPO-17507 | Resolved an issue which caused the Repair process to fail because the SQLite marker table used in the Compare process was not successfully created. |
| SPO-17668 | Resolved an issue that caused remote Capture to stall when reading online logs and disk_asynch_io was enabled on the remote database. |
| SPO-17681 | Corrected an issue which caused the following error when replicating to JMS: "No such file or directory - bridge.ini." |

Basic System Requirements

This chapter contains the basic system requirements for SharePlex. See also: [Source and Target System Requirements and Data Types](#)

System

Before installing SharePlex, ensure that your system meets the minimum hardware and software requirements.

- SharePlex processes are all 64-bit and can exceed 4 GB.
- Per process memory of greater than or equal to 256 MB is required. Depending on how you configure SharePlex, there can be one or more of the following processes on a system :
 - Capture
 - Read
 - Export
 - Import
 - Post
- See the Preinstallation Checklist in the SharePlex Installation Guide for additional system and/or database requirements.

Communications Protocols

SSL/TLS

For TLS connections, SharePlex supports TLS 1.2 (or later) only.

Internet Protocol

SharePlex supports IPv4 and IPv6 internet protocols. The following table shows the operating systems for which SharePlex was tested with IPv6.

NOTE: If the SP_SYS_HOST_NAME environment variable is set to an IPV6 address on the source system, SharePlex on the target system must be version 9.0 or later.

| Operating System | Source | Target | SharePlex Source and Target versions | On-premises/Cloud |
|------------------|-----------------|-----------------|--------------------------------------|-------------------|
| Linux RHEL | Link-Local IPV6 | Link-Local IPV6 | 9.0 - 9.0 | On-premises |
| Linux RHEL | Link-Local IPV6 | Link-Local IPV6 | 8.6.5 - 9.0 | On-premises |
| Linux RHEL | Link-Local IPV6 | Link-Local IPV6 | 9.0 - 8.6 | On-premises |
| Linux Suse | Link-Local IPV6 | Link-Local IPV6 | 9.0 - 9.0 | On-premises |
| Windows | Link-Local IPV6 | Link-Local IPV6 | 9.0 - 9.0 | On-premises |
| Windows | Link-Local IPV6 | Link-Local IPV6 | 9.0 - 8.6.4 | On-premises |
| HP UA | Link-Local IPV6 | Link-Local IPV6 | 9.0 - 9.0 | On-premises |
| HP IA | Link-Local IPV6 | Link-Local IPV6 | 9.0 - 9.0 | On-premises |
| SUN Sparc | Link-Local IPV6 | Link-Local IPV6 | 9.0 - 9.0 | On-premises |
| SUN Solaris | Link-Local IPV6 | Link-Local IPV6 | 9.0 - 9.0 | On-premises |
| AIX | Link-Local IPV6 | Link-Local IPV6 | 9.0 - 9.0 | On-premises |
| Linux RHEL | Public IPV6 | Public IPV6 | 9.0 - 9.0 | Cloud |
| Windows | Public IPV6 | Public IPV6 | 9.0 - 9.0 | Cloud |

Interoperability between versions

Refer to the following guidelines if the system where you are installing SharePlex is in a configuration where one or more other systems will continue to use an older version of SharePlex. An example is when installing or upgrading SharePlex on a target, but the source will continue to use SharePlex 8.6.x.

Versions with full interoperability

The following SharePlex versions are fully interoperable, including the Compare/Repair feature:

- 8.6.x
- 9.0.x
- 9.1.x

- 9.2.x
- 9.4.x
- 10.0.x
- 10.1.x

To support replication from a higher to a lower version, set the `SP_SYS_TARGET_COMPATIBILITY` parameter on the **source** system to the *lower* SharePlex version. If Capture is running, restart it.

IMPORTANT: Downgrading from a higher to a lower version of SharePlex is not supported.

NOTES:

- The older version of the `SP_SYS_TARGET_COMPATIBILITY` parameter, `SP_OCT_TARGET_COMPATIBILITY`, was deprecated in version 9.0. If your source SharePlex is currently replicating to a lower SharePlex version on the target and you have `SP_OCT_TARGET_COMPATIBILITY` set to the lower version, SharePlex will continue to use that value after you upgrade to the current version.
- If you upgrade the target to the current release at a future time, issue a reset for `SP_OCT_TARGET_COMPATIBILITY` on the source system to remove it from the SharePlex environment. Going forward, SharePlex will use the setting of the new `SP_SYS_TARGET_COMPATIBILITY` parameter, which defaults to the current version.

To reset `SP_OCT_TARGET_COMPATIBILITY`

1. Stop Capture.

```
sp_ctrl> stop capture
```

2. In `sp_ctrl` on the source system, issue the following command:

```
sp_ctrl> reset param SP_OCT_TARGET_COMPATIBILITY
```

3. Restart Capture.

```
sp_ctrl> start capture
```

System Requirements for Oracle Capture

This chapter contains the requirements when capturing from an Oracle source database and replicating to a supported target database.

Prerequisite: At least the minimum level of supplemental logging must be enabled. Some SharePlex features may require PK/UK supplemental logging to be enabled.

Supported Operating Systems for Oracle

The following operating systems are supported for capture from a supported Oracle database and replication to an Oracle target database. For a list of supported source and target databases for Oracle capture, see [Supported Oracle to Oracle Replication](#). SharePlex supports only the 64-bit version of the listed operating systems.

NOTE: SharePlex supports the following operating systems and only where the version matches the Oracle certified platforms. For example, Oracle 19c supports Linux 7 and later, therefore installation of SharePlex on a system with Oracle 19c is supported only on Linux 7 and later.

- AIX 7.1 and 7.2
- CentOS Linux 5.x, 6.x, 7.x, and 8.x
- Oracle Linux (RHCK and UEK) 5.x, 6.x, 7.x, and 8.x
- RHEL 5.x, 6.x, 7.x, and 8.x
- SuSE SLES 11.x, 12.x, and 15.x
- Oracle Solaris SPARC 10.0, 11.0, and 11.4
- Oracle Solaris x86 10.0 and 11.4
- Windows Server 2008, 2008 R2, 2012, 2012 R2, 2016, and 2019
- HP-UX 11.31 Itanium*
- IaaS (Infrastructure as a Service) support - Azure and AWS

NOTE:

- *SharePlex does NOT support Oracle 19c on HP-UX 11.31 Itanium.

Supported Oracle to Oracle Replication

When capturing from an Oracle database and replicating to an Oracle database the following database types and versions are supported for source and target.

NOTES:

- Unless specified, Oracle, RAC, and ASM are supported for the same version.
- SharePlex supports only the 64-bit version of Oracle Database.

Supported Oracle Sources

Supported versions:

Oracle 11gR2, 12cR1, 12cR2, 18c, 19c EE & SE2
NOTE: These Oracle versions are also supported when running on Oracle Exadata Database machine.

