

# SharePlex™ 9.1

## Release Notes

Revision: 2/22/2018

<b>About SharePlex</b> .....	<b>3</b>
<b>Join our community</b> .....	<b>4</b>
<b>About this release</b> .....	<b>5</b>
<b>New features in this release</b> .....	<b>6</b>
New Features - Oracle .....	6
Supported scenarios .....	6
New Features - SQL Server .....	9
Other new features .....	10
<b>Enhancements in this release</b> .....	<b>11</b>
<b>Deprecations in this release</b> .....	<b>12</b>
<b>Resolved Issues in this release</b> .....	<b>13</b>
<b>Basic system requirements</b> .....	<b>15</b>
System .....	15
Internet protocol .....	15
Interoperability between versions .....	16
Supported datastores .....	17
Cloud support .....	18
<b>System Requirements — Oracle Capture</b> .....	<b>20</b>
Basic requirements .....	20
Supported platforms .....	20
Supported data types — Oracle to Oracle .....	24

Conditions of support .....	25
Supported data types — Oracle to Open Target .....	26
Supported objects and operations for DML replication .....	32
Supported operations and objects for DDL replication .....	35
Oracle-to-Oracle default DDL support .....	35
Oracle-to-Open Target default DDL support .....	37
Other non-supported Oracle features .....	41
Supported/non-supported SharePlex features for Open Target .....	41
<b>System Requirements — SQL Server Capture .....</b>	<b>43</b>
Supported versions and targets .....	43
Conditions of support .....	45
Supported operations .....	45
Supported data types — SQL Server to SQL Server .....	46
Supported data types — SQL Server to Open Target .....	47
Supported SharePlex features .....	50
<b>Known issues in this release .....</b>	<b>52</b>
<b>Licensing .....</b>	<b>58</b>
<b>Third Party Contributions in this release .....</b>	<b>59</b>
<b>About us .....</b>	<b>90</b>
Contacting Quest .....	90
Technical support resources .....	90

# About SharePlex

SharePlex provides high-speed replication from Oracle (on-premises and Amazon RDS) and SQL Server databases to different target databases and messaging containers on major Unix, Linux and Windows platforms — 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 and SQL Server sources 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 patch release with no new functionality.

# New features in this release

## New Features - Oracle

The following are new features that support SharePlex capture from Oracle and delivery to supported targets.

### New support for Oracle in Amazon RDS cloud

The following new support has been added for Oracle on RDS:

- SharePlex can now capture from an Oracle database hosted on Amazon RDS.
- SharePlex can now post to an Oracle database on Amazon RDS without the need to install on the source server or an intermediary on-premises server.
- SharePlex can be installed in the cloud as a pre-installed, pre-configured Amazon Machine Image (AMI) on the EC2 service. An Oracle client is included in the image.

#### NOTES:

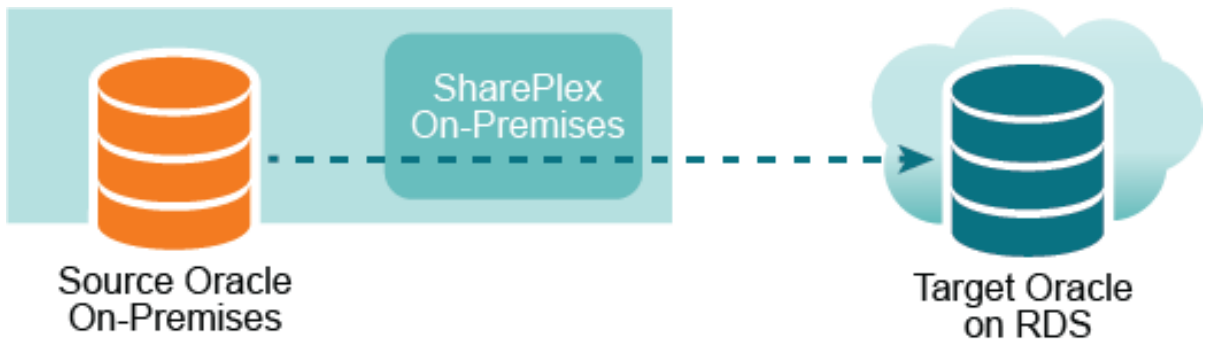
- A new documentation manual supports SharePlex for Oracle on RDS. See the SharePlex [Installation and Setup Guide for Amazon RDS](#).
- The user who runs the **ora\_setup** utility for the RDS database must be the master user that was created when the RDS instance was created.
- Support of Oracle features on RDS is limited to the default option groups: **default:oracle-ee-12-1** and **default:oracle-ee-11-2**.
- See the for additional information and setup instructions.

## Supported scenarios

The following scenarios are now supported:

### On-premises source, cloud RDS target

SharePlex installed on-premises:



SharePlex installed on EC2 as an AMI:

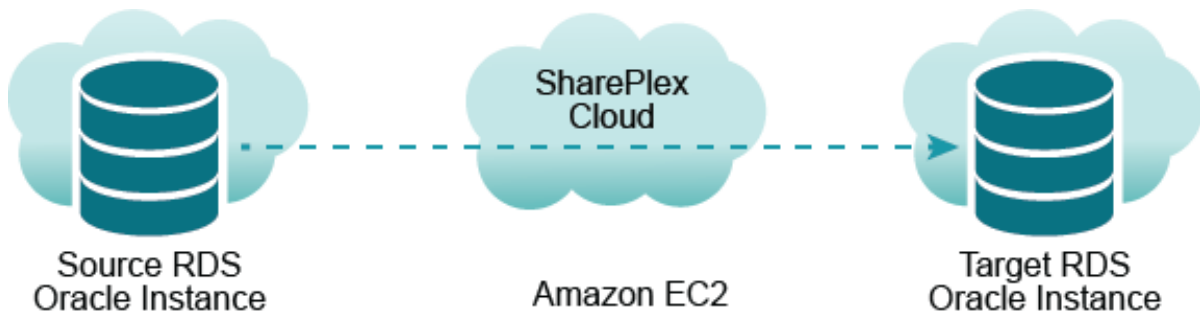


Cloud EC2 source, cloud RDS target



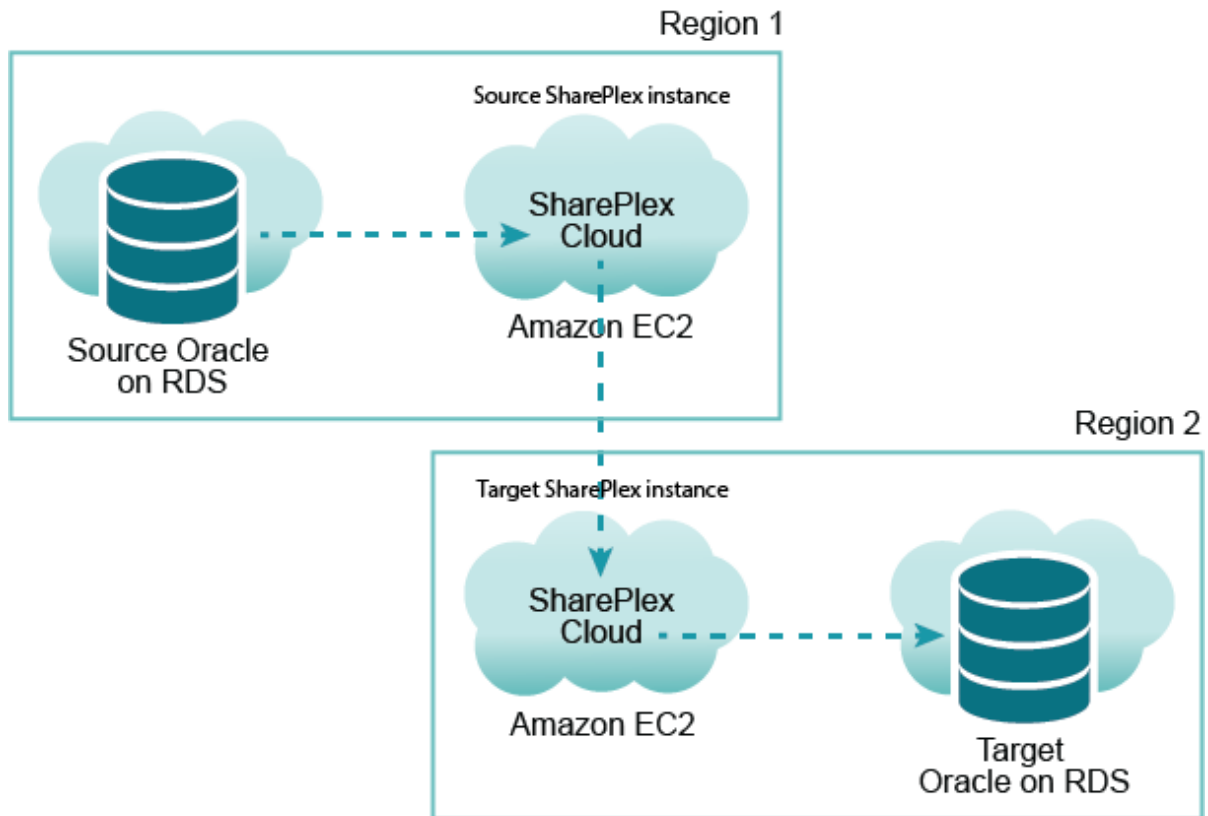
Cloud RDS source, cloud RDS target

Same AWS region:



**Different AWS regions:**

Source SharePlex connects to the source database, target SharePlex instance connects to the target database.



For full installation and setup instructions, see the [SharePlex Installation and Setup Guide](#).

## Remote capture from Oracle

SharePlex can now capture from a remote Oracle database that is accessible only through TNS from the host where SharePlex is running. To enable this configuration, set the `SP_OCT_OLOG_USE_OCI` parameter to 1.

## Oracle replication to Amazon Aurora PostgreSQL

SharePlex can now replicate from Oracle on-premises Linux to Amazon Aurora with PostgreSQL Compatibility.



# Additional Oracle platform support

SharePlex now supports the following platforms:

- Capture and post for Oracle 12C R2 on HP-UX
- Capture and post for Oracle 12C R2 on Sparc Solaris
- Capture and post for Oracle 12C R2 on Solaris X86
- Capture and post for Oracle 12R2 on AIX

# Support for Oracle object ids greater than 2147483647

SharePlex can now replicate objects that have object ids greater than 2147483647. The target SharePlex version must also be at least 9.1.

# New Oracle capture parameters

- A new parameter `SP_OCT_OLOG_USE_OCI` controls whether Capture reads the redo logs directly from the files or by using OCI. This parameter must be enabled in the following conditions:
  - If the source database is running on ASM on Exadata
  - The source database is remote

This parameter replaces the `SP_OCT_ASM_USE_OCI` parameter. If you are currently using `SP_OCT_ASM_USE_OCI`, use the **reset param** command to restore it to its default of disabled, and then set `SP_OCT_OLOG_USE_OCI` to 1.

- A new parameter `SP_OCT_OLOG_RDS_MINER` controls whether Capture uses a second thread to run the Oracle LogMiner in continuous mode. This parameter should be set to 1 when SharePlex captures from an Oracle database on Amazon RDS.

# New Features - SQL Server

The following are new features that support SharePlex capture from SQL Server and delivery to supported targets.

# SQL Server replication to MySQL, PostgreSQL, Kafka

SharePlex can now replicate from a SQL Server source to MySQL, PostgreSQL, and Kafka targets. For more information, see [System Requirements — SQL Server Capture](#) on page 43.

**NOTE:** EDB Postgres Advanced Server version 10 is **not** supported by SQL Server Capture.

# Capture from SQL Server 2008 R2

SharePlex can now replicate from a SQL Server 2008 R2 source to a SQL Server 2016 target.

## Support for additional SQL Server data types

SharePlex now supports replication of BIT, MONEY, and UNIQUEIDENTIFIER datatypes between SQL Server databases. See [System Requirements — SQL Server Capture](#) on page 43 for supported data types when replicating to Open Target databases from SQL Server.

## Other new features

The following are new features that affect SharePlex in general.

## New database-specific installation guides

The SharePlex Installation and Setup Guide has been replaced with two, more targeted installation guides:

- SharePlex [Installation and Setup Guide for an Oracle Source](#)
- SharePlex [Installation and Setup Guide for a SQL Server Source](#)

This change makes it easier to understand the installation, setup, and upgrade requirements of Oracle Capture or SQL Server Capture, without the need to filter out unrelated content.

Each Installation and Setup guide contains the preinstallation checklist, installation, and setup information specific to the source type, with additional setup instructions for all of the supported targets for that source type.

### NOTES:

- The Installation and Setup guides are in addition to the new .
- The standalone Preinstallation Checklist guide is no longer published because it is replaced by the database-specific checklists in the new Installation and Setup Guides.

## Updated SharePlex demonstrations

The CASCADE DELETE dependencies and triggers have been eliminated in the SharePlex basic and advanced demonstrations to streamline the process of running them. All appropriate demo objects were updated accordingly. Additionally, the basic SharePlex demonstration is constructed so that it works for any supported database and platform. The advanced SharePlex demonstration is strictly for Oracle databases.