Supported versions for a cloud-based source:

- Amazon RDS for Oracle 11gR2 (supported 11gR2 versions are 11.2.0.4.v11 or later), 12cR1 (supported 12cR1 versions are 12.1.0.2.v7 or later), and 19c
NOTE: Support for Oracle features on Amazon RDS is limited to the default option groups: default:oracle-ee-11-2, default:oracle-ee-12-1, default:oracle-ee-19 & default:oracle-se2-19.
- Oracle 11gR2, 12cR1, 12cR2, 18c, 19c on an Amazon EC2 virtual machine or Microsoft Azure IaaS

Supported Oracle Targets

Supported database types and versions:

- Oracle 11gR2, 12cR1, 12cR2, 18c, 19c EE & SE2
NOTE: These Oracle versions are also supported when running on Oracle Exadata Database machine.
- Databases listed above are also supported when they are deployed on an Amazon EC2 virtual machine, Microsoft Azure IaaS, or Oracle Cloud Infrastructure as a Service (IaaS) Compute Virtual Machine
- Oracle 11gR2, 12cR1, 12cR2, 18c, 19c are also supported on Amazon RDS for Oracle

Supported Data Types: Oracle to Oracle

SharePlex supports the following Oracle data types for replication to Oracle targets. See the [Conditions of support](#) for additional information.

- ANYDATA ¹
- B-FILE
- BINARY DOUBLE
- BINARY FLOAT
- BLOB ²
- CHAR
- CLOB ²
- DATE

- INTERVAL
- LONG RAW²
- LONG²
- NCHAR
- NCLOB³
- NUMBER
- NVARCHAR2⁸
- RAW⁸
- ROWID
- SDO_GEOMETRY
- TIMESTAMP
- TIMESTAMP WITH LOCAL TIME ZONE
- TIMESTAMP WITH TIME ZONE
- UDT (User Defined Type)⁵
- UROWID
- VARCHAR
- VARCHAR2⁸
- VARRAY collectors
- XMLTYPE⁴

NOTE: SharePlex supports columns that are defined as INVISIBLE.

Conditions of support

1. Conditions of support - ANYDATA

- Replication of ANYDATA is supported, except when it contains a UDT or the storage is defined as SecureFile LOB with compression. SecureFile LOB without compression is supported. Only the following data types within ANYDATA are supported by SharePlex:
 - CHAR
 - DATE
 - NUMBER
 - RAW
 - VARCHAR
 - VARCHAR2
 - TIMESTAMP

- A data type within an ANYDATA type must be in-row (inside the column data). Oracle encapsulates the ANYDATA type as an in-row secure file LOB. If the encapsulated data is longer than the length allowed for an in-row LOB, that data appears as out-of-row LOB data. SharePlex assumes that the encapsulated data always appears as in-row LOB.

2. Conditions of support - LONG and LOB (BLOB, CLOB)

- Any table that contains a LOB or LONG should have a primary key or unique key defined on it. If a table does not have a key, SharePlex builds its own key from all of the columns except LONGs or LOBs. If a LOB or LONG is the only difference between two rows that otherwise satisfy the Post WHERE clause, SharePlex cannot guarantee that the correct row will be updated.
- SharePlex supports SecureFiles LOBs as follows:
 - Logging must be enabled.
 - SharePlex supports uncompressed SecureFiles LOBS and SecureFiles LOBS with high or medium compression
 - SecureFiles LOBS are not supported when the storage specification includes encryption and/or deduplication.
- SharePlex does not support LONG and LONG_RAW data types in a configuration where transformation or conflict resolution are performed.

3. Conditions of support - NCLOB

NCLOBs are not supported by Compare/Repair if the source and target have different character sets.

4. Conditions of support - XMLTYPE

SharePlex supports the replication of XMLTYPE stored as CLOB and BINARY. SharePlex does not support XMLTYPE stored as OBJECT RELATIONAL. Additionally, the following applies:

- XMLTYPE stored as BINARY is not supported when the storage is defined as SecureFile LOB with compression. SecureFile LOB without compression is supported.
- Binary XMLTypes are not supported by Compare/Repair when the source and target character sets are different and require character set conversion.
- Compare/Repair does not support comparison of XMLTYPE when the source and target have different storage clauses. Compare/Repair only supports compare/repair when source and target are both stored as BINARY or both are stored as CLOB.

5. User-defined types

SharePlex does not support abstract data types and VARRAYs in a configuration where the SharePlex conflict resolution feature is performed.

NOTE: SharePlex replicates tables with the UDT fields in the base type ONLY. In case of columns containing multiple subtypes, replication is applicable only for base type fields.

6. Conditions of support - general

If the precision or size of the target data type is not large enough for the data being replicated, the data may be truncated or rounded by the database when applied.

8. Conditions of support - Extended Data Types

- Extended Data Types are not supported for the **copy** command.
- Extended Data Types are not supported on a key column. The keys that do not support the Extended Data Types include:
 - Primary key on the Oracle table
 - Unique key on the Oracle table

Supported Data Types: Oracle to Open Targets

This section contains a grid that can be read vertically and horizontally to understand how SharePlex supports replication between an Oracle source and the various Open Target targets (non-Oracle targets) that SharePlex supports.

- **Column 1:** Shows the Oracle data types that SharePlex can replicate to an Open Target target type (non-Oracle target).
- **Column 2:** Shows the native data types that SharePlex supports for each target type.
- **Rows spanning Column 1 and Column 2:** Shows the default data type mapping (native Oracle data type to native target data type) that SharePlex uses when replicating Oracle ALTER TABLE...ADD COLUMN DDL operations. Post uses the specified native target data type in the column definition of the command on the target. The default mapping is what was tested and is supported.

Notes about Open Target data type support:

- Replication of SecureFile LOBS to non-Oracle databases is supported except if the storage specification includes any level of compression, encryption, and/or deduplication.
- Replication of LOB operations generated by **dbms_lob** are not supported when replicating to non-Oracle targets.
- SharePlex applies replicated Oracle data to the target according to the data type of the target column, rather than mapping to a default data type. Corresponding source and target columns must contain compatible datatypes to ensure successful DML operations.
- If the precision or size of the target datatype is not large enough for the data being replicated, the target database may truncate or round the data when SharePlex applies it.

Supported Oracle to Kafka Replication

NOTES:

- Unless specified, Oracle, RAC, and ASM are supported for the same version.
- SharePlex supports only the 64-bit version of Oracle Database.

Supported Oracle Sources

Supported Oracle Sources:

Oracle 11gR2, 12cR1, 12cR2, 18c, 19c

NOTE: These Oracle versions are also supported when running on Oracle Exadata Database machine.

Supported versions for a cloud-based source:

- Amazon RDS for Oracle 11gR2 (supported 11gR2 versions are 11.2.0.4.v11 or later), 12cR1 (supported 12cR1 versions are 12.1.0.2.v7 or later), and 19c
NOTE: Support for Oracle features on Amazon RDS is limited to the default option groups: default:oracle-ee-11-2, default:oracle-ee-12-1, default:oracle-ee-19 & default:oracle-se2-19.
- Oracle 11gR2, 12cR1, 12cR2, 18c, 19c on an Amazon EC2 virtual machine or Microsoft Azure IaaS

Supported Kafka Targets

Supported message queues:

Apache Kafka 0.8.x, 0.9.x, 0.10.x, 0.11.x, 1.0.x, 1.1.x, 2.0.x, 2.1.0, 2.3.1, 2.5.0

Supported file types:

XML and JSON files

Supported Oracle to SharePlex for JMS Message Queues Replication

The following platforms are supported for capture from a supported Oracle database and replication to JMS Message Queues.

NOTES:

- Unless specified, Oracle, RAC, and ASM are supported for the same version.
- SharePlex supports only the 64-bit version of Oracle Database.

Supported Oracle Sources

Supported JMS Message Queues Targets

Supported Oracle Sources:

Oracle 11gR2, 12cR1, 12cR2, 18c, and 19c

NOTE: These Oracle versions are also supported when running on Oracle Exadata Database machine.

Supported versions for a cloud-based source:

- Amazon RDS for Oracle 11gR2 (supported 11gR2 versions are 11.2.0.4.v11 or later), 12cR1 (supported 12cR1 versions are 12.1.0.2.v7 or later)

NOTE: Support for Oracle features on Amazon RDS is limited to the default option groups: default:oracle-ee-11-2 and default:oracle-ee-12-1.

- Oracle 11gR2, 12cR1, 12cR2, 18c, and 19c on an Amazon EC2 virtual machine and Microsoft Azure IaaS

Supported JMS Message Queues:

- JMS - Apache ActiveMQ 5.8
- JMS - IBM MQ 8

Supported Oracle to File Output Replication

The following platforms are supported for capture from a supported Oracle database and replication to File Output.

NOTES:

- Unless specified, Oracle, RAC, and ASM are supported for the same version.
- SharePlex supports only the 64-bit version of Oracle Database.

Supported Oracle Sources

Supported Oracle Sources:

Oracle 11gR2, 12cR1, 12cR2, 18c, and 19c

NOTE: These Oracle versions are also supported when running on Oracle Exadata Database machine.

Supported versions for a cloud-based source:

- Amazon RDS for Oracle 11gR2 (supported 11gR2 versions are 11.2.0.4.v11 or later), 12cR1 (supported 12cR1 versions are 12.1.0.2.v7 or later)

NOTE: Support for Oracle features on Amazon RDS is limited to the default option groups: default:oracle-ee-11-2 and default:oracle-ee-12-1.

- Oracle 11gR2, 12cR1, 12cR2, 18c, and 19c on an Amazon EC2 virtual machine and Microsoft Azure IaaS

Supported File Types Targets

Supported File Types:

XML, SQL, and JSON files

Supported Oracle to HANA Replication

SharePlex for Hana is in limited support effective February 1, 2022. The following platforms are supported for capture from a supported Oracle database and replication to HANA.

NOTES:

- Unless specified, Oracle, RAC, and ASM are supported for the same version.
- SharePlex supports only the 64-bit version of Oracle Database.

Supported Oracle Sources

Supported Oracle Sources:

Oracle 11gR2, 12cR1, 12cR2, 18c, and 19c

NOTE: These Oracle versions are also supported when running on Oracle Exadata Database machine.

Supported versions for a cloud-based source:

- Amazon RDS for Oracle 11gR2 (supported 11gR2 versions are 11.2.0.4.v11 or later), 12cR1 (supported 12cR1 versions are 12.1.0.2.v7 or later)

NOTE: Support for Oracle features on Amazon RDS is limited to the default option groups: default:oracle-ee-11-2 and default:oracle-ee-12-1.

- Oracle 11gR2, 12cR1, 12cR2, 18c, and 19c on an Amazon EC2 virtual machine and Microsoft Azure IaaS

Supported HANA Targets

Supported data types and versions:

SAP HANA 1.0 SPS 11

Oracle to HANA supported data types

| Oracle | HANA |
|---------------|---------------|
| BINARY_DOUBLE | DOUBLE |
| BINARY_FLOAT | DOUBLE |
| BLOB | BLOB |
| CHAR (n) | CHAR (n) |
| CLOB | CLOB |
| DATE | TIMESTAMP |
| LONG | CLOB |
| LONGRAW | BLOB |
| NCHAR (n) | NCHAR (n) |
| NCLOB | NCLOB |
| NUMBER | DECIMAL |
| NUMBER (p,0:) | DECIMAL (p,s) |
| NUMBER (p,s) | DECIMAL |
| NVARCHAR2 (n) | NVARCHAR (n) |
| RAW (n) | VARBINARY (n) |
| TIMESTAMP (p) | TIMESTAMP |
| VARCHAR2 (n) | VARCHAR (n) |

Conditions of support

See [Supported Data Types: Oracle to Oracle](#) for additional conditions of support for Oracle source data types.

Oracle to MySQL supported data types

See "Conditions of support" following this table for additional information.

| Oracle | MySQL |
|----------------------------|----------|
| BINARY_DOUBLE ¹ | DOUBLE |
| BINARY_FLOAT | DOUBLE |
| BLOB | LONGBLOB |
| CHAR (n) | CHAR (n) |
| CLOB | LONGTEXT |

| Oracle | MySQL |
|------------------------------|---------------|
| DATE | DATETIME (0) |
| LONG | LONGTEXT |
| LONGRAW | LONGBLOB |
| NUMBER | DOUBLE |
| NUMBER (p,0:) | NUMERIC (p,s) |
| NUMBER (p,s) | DOUBLE |
| RAW (n) | VARBINARY (n) |
| TIMESTAMP (7:9) ² | DATETIME (6) |
| TIMESTAMP (p) ² | DATETIME (p) |
| VARCHAR2 (n) | VARCHAR (n) |

Conditions of support

1. Because Oracle and MySQL handle this data type differently, there may be a very small difference in precision between the value of the source and the value of the target row. You may see the difference when viewing the data from SQL*Plus or other utility, but SharePlex will not report this difference as an out-of-sync condition.
2. If the MySQL target database is earlier than version 5.6.4, the fractional seconds will be truncated. Earlier versions did not support fractional seconds.

See [Supported Data Types: Oracle to Oracle](#) for additional conditions of support for Oracle source data types.

Oracle to PostgreSQL Supported Data Types

Conditions of support

See [Supported Data Types: Oracle to Oracle](#) for additional conditions of support for Oracle source data types.