# Enhancements in this release

The following is a list of enhancements that were implemented in this release line.

- The data encryption feature has been enhanced to require the new Import parameter `SP_IMPORT_AES_ENABLE` to be enabled. This parameter prevents Import from receiving data from the source unless that data is encrypted.  
**UPGRADE NOTE:** If you are currently using data encryption, you must enable this parameter before you restart the SharePlex processes. Otherwise, Import will return an error.
- The trace post command has been enhanced to show trace information for non-database targets, such as Kafka, JMS, and file output.
- The Read process has been improved to reduce its memory footprint and perform more efficient checkpoints.

# Deprecations in this release

This section contains a list of SharePlex items that were deprecated in this release line and any data stores or platforms that are de-supported as of this release.

**NOTE:** For a list of all deprecated parameters and commands, their replacements (if any), and the version of SharePlex in which they were deprecated, see the SharePlex Reference Guide.

## End of support for Oracle 10g

Oracle Database 10g is de-supported as of this release.

## Parameter deprecations

- The `SP_OCT_ASM_USE_OCI` has been replaced by `SP_OCT_OLOG_USE_OCI`.
- `SP_OPX_MAX_CDA` is replaced by `max_active_statements` in the **Resources** category of the **target** command.
- The `threshold_size=packet_size` property of the **Kafka** category of the **target** command is deprecated.

# Resolved Issues in this release

Issue ID	Description
SPO-1103	Main thread waiting xxx for session -1 to commit
SPO-1297	Vertical Partitioning with Exclusion Should replicate add column
SPO-2363	Document support for ActiveMQ 5.11-5.13 Java set up
SPO-2846	param default file change for SP_OCT_GEN_STOP
SPO-3240	sp_ctrl redirect output not working
SPO-3272	reset param SP_OPX_UTILIZATION_TIMERS queue <queuename> not working
SPO-10057	Document SP_OPO_SYNC_LOG_FREQUENCY
SPO-10238	Poster core dumps if there is a queue name that starts with "ddl"
SPO-10865	Recognize 'Flashback' ddl as unsupported for both replicated/non-replicated tables
SPO-11010	Certain URP record on sys.obj\$ could cause capture to core
SPO-11025	Reader slow caused by frequent checkpoints on alter and create index
SPO-11029	ora_cleansp: prompt auto fills with \c and can't backspace to input correct info
SPO-11213	repair missing all column info
SPO-11494	open poster Sybase got error (false out of sync)
SPO-11529	Duplicate processing with Teradata Target during recovery
SPO-11554	Operations in a distributed transaction caused OOS
SPO-11615	repair ran out of cursors
SPO-11678	Add debug to export/import to investigate rrls/wcmt issue
SPO-11687	SP_OPX_REDUCED_KEY feature is not implemented for Kafka and XML yet

Issue ID	Description
SPO-11709	Compare slow on compare config
SPO-11731	Skip call for maxwriters
SPO-11770	Compare times out waiting for lock file
SPO-11773	Trace Post to support non-DB target such as Kafka
SPO-11776	Have reader write to ddl logs for create/drop tables
SPO-11872	Poster getting stuck on a blocking situation waiting for all queues done before a DDL or update sequence
SPO-11988	mss_setup creates shareplex user under master database for sql server
SPO-12149	Issue with shareplex_ddl_control when involving DDLs not associated with objects or schemas
SPO-12251	repair failed - invalid identifier 'OWNER'
SPO-12339	sp_ctrl redirect output not working since 8.6.3
SPO-12360	Capture incorrectly updated columns to NULL where it's not supposed to (Trailing NULL detection problem in OPP)
SPO-12395	ora_setup compare varray package for sdo_geometry

# Basic system requirements

This chapter contains the basic system requirements for SharePlex. See also:

[System Requirements — Oracle Capture on page 20](#)

[System Requirements — SQL Server Capture on page 43](#)

## 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.

## Internet protocol

SharePlex supports IPv4 and IPv6 internet protocols. The following table shows the platforms 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.

Platform	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

Platform	Source	Target	SharePlex Source and Target versions	On-premises/Cloud
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 8.5 or earlier.

### Versions with full interoperability

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

8.0.x  
8.5.x  
8.6.x  
9.0.x  
9.1.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`

## Supported datastores

Datastore	Version	Driver version
Apache Kafka	.08 and later	N/A <b>NOTE:</b> A Kafka target is supported on Red Hat Linux version 6.0 or later.
Flat file - SQL output	N/A	N/A
Flat file - XML output	N/A	N/A
JMS - ActiveMQ	5.8	N/A
JMS - IBM MQ	7.x and 8.x	N/A
Microsoft SQL Server	2012 2014 2016 <b>NOTE:</b> Supported as a source only on Windows 2012 R2.	Microsoft SQL Server ODBC Driver Do <i>not</i> use the <b>Microsoft SQL Server Native Client</b> . SharePlex will return an error during setup if the correct driver is not used. To tell the difference between the two: <ul style="list-style-type: none"> <li>• The Microsoft SQL Server ODBC Driver has versions such as 06.02.9200.</li> <li>• The Microsoft SQL Server Native Client has versions such as 11.00.3513.</li> </ul>
MySQL	5.6 and later	ODBC driver version 5.3.2 or later.
Oracle Database (64-bit only)	11g R1 and R2 12cR1 and R2	N/A
PostgreSQL* (Symfaware Server, EDB Postgres Advanced Server,	9.4 and later*	Use the driver version that is recommended by the vendor of the PostgreSQL implementation that you are using.

Datastore	Version	Driver version
others)		
SAP Adaptive Server Enterprise (ASE)	15.7	N/A
SAP HANA	1.0 SPS 11 Rev111	HDBODBC or HDBODBC32 driver provided with the HANA database installation.
Teradata	15.00.03.05	Teradata ODBC driver version 15.10.00.01 or later

\* **Notes:** SharePlex supports all implementations of the PostgreSQL open source object-relational database system. EDB Postgres Advanced Server version 10 is **not** supported for SQL Server Capture, but is supported for Oracle capture.