Oracle to SQL Server supported data types

| Oracle | SQL Server |
|---------------|-----------------|
| ANYDATA | VARIANT |
| BINARY_DOUBLE | FLOAT (53) |
| BINARY_FLOAT | FLOAT (24) |
| BLOB | VARBINARY (MAX) |
| CHAR (n) | CHAR (n) |
| CHAR (n CHAR) | CHAR (n) |

| Oracle | SQL Server |
|--------------------------------|--------------------|
| CLOB | VARCHAR (MAX) |
| DATE | DATETIME2 (7) |
| LONG | VARCHAR (MAX) |
| LONGRAW | VARBINARY (MAX) |
| NCHAR (n) | NCHAR (n) |
| NCLOB | NVARCHAR (MAX) |
| NUMBER | FLOAT (53) |
| NUMBER (p,0:) | NUMERIC (p,s) |
| NUMBER (p,s) | FLOAT (53) |
| NVARCHAR2 (n) | NVARCHAR (n) |
| RAW (n) | VARBINARY (n) |
| TIMESTAMP (8:9) | DATETIME2 (7) |
| TIMESTAMP (p) | DATETIME2 (p) |
| TIMESTAMP (8:9) WITH TIME ZONE | DATETIMEOFFSET (7) |
| TIMESTAMP (p) WITH TIME ZONE | DATETIMEOFFSET (p) |
| VARCHAR2 (n) | VARCHAR (n) |
| VARCHAR2 (n CHAR) | VARCHAR (n) |

Conditions of support

See [Supported Data Types: Oracle to Oracle](#) for additional conditions of support for Oracle source data types.

Oracle to XML Supported Data Types

This mapping applies to all targets that receive messages as XML:

- File in XML format
- JMS
- Kafka

See "Conditions of support" following this table for additional information.

| Oracle | XML |
|---------------|--------------|
| BINARY_DOUBLE | decimal |
| BINARY_FLOAT | decimal |
| BLOB | base64Binary |
| CHAR | string |

| Oracle | XML |
|--------------------------------|--|
| CLOB | string |
| DATE | dateTime |
| INTERVAL DAY TO SECOND | dayTimeDuration |
| INTERVAL YEAR TO MONTH | yearMonthDuration |
| LONG | string |
| NCHAR | string |
| NCLOB | string |
| NUMBER | decimal |
| NVARCHAR2 | string |
| RAW | base64Binary |
| ROWID | string |
| TIMESTAMP | dateTime |
| TIMESTAMP WITH LOCAL TIME ZONE | dateTimeStamp |
| TIMESTAMP WITH TIME ZONE | dateTimeStamp |
| VARCHAR2 | string |
| VARRAY ¹ | Post maps the data types in the source VARRAY to the appropriate XML data types. Only certain data types in a VARRAY are supported. See the conditions of support. |

Conditions of support

- Only the following data types in a VARRAY are supported by SharePlex when replicating to XML output:
 - BINARY_FLOAT
 - VARCHAR2
 - BINARY_DOUBLE
 - NUMBER
 - TIMESTAMP (This is converted to a DATE data type without microseconds in XML output)
 - DATE
 - UDT (only if it contains one of the data types in this list)

See [Supported Data Types: Oracle to Oracle](#) for additional conditions of support for Oracle source data types.

Oracle to JSON Supported Data Types

This mapping applies to all targets that receive messages as JSON:

- Kafka

See "Conditions of support" following this table for additional information.

| Oracle | JSON |
|--------------------------------|---------------------------------------|
| BINARY_DOUBLE | Number |
| BINARY_FLOAT | Number |
| BLOB | String containing base64 encoded data |
| CHAR | String |
| CLOB | String |
| DATE | String containing date |
| INTERVAL DAY TO SECOND | String containing interval |
| INTERVAL YEAR TO MONTH | String containing interval |
| LONG | String |
| NCHAR | String |
| NCLOB | String |
| NUMBER | Number |
| NVARCHAR2 | String |
| RAW | String containing hex encoded data |
| ROWID | String |
| TIMESTAMP | String containing timestamp |
| TIMESTAMP WITH LOCAL TIME ZONE | String containing timestamp |
| TIMESTAMP WITH TIME ZONE | String containing timestamp |
| VARCHAR2 | String |

Conditions of support

See [Supported Data Types: Oracle to Oracle](#) for additional conditions of support for Oracle source data types.

Supported Objects and Operations for DML Replication

SharePlex supports DML operations on tables and sequences, with some conditions. DML can be replicated from an Oracle source to an Oracle target or an Open Target target.

NOTE: Replication to targets with a different character set is supported, with limitations. When posting to Open Target databases, XML files and JMS, SharePlex supports only UNICODE and US7ASCII on the target, but conversion can be performed by an Oracle client installed on the target system. For full details, see the Preinstallation Checklist in the SharePlex [Installation and Setup Guide for an Oracle Source](#).

Tables

SharePlex supports the following DML operations on tables:

- INSERT, UPDATE, DELETE, COMMIT, ROLLBACK
 - Direct-path loads (SQL*Loader) (INSERT AND FULL ROLLBACK).
- NOTE:** Replication of partial rollbacks of DLOADs is **not** supported.

The target table must support the column types that are being replicated from the source Oracle table.

SharePlex supports the following table types for DML operations:

| Supported table type* | Conditions of Support |
|------------------------|--|
| Regular Oracle tables | None |
| Index-organized tables | SharePlex does not support: <ul style="list-style-type: none"> • Replication to/from index-organized tables that contain LOB or VARRAY columns • Replication from a non-index-organized table to an index-organized table • SharePlex hash-based horizontal partitioning of index-organized tables |
| Partitioned tables | None |
| Views | None |
| Materialized views | SharePlex does not support replication from a materialized view to a materialized view. SharePlex can replicate the underlying table of a materialized view to a regular target table. |

SharePlex does not support the following table types:

- Replication to/from nested tables
- Replication to/from clustered tables

*SharePlex does not support the following for any table type:

- Replication to/from Identity columns.
- Replication of rows changed by 'UPDATE WITH CASE' syntax.
- Replication of rows in which data exceeds 319 KB in size, excluding LOB and LONG columns
- Replication of external tables or tables with external partitions

Sequences

- Transactional changes to Oracle sequences can be replicated only from Oracle to Oracle.
- To replicate transactional changes to sequences, the supplemental logging of primary and unique keys must be enabled at the database level, or you must enable supplemental logging for primary keys on the `sys.seq$` table.

Secured and Compressed Objects

SharePlex supports DML operations on secured or compressed objects as described in the following table. See "Conditions of support" following this table for additional information.

| Secured/Compressed Object | Can be replicated to: |
|---|-----------------------|
| DML on tables encrypted by Oracle Obfuscation Toolkit | All target types |
| DML on tables with Transparent Data Encryption (TDE) ¹ | All target types |
| DML on Oracle Label Security (OLS) ² | All target types |
| DML on compressed objects: Basic, Advanced Row (OLTP) Compression, HCC ³ | All target types |
| Direct Load (DLOAD) on compressed objects: Basic, Advanced Row (OLTP) Compression, HCC ³ | All target types |

Conditions of Support

1. Conditions of support - TDE

SharePlex supports Tablespace Encryption and Column Encryption, both source and target.