## Cloud support

Source	Cloud type	To Target	Cloud type
Oracle on AWS EC2 Linux	IaaS	Oracle on AWS EC2 Linux	IaaS
		Oracle on AWS RDS Linux	PaaS
Oracle on AWS RDS Linux*	PaaS	Oracle on AWS RDS	PaaS
Oracle on Microsoft Azure Linux	IaaS	Oracle on Microsoft Azure Linux	IaaS
Oracle on on-premises Linux	N/A	• Oracle on AWS RDS	PaaS
		• Oracle on AWS EC2	IaaS
		• PostgreSQL (Community) on Microsoft Azure Linux	PaaS
		• PostgreSQL (Community) on AWS EC2	IaaS
		• PostgreSQL (Community) on AWS RDS	PaaS
		• EDB Postgres Advanced Server on AWS EC2	IaaS
		• EDB Postgres Advanced Server on	PaaS

Source	Cloud type		To Target	Cloud type
			Microsoft Azure Linux	
			<ul style="list-style-type: none"> <li>Amazon Aurora with PostgreSQL Compatibility</li> </ul>	PaaS
			<ul style="list-style-type: none"> <li>Amazon Aurora with MySQL Compatibility</li> </ul>	PaaS
			<ul style="list-style-type: none"> <li>Fujitsu Symfoware Server on AWS EC2</li> </ul>	IaaS
			<ul style="list-style-type: none"> <li>Fujitsu Symfoware Server on Microsoft Azure Linux</li> </ul>	PaaS
			<ul style="list-style-type: none"> <li>MySQL on AWS EC2</li> </ul>	IaaS
			<ul style="list-style-type: none"> <li>MySQL on AWS RDS</li> </ul>	PaaS
			<ul style="list-style-type: none"> <li>MySQL on Microsoft Azure Linux</li> </ul>	PaaS
			<ul style="list-style-type: none"> <li>SQL Server on AWS EC2</li> </ul>	IaaS
			<ul style="list-style-type: none"> <li>SQL Server on AWS RDS</li> </ul>	PaaS
			<ul style="list-style-type: none"> <li>SQL Server on Microsoft Azure Windows</li> </ul>	IaaS
			<ul style="list-style-type: none"> <li>SQL Server on Microsoft Azure Windows</li> </ul>	PaaS
SQL Server on on-premises Windows	N/A		<ul style="list-style-type: none"> <li>SQL Server on Microsoft Azure Windows</li> </ul>	PaaS
			<ul style="list-style-type: none"> <li>SQL Server on Microsoft Azure Windows</li> </ul>	IaaS
			<ul style="list-style-type: none"> <li>Amazon Aurora with PostgreSQL Compatibility</li> </ul>	PaaS

\* Capture from RDS is supported for Oracle versions 11.2.0.4.v11 and later, and 12.1.0.2.v7 and later. Post is supported for all Oracle versions that are supported by RDS and SharePlex. Support of Oracle features on RDS is limited to the default option groups: **default:oracle-ee-12-1** and **default:oracle-ee-11-2**.

# System Requirements — Oracle Capture

This chapter contains the requirements for capture from an Oracle source database and replication to supported Oracle and Open Target targets.

## Basic requirements

- SQL\*Plus must be installed with any source or target Oracle Database.
- On Linux and Unix), set the hard-limit of the system file descriptors to a minimum of 1024 or higher, as the system permits.
- At least the minimum level of supplemental logging must be enabled. Some SharePlex features may require PK/UK supplemental logging to be enabled.

## Supported platforms

### NOTES:

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

## Supported platforms — Oracle source and target

This section indicates whether SharePlex supports an Oracle database version that is running on a given OS platform.

**IMPORTANT:** See also [Cloud support](#) on page 18 for cloud-hosted targets.

Source/Target Platform	SharePlex supports this Oracle version on this platform? (Yes/No)			
	11g*	11gR2*	12cR1	12cR2
AIX 5.3	Yes	Yes	No	No
AIX 6.1	Yes	Yes	Yes	No

Source/Target Platform	SharePlex supports this Oracle version on this platform? (Yes/No)			
	11g*	11gR2*	12cR1	12cR2
AIX 7.1	NA	Yes	Yes	Yes
AIX 7.2	NA	NA	Yes	Yes
CentOS 5.10 (x64)	Yes	Yes	Yes	No
CentOS 6.5 (x64)	Yes	Yes	Yes	No
Debian Release 8 (Jesse and Wheezy)***	Yes	Yes	Yes	No
HP-UX 11.31 (11i v3) (PA-RISC)	Yes	Yes	NA	Yes
HP-UX 11.31 (11i v3) (Itanium)	Yes	Yes	Yes	Yes
Oracle Solaris 9	Yes	NA	NA	Yes
Oracle Solaris 10 (SPARC)	Yes	Yes	Yes	Yes
Oracle Solaris 10 (x64)	NA	Yes	Yes	Yes
Oracle Solaris 11 (SPARC)	Yes	Yes	Yes	No
Oracle Solaris 11 (x64)	Yes	Yes	Yes	No
Oracle Linux 4 (x64)	Yes	Yes	NA	No
Oracle Linux 5 (x64)	Yes	Yes	Yes	No
Oracle Linux 6 (x64)	NA	Yes	Yes	Yes
Oracle Linux 7 (x64)	NA	Yes	Yes	Yes
Oracle Linux 5 on Exadata 2, 3, 4 (x64)	NA	Yes	Yes	No
Oracle Linux 5.5 on Exadata 3, 4 (x64)	NA	Yes	Yes	No
Oracle Linux 6.6 on Exadata 5 (x64)	NA	Yes	Yes	No
RHEL 4 (x64)	Yes	Yes	NA	NA
RHEL 5 (x64)	Yes	Yes	Yes	No
RHEL 6 (x64)	NA	Yes	Yes	Yes
RHEL 7 (x64)	NA	Yes	Yes	Yes
SuSE SLES9 (x64)	NA	NA	NA	NA
SuSE SLES10 (x64)	Yes	Yes	NA	NA
SuSE SLES11 (x64)	Yes	Yes	Yes	No
SuSE SLES12 (x64)**	NA	Yes	Yes	Yes
Windows Server 2003 (x64)	Yes	Yes	NA	NA

Source/Target Platform	SharePlex supports this Oracle version on this platform? (Yes/No)			
	11g*	11gR2*	12cR1	12cR2
Windows Server 2008 (x64)	Yes	Yes	Yes	No
Windows Server 2012	Yes	Yes	Yes	Yes
Windows Server 2012R2	Yes	Yes	Yes	Yes

**NA:** Not applicable: not supported by the database type or version.

**X:** Not yet tested.

\* Linux running Oracle 11g must be running on Oracle 11.1.0.6.0+ or you must apply the one-off provided for Oracle Bug 6598432.

\*\* At the time of this writing, Oracle's published documentation did not indicate support of SuSE SLES12. Basic testing of SharePlex has been done on SuSE SLES12. Quest will provide best effort support but cannot resolve specific Oracle issues on this platform until Oracle adds official support.

\*\*\* Oracle does not officially support Debian Linux.

## Supported platforms — Oracle source to Open Target

This section indicates whether SharePlex can replicate from Oracle to a given target type running on the following platforms.