The SharePlex **copy/append** command does not support TDE.

TDE is not supported for sources on RDS.

SharePlex only supports the AES and DES encryption algorithms.

2. Conditions of support - OLS

By default, SharePlex cannot process rows that are protected by OLS (Oracle Label Security) because users granted DBA privileges (like SharePlex) do not have enough privileges to access those rows. However, if privilege is granted from the OLSSYS user, SharePlex can support OLS. SharePlex was tested under the following OLS configuration:

- The SharePlex user was granted full privilege to the objects in replication.
- Test tables with OLS security were created.
- Data was replicated using INSERT, UPDATE, DELETE, ROLLBACK, and TRUNCATE operations, and ALTER TABLE to add and drop columns.

NOTE: If the OLS policy data label column is defined as hidden, the data in that column cannot be replicated by SharePlex.

3. Conditions of support - compression

For HCC compression: SharePlex does not support query low compression. Supported types of compression are query high, archive low and archive high.

For Advanced Row (OLTP) Compression: Under certain conditions, Oracle does not provide enough information in the redo log for SharePlex to replicate a DML operation on a OLTP compressed object. Testing of OLTP compressed objects is advised.

Supported Operations and Objects for DDL replication

SharePlex provides default and optional DDL support.

NOTE: Support for DDL on compressed Oracle objects is limited to the following:

- SharePlex supports DDL on compressed objects only for Oracle 11gR2 and later source Oracle databases.
- ALTER TABLE to ADD COLUMN and ALTER TABLE to DROP COLUMN are supported on Basic, Advanced Row (OLTP) Compression, and HCC compressed Oracle objects for replication to all Oracle and Open Targets.

SharePlex does not support:

- ANALYZE TABLE and ANALYZE INDEX
- DDL to ALTER TABLE ADD OVERFLOW to an IOT in replication
- DDL operations issued by the SharePlex database user
- DDL to ALTER INDEX to an IOT in replication

Oracle-to-Oracle DDL Support

This section outlines both default and optional DDL support.

DDL on objects listed in the active configuration file

SharePlex supplies default and optional DDL replication for objects whose **names are listed in the configuration file explicitly or by wildcard**. See "Conditions of support" following this table for additional information.

For details about the controlling parameter, see the SharePlex [Reference Guide](#).

| Supported object | Supported DDL Operation | Enabled by default? | Controlling parameter |
|--|---|---------------------|------------------------|
| Table and IOT (when they exist in the source at the time of configuration activation) | Truncate Alter to add, drop, modify columns Alter to add, modify, drop, split, coalesce, move, truncate, exchange | Yes | SP_OCT_REPLICATE_DDL=3 |

| Supported object | Supported DDL Operation | Enabled by default? | Controlling parameter |
|---|--|---------------------|--|
| | partition or subpartition ¹ Drop Table | | |
| Table and IOT (when they are added to the source after configuration activation) | Create Create as Select ² | Yes | SP_OCT_AUTOADD_ENABLE=1 |
| Index | Create Alter Drop | Yes | SP_OCT_AUTOADD_ENABLE=1 |
| Materialized View ³ | Create Drop | No | SP_OCT_AUTOADD_ENABLE=1 and SP_OCT_AUTOADD_MVIEW=1 and SP_SYS_TARGET_COMPATIBILITY=8.6.2 or higher |
| Sequences ⁴ | Create, Drop | No | SP_OCT_AUTOADD_ENABLE=1 and SP_OCT_AUTOADD_SEQ=1 and SP_SYS_TARGET_COMPATIBILITY=8.6.3 or higher |
| Trigger | Create, Drop | No | SP_OCT_REPLICATE_TRIGGER=1 |
| Synonym | Create, Drop | No | SP_OCT_REPLICATE_SYNONYM=1 |
| Grant ⁵ | Create, Drop | No | SP_OCT_REPLICATE_GRANT=1 |

Conditions of support

1. ALTER TABLE has the following conditions of support:
 - ALTER TABLE DDL that involves multiple tables, such as EXCHANGE PARTITION between tables, requires all tables involved to be in replication.
 - Default DDL support for ALTER TABLE on partitions/subpartitions applies to user-named interval partitions/subpartitions. For system-named (system generated) interval partitions/subpartitions, SharePlex supports only ALTER TABLE to DROP and TRUNCATE the system-named partitions. To enable support for DROP and TRUNCATE of system-named partitions, set the SP_OCT_TRUNC_PARTITION_BY_ID parameter to 1, and ensure that both source and target are updated to SharePlex version 8.6.4 or later. **NOTE:** This requirement has changed from previous SharePlex releases in that the parameter must now be set regardless of the Oracle version, including for Oracle 12.2 and later.
 - SharePlex does not support TRUNCATE of a system-generated sub-partition if the sub-partition is empty. In such cases, Post stops with error SP-OPO01002. To configure Post to ignore this error, stop Post, set the SP_OPO_CONT_ON_ERR parameter to 1, and add error number SP-OPO01002 to the top of the **oramsglist** file. See the SharePlex [Reference Guide](#) for more information about this parameter.
2. For CREATE TABLE AS SELECT, SharePlex supports the following datatypes: LONG, DATE, RAW, LONG RAW, ROWID, LONG VARCHAR, CHAR, CLOB, BLOB, CFILE, BFILE, TIMESTAMP, INTERVAL YEAR TO MONTH, INTERVAL DAY TO SECOND and ANYDATA.
3. For CREATE MATERIALIZED VIEW the following applies:
 - SharePlex supports the following datatypes for CREATE MATERIALIZED VIEW: LONG, DATE, RAW, LONG RAW, ROWID, UROWID, LONG VARCHAR, CHAR, CLOB, BLOB, CFILE, BFILE, TIMESTAMP, INTERVAL YEAR TO MONTH, INTERVAL DAY TO SECOND and ANYDATA. SharePlex does not support ALTER MATERIALIZED VIEW.
 - SharePlex converts a CREATE MATERIALIZED VIEW to a CREATE TABLE, applies the CREATE TABLE to the target, and then replicates the DML that populates the view. SharePlex does not replicate materialized views to materialized views.
4. To replicate sequences, the supplemental logging of primary and unique keys must be enabled at the database level, or you must enable supplemental logging for primary keys on the **sys.seq\$** table.
5. Amazon RDS restricts DBA users from issuing the GRANT command. Because SharePlex runs as the DBA user, SharePlex cannot replicate GRANT to or from an RDS database.