**IMPORTANT:** See also [Cloud support](#) on page 18 for cloud-hosted targets.

Target platform	SharePlex supports replication to this target type on this platform? (Yes/No)								
	MySQL	SAP ASE	SQL Server	PostgreSQL**	SAP HANA	Teradata	JMS	Kafka	File
AIX 6.1	NA	NA	NA	NA	NA	NA	Yes	No	Yes
AIX 7.1	NA	NA	NA	NA	NA	NA	Yes	No	Yes
CentOS 5.10 (x64)	NA	Yes	NA	NA	NA	NA	Yes	No	Yes
CentOS 6.5 (x64)	NA	Yes	NA	Yes	NA	NA	Yes	Yes	Yes
Debian Release 8 (Jesse and Wheezy)	NA	Yes	NA	Yes	NA	NA	Yes	Yes	Yes
HP-UX 11.31 (11i v3) (PA-RISC)	NA	No	NA	NA	NA	NA	No	No	No
HP-UX 11.31 (11i v3) (Itanium)	NA	No	NA	NA	NA	NA	No	No	No

Target platform	SharePlex supports replication to this target type on this platform? (Yes/No)								
	MySQL	SAP ASE	SQL Server	PostgreSQL**	SAP HANA	Teradata	JMS	Kafka	File
Oracle Solaris 9	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oracle Solaris 10 (SPARC)	NA	NA	NA	NA	NA	NA	Yes	No	Yes
Oracle Solaris 10 (x64)	NA	NA	NA	NA	NA	NA	Yes	No	Yes
Oracle Solaris 11 (SPARC)	NA	NA	NA	NA	NA	NA	Yes	No	Yes
Oracle Solaris 11 (x64)	NA	NA	NA	NA	NA	NA	Yes	No	Yes
Oracle Linux 4 (x64)	No	NA	NA	No	NA	NA	Yes	Yes	Yes
Oracle Linux 5 (x64)	No	NA	NA	No	NA	NA	Yes	Yes	Yes
Oracle Linux 6 (x64)	No	NA	NA	No	NA	NA	Yes	Yes	Yes
Oracle Linux 7 (x64)	No	NA	NA	NA	NA	NA	Yes	Yes	Yes
Oracle Linux 5 on Exadata 2, 3, 4 (x64)	No	NA	NA	No	NA	NA	Yes	Yes	Yes
Oracle Linux 5.5 on Exadata 3, 4 (x64)	No	NA	NA	No	NA	NA	Yes	Yes	Yes
Oracle Linux 6.6 on Exadata 5 (x64)	No	NA	NA	No	NA	NA	Yes	Yes	Yes
RHEL 4 (x64)	Yes	Yes	NA	NA	NA	NA	Yes	Yes	Yes
RHEL 5 (x64)	Yes	Yes	NA	NA	NA	NA	Yes	Yes	Yes
RHEL 6 (x64)	Yes	Yes	NA	Yes	NA	NA	Yes	Yes	Yes
RHEL 7 (x64)	Yes	Yes	NA	Yes	NA	NA	Yes	Yes	Yes
SuSE SLES9 (x64)	Yes	Yes	NA	NA	Yes	NA	NA	Yes	NA
SuSE SLES10 (x64)	Yes	Yes	NA	NA	Yes	Yes (SP3)	Yes	Yes	Yes
SuSE SLES11 (x64)	Yes	Yes	NA	Yes	Yes	Yes (SP1)	Yes	Yes	Yes
SuSE SLES12 (x64)*	Yes	Yes	NA	NA	Yes	NA	Yes	Yes	Yes
Windows 2003 (x64)	NA	NA	Yes	NA	NA	NA	Yes	No	Yes
Windows 2008 (x64)	NA	NA	Yes	No	NA	NA	Yes	No	Yes
Windows Server 2012	NA	NA	Yes	No	NA	NA	Yes	No	Yes
Windows Server 2012R2	NA	NA	Yes	No	NA	NA	Yes	No	Yes

\* At the time of this writing, Oracle's published documentation did not indicate support of SuSE SLES12. Basic testing of SharePlex has been done on SuSE SLES12. Quest will provide best effort support but cannot resolve specific Oracle issues on this platform until Oracle adds official support.

\*\* SharePlex supports all implementations of the PostgreSQL open source object-relational database system, with the following exception: EDB Postgres Advanced Server version 10 is not supported by SharePlex.

## Supported data types — Oracle to Oracle

SharePlex supports the following Oracle data types for replication to Oracle targets. See the [Conditions of support](#) on page 25 for additional information.

- ANYDATA <sup>1</sup>
- B-FILE
- BINARY DOUBLE
- BINARY FLOAT
- BLOB <sup>2</sup>
- CHAR
- CLOB <sup>2</sup>
- DATE
- INTERVAL
- LONG RAW<sup>2</sup>
- LONG <sup>2</sup>
- NCHAR
- NCLOB <sup>3</sup>
- NUMBER
- NVARCHAR<sup>25</sup>
- RAW<sup>5</sup>
- ROWID
- SDO\_GEOMETRY
- TIMESTAMP
- TIMESTAMP WITH LOCAL TIME ZONE
- TIMESTAMP WITH TIME ZONE
- UDT (User Defined Type)<sup>6</sup>
- VARCHAR
- VARCHAR<sup>25</sup>
- VARRAY collectors
- XMLTYPE <sup>4</sup>



# 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 datatypes within ANYDATA are supported by SharePlex:
  - CHAR
  - DATE
  - NUMBER
  - RAW
  - VARCHAR
  - VARCHAR2
  - TIMESTAMP
- A datatype within an ANYDATA type must be in-row (inside the column data). Oracle encapsulates the ANYDATA type as an in-row securefile 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 SecureFile LOBs as follows:
  - Logging must be enabled.
  - SharePlex supports uncompressed SecureFile LOBS and SecureFile LOBS with high or medium compression
  - SecureFile LOBS are not supported when the storage specification includes encryption and/or deduplication.
- SharePlex does not support LONG and LONG\_RAW datatypes 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. Conditions of support - 12c Extended datatypes

With the introduction of Extended Data Types, Oracle 12c provides the option to increase the maximum sizes of the following data types:

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

SharePlex does not support the 12c Extended Data Type sizes. SharePlex supports the affected data types, but only up to the former 4000-byte limit for VARCHAR2 and NVARCHAR2 and up to the former 2000-byte limit for RAW — regardless of the character semantics used. Therefore, the total number of *characters* that are supported depends on the character set that is being used. For example, if your character set can reach 4 bytes per character (the limit is based on the potential, not actual, size of the data) then the maximum supported VARCHAR2 is 1000 characters.

## 6. User-defined types

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

## 7. Conditions of support - general

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

# Supported data types — Oracle to Open Target

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 that SharePlex supports.

- (Column 1) Shows the Oracle data types that SharePlex can replicate to an Open Target target type.
- (Column 2) Shows the native data types that SharePlex supports for each target type.
- (Rows spanning Column 1-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. You can change the default mapping with the **set datatype** option of the **target** command, with the understanding that you become responsible for ensuring data compatibility. For more information, see the target command documentation in the SharePlex [Reference Guide](#).

## 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\_job** 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. For more information about ensuring data compatibility, see the SharePlex [Administration Guide](#).
- 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.
- See [Supported data types — Oracle to Oracle](#) on page 24 for additional conditions of support for Oracle source data types.

## Oracle to HANA supported data types

Oracle	HANA
BINARY_DOUBLE	double
BINARY_FLOAT	double
BLOB	blob
CHAR	char
CLOB	clob
DATE	date
LONG	clob
LONGRAW	blob
NCHAR	nchar
NCLOB	nclob
NUMBER	decimal
NVARCHAR	nvarchar
RAW	varbinary
TIMESTAMP	timestamp
VARCHAR/VARCHAR2	varchar

### Conditions of support

See [Supported data types — Oracle to Oracle](#) on page 24 for additional conditions of support for Oracle source data types.

## Oracle to MySQL supported data types

Oracle	MySQL
BINARY_DOUBLE <sup>1</sup>	double
BINARY_FLOAT	double
BLOB	longblob
CHAR	char
CLOB	longtext
DATE	datetime
LONG	text
LONGRAW	blob
NUMBER	numeric
RAW	varbinary
TIMESTAMP <sup>2</sup>	datetime
VARCHAR2	varchar

### 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.
3. See [Supported data types — Oracle to Oracle](#) on page 24 for additional conditions of support for Oracle source data types.

## Oracle to PostgreSQL supported data types

Oracle	PostgreSQL
BINARY_DOUBLE	double precision
BINARY_FLOAT <sup>1</sup>	double precision
CHAR	char
CLOB	text
DATE	date
LONG	text

Oracle	PostgreSQL
NCHAR	char
NCLOB	text
NUMBER	numeric
NVARCHAR	varchar
TIMESTAMP	timestamp
VARCHAR2	varchar

### Conditions of support

1. The Oracle BINARY\_FLOAT and PostgreSQL double precision data types have different precision. Make certain the source and target lengths are compatible. Numbers of 1880197350000000000 or larger can result in out-of-sync errors.
2. See [Supported data types — Oracle to Oracle](#) on page 24 for additional conditions of support for Oracle source data types.

## Oracle to SAP ASE supported data types

Oracle	SAP ASE
BINARY_DOUBLE	float
BINARY_FLOAT	float
BLOB	image
CHAR	char
CLOB	text
DATE	datetime
LONG	text
LONGRAW	image
NUMBER	numeric
RAW	varbinary
VARCHAR2	varchar

### Conditions of support

See [Supported data types — Oracle to Oracle](#) on page 24 for additional conditions of support for Oracle source data types.

## Oracle to SQL Server supported data types

Oracle	SQL Server
ANYDATA	sql_variant
BINARY_DOUBLE	float
BINARY_FLOAT	float
BLOB	image
CHAR	char
CLOB	text
DATE	datetime2
LONG	text
LONGRAW	image
NCHAR	nchar
NCLOB	ntext
NUMBER	numeric
NVARCHAR	nvarchar
RAW	varbinary
TIMESTAMP WITH TIME ZONE	datetimeoffset
TIMESTAMP	datetime2
VARCHAR2	varchar

### Conditions of support

See [Supported data types — Oracle to Oracle](#) on page 24 for additional conditions of support for Oracle source data types.

## Oracle to Sybase supported data types

Oracle	Sybase
BINARY_DOUBLE	float
BINARY_FLOAT	float
BLOB	image
CHAR	char
CLOB	text
DATE	datetime

Oracle	Sybase
LONG	text
LONGRAW	image
NUMBER	numeric
RAW	varbinary
VARCHAR2	varchar

#### Conditions of support

See [Supported data types — Oracle to Oracle](#) on page 24 for additional conditions of support for Oracle source data types.

## Oracle to Teradata supported data types

Oracle	Teradata
CHAR	char
DATE	timestamp
NUMBER	number
VARCHAR/VARCHAR2	varchar

#### Conditions of support

See [Supported data types — Oracle to Oracle](#) on page 24 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

Oracle	XML
BLOB	base64Binary
CHAR	string
CLOB	string
DATE	dateTime
BINARY_FLOAT	decimal
BINARY_DOUBLE	decimal

Oracle	XML
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 TIME ZONE	dateTimeStamp
TIMESTAMP WITH LOCAL TIME ZONE	dateTimeStamp
VARCHAR2	string
VARRAY <sup>1</sup>	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](#) on page 24 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.

### NOTES:



- Replication of DML 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 Database section of the Preinstallation Checklist.
- SharePlex only replicates DML changes that are made to Oracle source objects that are listed in the configuration file.
- SharePlex replicates DML changes only when they are logged in the Oracle redo log files.

## 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 all of the column types that are being replicated from the source Oracle table.

SharePlex supports the following table types for DML operations:

Table type*	Conditions of Support
Regular Oracle tables	None
Index-organized tables	SharePlex <b>does not</b> support: <ul style="list-style-type: none"> <li>• Replication to/from index-organized tables that contain LOB or VARRAY columns</li> <li>• Replication from a non-index-organized table to an index-organized table</li> <li>• SharePlex horizontal partitioning of index-organized tables</li> </ul>
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

## 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 follows:

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) <sup>1</sup>	All target types except Oracle 11gR1
DML on Oracle Label Security (OLS) <sup>2</sup>	All target types
DML on compressed objects: Basic, OLTP, HCC <sup>3</sup>	All target types
Direct Load (DLOAD) on compressed objects: Basic, OLTP, HCC <sup>3</sup>	All target types

### 1. Conditions of support - TDE

SharePlex supports Tablespace Encryption and Column Encryption for Oracle 11g R2 and later versions, both source and target.

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

### 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/TRUNCATE, 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

Under certain conditions, Oracle does not provide enough information in the redo log for SharePlex to replicate a DML operation on a compressed object. Testing of 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, OLTP, and HCC compressed Oracle objects for replication to all Oracle and Open Target targets.