DDL on objects not listed in the active configuration file

SharePlex provides expanded DDL support for Oracle objects that are not listed in the configuration file. SharePlex replicates the DDL statements for these objects, but does not maintain synchronization of the objects through DML replication. Expanded DDL replication is optional and is enabled with the following parameter setting:

```
SP_OCT_REPLICATE_ALL_DDL=1
```

NOTE: Expanded DDL replication supports not only tables and sequences but also a wide range of other objects such as procedures, functions, users, and views, which are not part of replication. Some of these objects may have underlying objects that *are in replication*. In those cases, Expanded DDL replication applies to the underlying objects in replication, as well as to the object that is not in replication.

See "Table Notes" following this table for additional information.

| Supported object | Supported Operation |
|----------------------------|----------------------------|
| Table and IOT | Create table |
| | Create table as select |
| | Alter table add column |
| | Alter table drop column |
| | Drop table |
| | Truncate |
| | Comment on table |
| | Comment on columns |
| | Associate Statistics |
| | Disassociate Statistics |
| Cluster | Create cluster |
| | Crop cluster |
| Sequence | Create |
| | Drop |
| | Alter |
| Partition/ Subpartition | Add |
| | Split |
| | Merge |
| | Drop |
| | Modify |
| | Coalesce |
| | Exchange |
| | Move |
| | Truncate |
| | Rename |
| | Set |
| Index | Create |
| | Alter |
| | Drop |
| View | Create |
| | Alter |
| | Drop |
| | Comment on view |

| Supported object | Supported Operation |
|------------------------|---------------------|
| Synonym | Create |
| | Drop |
| Directory ¹ | Create |
| | Drop |
| User-defined type | Create type |
| | Alter type |
| | Drop type |
| | Create type body |
| | Drop type body |
| Stored procedure | Create |
| | Alter |
| | Drop |
| Stored function | Create |
| | Alter |
| | Drop |
| Package | Create package |
| | Create package body |
| | Alter package |
| | Alter package body |
| | Drop package |
| | Drop package body |
| User | Create user |
| | Alter user |
| | Drop user |
| | Grant ¹ |
| | Revoke |
| Role | Create role |
| | Alter role |
| | Drop role |
| | Grant ¹ |
| | Revoke |

TABLE NOTES:

1. Amazon RDS restricts DBA users from issuing certain commands on an Amazon RDS database instance. Because SharePlex runs as the DBA user, SharePlex cannot replicate the following commands to or from an RDS database:

- CREATE or DROP DIRECTORY
- GRANT

Oracle to Open Target DDL support

SharePlex provides limited DDL support for replication from Oracle to Open Target. The involved objects must be listed in the active configuration file explicitly or with a wildcard. There is no optional DDL support for replication from Oracle to Open Target.

The default Oracle to Open Target configuration is represented by the following parameter setting:

```
SP_OCT_REPLICATE_DDL=3
```

See "Table Notes" following this table for additional information.

| Supported object | Supported Operation |
|------------------|-------------------------------------|
| Table and IOT | Truncate ¹ |
| | Alter table add column ² |
| | Alter table drop column |

TABLE NOTES:

1. TRUNCATE TABLE is not supported from Oracle compressed objects to Open Target targets.
2. The default mappings of Oracle data types to their Open Target counterpart for replicated ALTER TABLE ADD COLUMN DDL is shown in [Supported Data Types: Oracle to Open Targets](#). When SharePlex adds the column, it defines it with the default data type. This mapping applies to the entire configuration (not per table).

Non-supported Oracle Features

This is a list of commonly used Oracle features which SharePlex does not replicate and are not listed elsewhere in this document. Since both Oracle and SharePlex continually change and improve, this list of exclusions cannot be considered complete. Unless an item is stated here as being supported, assume that SharePlex does not replicate it.

| Object/operation/feature | Not supported |
|---------------------------|--|
| Oracle operations | Operations that do not appear in the redo logs. This includes any DML or DDL not in the redo logs, and also PL/SQL packages which do not write results to the redo logs, for example, dbms_shared_pool.keep and related packages. |
| dbms_scheduler.create_job | This object is not supported. |
| Flashback | SharePlex does not support the Oracle Flashback Table feature. If the SP_ |

| Object/operation/feature | Not supported |
|--------------------------|---|
| | <p>REPLICATE_ALL_DDL parameter is enabled (value of 1), SharePlex may try to replicate the flashback DDL, which will return an error. To perform Flashback Table on a table that is in replication, use the following procedures in the SharePlex Administrator Guide to work around this issue:</p> <ol style="list-style-type: none"><li data-bbox="571 501 1031 524">1. Remove source objects from replication<li data-bbox="571 546 847 568">2. Perform the flashback<li data-bbox="571 591 1118 613">3. Add or change objects in an active configuration |

Supported / non-supported SharePlex Features for Open Targets

The following table shows whether specific SharePlex features are supported for replication from Oracle to Open Target targets.

| SharePlex feature | Supported for Open Target | Not Supported for Open Target |
|--|---------------------------|-------------------------------|
| reconcile command (target instantiation) | X | |
| compare/compare using and repair/repair using commands | | X |
| copy/copy using and append/append using commands | | X |
| Hash horizontally partitioned replication | | X |
| Column-based horizontally partitioned replication | X | |
| Vertically partitioned replication | X | |
| Column mapping | X | |
| Key definition | X | |
| Build configuration with scripts | | X |
| Named queues | X | |
| Commit Reduction (feature of Post Enhanced Performance) | X | |
| Dependency Checking (feature of Post Enhanced Performance) | | X |
| Transformation | | X |
| Conflict resolution | | X |
| Peer-to-peer replication (bi-directional) | | X |
| Consolidated replication (many to one) | X | |
| Broadcast replication (one to many) | X | |
| High availability replication (active/passive bi-directional) | | X |
| Change tracking target (CDC) | | X |
| Data encryption | X | |
| Data compression | X | |
| SSH | X | |
| auth_hosts file | X | |

| SharePlex feature | Supported for Open Target | Not Supported for Open Target |
|--|----------------------------------|--------------------------------------|
| Monitoring scripts | X | |
| SNMP monitoring | X | |
| Continue posting on error (SP_OPX_CONT_ON_ERR) | X | |
| Suspend on out of sync errors (SP_OPX_OUT_OF_SYNC_SUSPEND) | X | |
| Reduced key (SP_OPX_REDUCED_KEY) | X | |
| Logical Transaction Rollback on out-of-sync transactions | | X |

Known Issues in this Release

The following is a list of issues, including those attributed to third-party products, known to exist at the time of release.

General known issues

| Known Issue | Issue ID |
|---|-----------|
| The reported core file was not generated on systems running Oracle 11g on the SunOS, and Linux operating systems. | 66306 |
| If the customer issues an "ALTER TABLE ... MOVE COMPRESS" DDL command against a table in replication, SharePlex will replicate the DDL to the target by default. After post issues the DDL, if the target table had indexes, they are now unusable and post will subsequently fail trying to apply changes to the table. If post gets an error on the table such as "ORA-01502: index XXX or partition of such index is in unusable state" , the user must rebuild any indexes the table may have before restarting post in order to rectify the situation. | N/A |
| SharePlex copy is not supported for tables created with "MAPPING TABLE" clause. | SPO-19626 |

Windows known issues

| Known Issue | Issue ID |
|--|-----------|
| On Windows systems, the uninstaller does not prompt for the version of SharePlex to be removed from a system. When there are multiple versions of SharePlex installed on a system, it removes only the first installation. | N/A |
| In the Windows environment, always run sp_ctrl from the same drive on which you have installed SharePlex. If you run sp_ctrl from another drive, you will be prompted for a login ID and password. After you provide the login ID and password, sp_ctrl will run normally. | N/A |
| If the user wants to change the installation directory for a given port, the user must first uninstall from the previous location. Note that if the user wants to keep the previous VARDIR it should be copied to the new location prior to the uninstall. | 62620 |
| Installing on Windows 2019 as Windows Administrator user will cause sp_wallet and qview to fail. Workaround: Set NUT_TREAT_ADMINS_AS_ROOT environment variable to 1 for the Windows Administratoruser before starting any SharePlex utilities or applications. | SPO-20785 |
| During installation when upgrading from 9.2.x it is possible to get a file not found error in the PTC NuTCRACKER Platform Components. Workaround: Rename or remove the mks_oe directory under the SharePlex installation directory before upgrading. | SPO-20910 |

ASM known issues

| Known Issue | Issue ID |
|---|----------|
| If the redo_log or archive_log that SharePlex is currently reading is involved in “rebalancing” due to the removal of a disc group, the Capture process will pause until the rebalance procedure for that file is complete. | N/A |
| On raw device ASM systems, the sp_desvr may get stuck and the process can not be killed even when kill -9 is issued; users must reboot the system to recover from it. | 61713 |

Startup known issues

| Known Issue | Issue ID |
|---|----------|
| If you have SharePlex configured to start from a startup script and it returns an error similar to: System call error: sp_cnc (connecting from cdrpx.mcit.med.umich.edu) Bad file number Can't dup2 stderr try adding nohup to your script. The nohup command directs a command (in this case the startup of SharePlex) to continue in the background after the current user (the script) logs out. The syntax is: <pre>cd /product_directory/bin nohup ./sp_cop &</pre> | N/A |

Character Sets known issues

| Known Issue | Issue ID |
|---|----------|
| Avoid replicating NCHAR data types using different character sets such as AL16UTF16 on the source machine and UTF8 on the target due to byte size limitations. Oracle stores NCHAR data with a maximum limit of 2000 bytes. A fixed length NCHAR character set such as AL16UTF16 has a different maximum number of characters than a variable length NCHAR character set such as UTF8. For the fixed length AL16UTF16 character set, each character is stored as 2 bytes; thus, the maximum number of characters is 1000 for NCHAR data. For the variable length UTF8 character set, the maximum number of characters a column can accommodate depends on how many bytes each character requires. If you replicate 1000 3-byte characters from a source machine using the AL16UTF16 character set to a target machine set to UTF8, you will get the following Oracle error message on the target, since it needs 3000 bytes: <pre>ORA-01461 can bind a LONG value only for insert into a LONG column</pre> | 35198 |

Copy/ Append known issues

| Known Issue | Issue ID |
|---|-----------|
| If you need to copy a materialized view to a table, you should drop the target table before copying. Please be aware that the new target table created by copy will have an additional column named M_ROW\$\$ which does not exist on the source. The use of append on a materialized view to a table is not supported. | 41679 |
| The BINARY_FLOAT and BINARY_DOUBLE data types are not supported for the copy command. | SPO-16453 |
| Copy job status shows 'Locked' even when competed. | SPO-20843 |

Conflict Resolution known issues

| Known Issue | Issue ID |
|---|----------|
| The !ControlExtendedCharSet prepared conflict resolution routine and the !DEFAULT parameter currently cannot be used for generic conflict resolution. | N/A |

Partitioned Replication known issues

| Known Issue | Issue ID |
|---|-----------|
| When using a compound routing map in a placeholder route in the configuration file, do not use spaces between each routing component. For example, sysb@o.orab+sysc@o.oraC is correct because there are no spaces before or after the + symbol. | N/A |
| Post will fail with ORA-14400 performing DML on partitioned table with VARAY residing in an OLTP compressed tablespace. | SPO-20841 |

Capture known issue

| Known Issues | Issue ID |
|---|-----------|
| The SharePlex Capture process is getting stuck when users change the Oracle compatibility parameter from 11g to 12c. This issue is observed on the 12c 4 node RAC database. | SPO-21339 |

Vertical and Horizontal Partitioning known issues

| Known Issue | Issue ID |
|--|----------|
| When using horizontal partition replication with DATE data type in the column condition, the DATE needs to follow the SP date string format, 'MMDDSYHH24MISS'. Otherwise, the Read and Compare processes are not able to process it. | 55268 |

LOBs, VARRAYs, and XML known issues

| Known Issue | Issue ID |
|--|-----------|
| Users may encounter an out-of-sync condition when an UPDATE occurs on a table that contains a UDT with a VARRAY column, and there is no KEY on the table. This issue is specific to Solaris x86 operating systems. | 29650 |
| On Oracle 19c processing large n-items can lead to OOS and/or missing commits. | SPO-20842 |

DDL Replication known issues

| Known Issue | Issue ID |
|---|-----------|
| Replicating CREATE ROLE (set param SP_OCT_REPLICATE_ALL_DDL 1) is changing the grantee name on the target to the name of the SharePlex Administrator. | 2242 |
| If the Capture process is behind in reading the Oracle redo or archive logs when the SP_OCT_REPLICATE_ALL_DDL parameter is enabled it will replicate DDLs whose time stamps precede this event. | 56957 |
| In replication from an Oracle source to a non-Oracle target, SharePlex does not support ALTER TABLE to add a number column in which the scale is larger than the precision. | SPO-14372 |

Partition DDL known issues

| Known Issue | Issue ID |
|---|----------|
| If separate SQL statements for partition DDL and index rebuild are run on the source, SharePlex only replicates the partition DDL and leaves target global index unusable. This is because ALTER INDEX is not supported by SharePlex. The recommended work around is that all partition DDLs which mark global indexes as unusable should be run with an appending clause UPDATE GLOBAL INDEXES to the ALTER TABLE SQL statements. The alternative is to manually rebuild the global indexes on target. | 57939 |

Function based index known issues

| Known Issue | Issue ID |
|--|----------|
| If there is more than one function defined in the index, SharePlex will choose the first. SharePlex cannot support multiple functions. | 92931 |