**SharePlex does not support:**

- ANALYZE TABLE and ANALYZE INDEX
- DDL operation performed by a SharePlex Oracle user, if SP\_OCT\_REPLICATE\_ALL\_DDL is set to 1
- DDL to ALTER TABLE ADD OVERFLOW to an IOT in replication

## Default DDL support for objects in replication

This section shows the default DDL support for objects that are *included in the active replication configuration* either explicitly or with a wildcard.

### Oracle-to-Oracle default DDL support

The default Oracle-to-Oracle DDL configuration is represented by the following parameter settings:

SP\_OCT\_REPLICATE\_DDL=3 and  
SP\_OCT\_AUTOADD\_ENABLE=1 and  
SP\_OCT\_REPLICATE\_ALL\_DDL=0

Supported object	Supported Operation	Controlling parameter 1, 2, 3
Table and IOT	Create table	SP_OCT_AUTOADD_ENABLE=1
	Create table as select <sup>4</sup>	SP_OCT_AUTOADD_ENABLE=1
	Drop table	SP_OCT_AUTOADD_ENABLE=1
	Truncate	SP_OCT_REPLICATE_DDL=3
	Alter (all options) <sup>5</sup>	SP_OCT_REPLICATE_DDL=3
	Comment on table and column	SP_OCT_REPLICATE_DDL=3
	Associate and Disassociate Statistics	SP_OCT_REPLICATE_DDL=3
Index	Create	SP_OCT_AUTOADD_ENABLE=1
	Alter	SP_OCT_AUTOADD_ENABLE=1
	Drop	SP_OCT_AUTOADD_ENABLE=1

### Conditions of support

1. **SP\_OCT\_REPLICATE\_DDL=3**: This is the default DDL support for objects that are listed in the active configuration. This setting replicates the following operations on objects in the active configuration:
  - ALTER TABLE
  - TRUNCATE TABLE
2. **SP\_OCT\_AUTOADD\_ENABLE=1**: Known as "Auto-Add," this parameter setting automatically adds an object to replication if the name satisfies a wildcard in the active replication configuration.
3. **REPLICATE\_ALL\_DDL**: This parameter controls whether DDL on objects outside the replication configuration are replicated. By default this is disabled.
4. 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.
5. 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.

## Oracle-to-Open Target default DDL support

This section shows the default DDL support for Oracle objects when replicated to an Open Target target and the objects are *included in the active replication configuration* either explicitly or with a wildcard.

SharePlex only supports replication of TRUNCATE TABLE and ALTER TABLE to ADD COLUMN or DROP COLUMN to an Open Target database, file, or message container. No other DDL is supported to Open Target.

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

```
SP_OCT_REPLICATE_DDL=3 and
SP_OCT_AUTOADD_ENABLE=1 and
SP_OCT_REPLICATE_ALL_DDL=0
```

Supported object	Supported Operation
Table and IOT	Truncate <sup>1</sup>
	Alter table add column <sup>2</sup>
	Alter table drop column

### 1. Conditions of support - TRUNCATE TABLE

TRUNCATE TABLE is not supported from Oracle compressed objects to Open Target targets.

### 2. Conditions of support - data type mappings

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 Target](#) on page 26. When SharePlex adds the column, it defines it with the default data type. This mapping applies to the entire configuration (not per table).

## Optional DDL support for objects in replication

### Valid only for Oracle-to\_Oracle replication

You can enable the replication of the following DDL with parameter settings *when it is issued on objects that are in the configuration file*.

DDL command	Parameter
CREATE / DROP TRIGGER	SP_OCT_REPLICATE_TRIGGER=1
CREATE / DROP SYNONYM	SP_OCT_REPLICATE_SYNONYM=1
GRANT <sup>1</sup>	SP_OCT_REPLICATE_GRANT=1

### 1. Conditions of support - GRANT

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.

# Optional Auto-Add support for objects in replication

## Valid only for Oracle-to\_Oracle replication

Optional Auto-Add support automatically adds newly created Oracle **materialized views** and **sequences** to replication when the name of the object satisfies a wildcard *in the active configuration file*. It is configured as follows:

### Materialized Views:

SP\_OCT\_AUTOADD\_ENABLE=1 and  
SP\_OCT\_AUTOADD\_MV=1 and  
SP\_SYS\_TARGET\_COMPATIBILITY=8.6.2 or higher

### Sequences:

SP\_OCT\_AUTOADD\_ENABLE=1 and  
SP\_OCT\_AUTOADD\_SEQ=1 and  
SP\_SYS\_TARGET\_COMPATIBILITY=8.6.3 or higher

## NOTES:

- For CREATE MATERIALIZED VIEW, 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. SharePlex does not support ALTER MATERIALIZED VIEW.
- SharePlex does not replicate materialized views to materialized views. 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.
- 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.

# Expanded DDL support for objects not in replication

## Valid only for Oracle-to\_Oracle replication

Expanded DDL support applies to Oracle objects that are *not listed in the configuration file*. SharePlex replicates the DDL statements, but does not replicate any data change operations made to the objects because they are included in the active replication configuration. The expanded DDL configuration is controlled by 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.

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 <sup>1</sup>	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 <sup>1</sup>
	Revoke
Role	Create role
	Alter role
	Drop role
	Grant <sup>1</sup>
	Revoke

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

## Other non-supported Oracle features

This is a list of commonly used Oracle features that are not listed elsewhere which SharePlex does not replicate. 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, <b>dbms_shared_pool.keep</b> 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_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: <ol style="list-style-type: none"> <li>1. <a href="#">Remove source objects from replication</a></li> <li>2. Perform the flashback</li> <li>3. <a href="#">Add or change objects in an active configuration</a></li> </ol>

## Supported/non-supported SharePlex features for Open Target

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
<b>reconcile</b> command (target instantiation)	X	
<b>compare/compare using</b> and <b>repair/repair using</b> commands		X
<b>copy/copy using</b> and <b>append/append using</b> commands		X
Hash horizontally partitioned replication		X
Column-based horizontally partitioned replication	X (except Teradata)	

SharePlex feature	Supported for Open Target	Not Supported for Open Target
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	
<b>auth_hosts</b> file	X	
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

# System Requirements — SQL Server Capture

This chapter contains the requirements for capture from a SQL Server source database and replication to supported targets.

SharePlex support for SQL Server as a target is documented in [Set up replication from Oracle to SQL Server](#) on page 1.

## Supported versions and targets

The following matrix shows the source-to-target combinations that SharePlex supports. Each row in the table represents replication from the stated source to the stated target.