Post to JMS known issues

| Known Issue | Issue ID |
|---|-----------|
| Replication of batch operations to ActiveMQ may cause a hang. The workaround is to set the SP_ORD_BATCH_ENABLE parameter to 0. | SPO-11335 |
| If the post process that is writing to JMS is not on the same machine as the source database, and if the two machines are of different endianness, NCHAR data will not be written to JMS correctly. | 107471 |

Post to non-Oracle targets known issues

| Known Issue | Issue ID |
|---|-----------|
| Replication of tables with varray columns from an Oracle source to a non-Oracle target can get out of sync because Oracle doesn't include key information on updates. | SPO-19048 |

Oracle Compression known issues

| Known Issue | Issue ID |
|--|-----------|
| Oracle 19c OLTP Compression. SharePlex does not support replication of DML operations on objects compressed using OLTP Compression in Oracle 19c. | SPO-19793 |
| Hybrid Columnar Compression. Activation will not fail if a table with "COMPRESS FOR QUERY LOW" compression is activated. Capture will log a message indicating that "COMPRESS FOR QUERY LOW" is not supported. | 107487 |

Third-party known issues

Third-party known issues: Linux

| Known Issue | Issue ID |
|---|----------|
| RHEL with 11g may encounter issues when producing core files. To work around this issue users will need to change the parameter "core_pattern" in the /proc/sys/kernel/core_pattern file. The following command enables core files: <code>sysctl -w kernel.core_pattern=core</code> . The original setting is: /corefiles/core. In this state, the system looks for a directory named /corefiles, which does not exist, therefore a core file could not be created. | 54799 |

Third-party known issues: Oracle

| Known Issue | Issue ID |
|--|----------|
| Oracle may allow an invalid date, such as year 0000, to be inserted as the key value of a table without generating an error. This causes SharePlex to return an "Invalid DATE format detected in record with rowid" error when trying to insert the record to the target. | SPO-1368 |
| Users wishing to employ IOTs with overflow need to be running Oracle 11g or higher. This is a known Oracle issue addressed under Oracle Bug 4627859. | 44626 |
| On Windows systems, the Post process May exit when it encounters an "ORA-07445: exception encountered: core dump" error. Please refer to Oracle Bug 6658912 for more information and the Oracle provided work around. | 67441 |
| Oracle 11gR2 - During a SYNC job, the copy of a new table (without data) failed at "EXP-00011: table does not exist" . The table that failed is a new table without any data. The EXP-00011 is caused by 11gR2 new feature "Deferred Segment Creation" that is controlled by the initialization parameter DEFERRED_SEGMENT_CREATION. The default is ON. To avoid this error, disable the parameter. A tar has been opened with Oracle and Oracle created a note 960216.1 Original Export Raises EXP-11 Table Does Not Exist. | 75179 |
| OLTP compression with supplemental logging enabled may corrupt the Oracle Undo block, so Oracle suggests disabling supplemental logging when running OLTP compression. However, | 92152 |

| Known Issue | Issue ID |
|--|----------|
| SharePlex requires supplemental logging to be enabled, so you may encounter this bug. This affects Oracle versions 11.2.0.2, 11.2.0.1 and 11.1.0.7. See Metalink ID 1191474.1. | |
| Sometimes the Post process will hang updating a SecureFile LOB. For more information please refer to Oracle tar SR 3-2898230851: OCILobWrite hangs at the OCI_LAST_PIECE for securefile LOB. | N/A |
| There is an Oracle bug that can cause the database to crash when supplemental logging is enabled and transactions involving tables in a compressed tablespace are rolled back. Please refer to Oracle bug 8331063 for more information. | N/A |
| A known issue in PL/SQL prevents the SharePlex conflict resolution logic from compiling the PL/SQL for tables whose names are the same as their owners. Oracle has stated that the issue will not be fixed. See Oracle TAR 2577886.996 for more information. This issue does not affect replication; SharePlex supports tables with identical owner and table names. | N/A |

Third Party Known Issues: Misc

| Known Issue | Issue ID |
|---|-----------|
| When replicating data from Oracle to SQL Server, the Microsoft SQL Server ODBC driver supports Owner names of up to 127 bytes only. | SPO-14331 |
| A known issue in EDB Postgres ODBC driver prevents support for emoji UTF-8 character set with EDB Postgres target. | SPO-15251 |

Licensing

SharePlex licensing information can be found in the [Quest Software Product Guide](#). Please contact your account manager if you have questions.

To activate a trial license

1. Run the SharePlex command:

```
./splex_add_key
```

```
SharePlex License Utility  
1) Read license key from file  
2) Enter license key manually  
3) Add license key for alternate host  
q) Quit License Utility  
Enter option:
```

2. Enter option 2.
3. Enter the key provided in the email from Quest Licensing.
4. For the customer name, enter: Trial Version.

To activate a purchased commercial license

1. Run the SharePlex command:

```
./splex_add_key
```

```
SharePlex License Utility  
1) Read license key from file  
2) Enter license key manually  
3) Add license key for alternate host  
q) Quit License Utility  
Enter option:
```

2. Enter option 2.
3. Enter the key provided in the email from Quest Licensing.
4. Enter the customer name provided in that email.

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This product contains the following third-party components. For third-party license information, go to our website at <https://www.quest.com/legal/third-party-licenses.aspx>. Source code for components marked with an asterisk (*) is available at <https://opensource.quest.com>.

Table 1: List of Third-Party Contributions

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| Apache Commons IO 2.4 | Copyright © 2002-2019 The Apache Software Foundation. All Rights Reserved. Apache License 2.0. |
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Julian Seward, jseward@bzip.org

bzip2/libbzip2 version 1.0.6 of 6 September 2010

gdb 7.6.1

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GNU General Public License (GPL) 3

GNU standard C++ class library 3

ksh 20120801(Korn Shell)

(C) 1996 - 2000, David Korn

Eclipse Public License 1.0

The source code for this component may be found on the SharePlex AMI image in the /home/ec2-user/src directory.

libaio 0.3.109

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The source code for this component may be found on the SharePlex AMI image in the /home/ec2-user/src directory.

librdkafka 1.6.1

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MKS Toolkit
and
NuTCRACKER 10.2

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Oracle Instant Client 11.2.0.2

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Protobuf 3.5.1

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| | |
|--------------------|--|
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 - TSC-TPM 0.2
- unixODBC 2.3.1
- yaml-cpp 0.3.0
- zlib 1.2.7
 - zlib 1.2.8
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Our brand, our vision. Together.

Our logo reflects our story: innovation, community and support. An important part of this story begins with the letter Q. It is a perfect circle, representing our commitment to technological precision and strength. The space in the Q itself symbolizes our need to add the missing piece — you — to the community, to the new Quest.

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- Sign up for product notifications
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SharePlex Release Notes

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