Source				Target			
Database	Cloud	On-prem	OS platform	Database	Cloud	On-prem	OS platform
SQL Server 2008 R2		X	Windows	SQL Server 2016		X	Windows
SQL Server 2012 (11.2.2100)		X	Windows Server 2012	SQL Server 2012 (11.2.2100)		X	Windows Server 2012
SQL Server 2012 (11.2.2100)		X	Windows Server 2012	SQL Server 2012 (11.2.2100)	X(Azure PaaS)		
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	Oracle 12c (12.1.0.1)		X	Windows Server 2012
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	Oracle 12c (12.1.0.1)		X	Linux RHEL 6.6

Source				Target			
Database	Cloud	On-prem	OS platform	Database	Cloud	On-prem	OS platform
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	Oracle 12c (12.1.0.2)		X	Linux RHEL 6.6
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	Oracle 11gR2 (11.2.0.3)		X	Windows Server 2012 R2
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	Oracle 11gR2 (11.2.0.3)		X	Linux RHEL 6.2
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	Oracle 11gR2 (11.2.0.3)		X	Linux RHEL 6.6
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	Oracle 11gR2 (11.2.0.3)		X	Linux RHEL 7.3
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	Oracle 12C (12.1.0.1)	X	X	Sprac Solaris 10
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	Oracle 12C (12.1.0.2)	X	X	Intel Solaris 11.2
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	Oracle 11gR2 (11.2.0.3)		X	AIX 6.1
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	Oracle 11gR2 (11.2.0.3)		X	HP-UX 11.31
SQL Server 2012 (11.2.2000)		X	Windows Server 2012 R2	SQL Server 2012 (11.2.2100)	X(Azure IaaS)		Windows Serer 2012 R2
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	SQL Server 2014 (12.0.2000)	X(Azure IaaS)		Windows Server 2012 R2
SQL Server 2016 (13.0.1601.5)		X	Windows Server 2012 R2	SQL Server 2016 (13.0.1601.5)		X	Windows Server 2012 R2

Source				Target			
Database	Cloud	On-prem	OS platform	Database	Cloud	On-prem	OS platform
SQL Server 2016 (13.0.1601.5)		X	Windows Server 2012 R2	SQL Server 2016 (13.0.1601.5)	X(Azure IaaS)		Windows Server 2012 R2
SQL Server 2014 (12.0.2000)		X	Windows Server 2012 R2	SQL Server 2014 (12.0.2000)	X(Azure PaaS)		
SQL Server 2014		Yes	Windows 2012 R2	Kafka 0.10		Yes	
SQL Server 2016		Yes	Windows 2012 R2	Aurora PostgreSQL 9.6	Yes		
SQL Server 2016		Yes	Windows 2012 R2	1. PostgreSQL 9.6 2. PostgreSQL 10.0*		Yes	1. Linux 7.2 2. Windows 2012R2
SQL Server 2016		Yes	Windows 2012 R2	MySQL 5.7		Yes	1. Linux 7.2

\*NOTE: EDB Postgres Advanced Server version 10 is not supported by SharePlex.

## Conditions of support

This section shows the limitations of capturing from a SQL Server source.

- SQL Server native replication and SharePlex replication cannot be used at the same time for the same database.
- All SQL Server tables in the SharePlex replication configuration must be defined in the database with a primary key. A SharePlex key definition is not sufficient, nor can SharePlex use all columns as a key. You can use SharePlex filtering features in the configuration file to omit tables that do not have a primary key.
- A transaction must COMMIT to the SQL Server source before it can be captured by SharePlex.
- Replication between tables in same database is not supported. Replication between tables in different databases in the same or another SQL Server instance is supported.

## Supported operations

- SharePlex supports only DML replication from SQL Server to any of the supported targets.
- SharePlex does not support the replication of SQL Server DDL operations.

The DML operations supported are: INSERT, UPDATE, and DELETE operations between SQL Server source tables and supported target tables that contain supported column types.

**NOTES:**

SharePlex only replicates DML changes that are made to SQL Server source objects that are listed in the configuration file.

SharePlex requires SQL Server Replication to be installed on the source system. See the *SharePlex Installation Guide* for more information.

## Supported data types — SQL Server to SQL Server

SharePlex supports DML operations between SQL Server databases that contain the following SQL Server data types:

- bigint
- binary
- bit
- char
- date
- datetime
- datetime2
- datetimeoffset
- decimal
- float
- identity
- image
- integer
- money
- nchar
- ntext
- numeric
- nvarchar
- nvarchar(max)
- real
- smalldatetime
- smallint
- text
- time

- tinyint
- uniqueidentifier
- varbinary
- varbinary(max)
- varchar
- varchar(max)

## Supported data types — SQL Server to Open Target

The following tables show the supported data type mappings between a SQL Server source and a given Open Target database. These are the mappings that have been tested and are known to be successful across a variety of use cases. Mapping to unsupported data types may succeed but have not been tested.

### SQL Server to MySQL supported data types

SQL Server	MySQL	Notes
binary (length <= 255)	binary	
binary (length > 255)	longblob	
char (length <= 255)	char	
char (length > 255)	longtext	
date	date	
datetime	datetime	
datetime2	datetime	MySQL datetime supports up to 6 fractional digits, whereas SQL Server datetime2 supports up to 7 fractional digits.
decimal	decimal	
float	float	
image	longblob	
identity	auto_increment	
integer	integer	

SQL Server	MySQL	Notes
nchar (length <= 255)	nchar	
nchar (length > 255)	longtext (utf8)	The character set of the target longtext column must be utf8.
ntext	longtext (utf8)	The character set of the target longtext column must be utf8.
numeric	numeric	
nvarchar	varchar	The effective maximum length of a VARCHAR is subject to the maximum row size (65,535 bytes, which is shared among all columns) and the character set used.
nvarchar(max)	longtext (utf8)	The character set of the target longtext column must be utf8.
real	float	
smalldatetime	datetime	
smallint	smallint	
text	longtext	
time	time	
tinyint	tinyint	
varbinary	varbinary	
varbinary(max)	longblob	
varchar	varchar	The effective maximum length of a VARCHAR is subject to the maximum row size (65,535 bytes, which is shared among all columns) and the character set used.
varchar(max)	longtext	

## SQL Server to PostgreSQL supported data types

SQL Server*	PostgreSQL
bit	boolean
char	char
date	date



SQL Server*	PostgreSQL
datetime	timestamp(3)
datetime2	timestamp
datetimeoffset	timestamp with timezone
float	double precision
image	bytea
integer	integer
nchar	char
ntext	text
numeric	numeric
nvarchar	varchar
nvarchar(max)	text
real	real
smalldatetime	timestamp(0)
smallint	smallint
text	text
time	time
tinyint	smallint
varbinary	bytea
varbinary(max)	bytea
varchar	varchar
varchar(max)	text

\***NOTE:** EDB Postgres Advanced Server version 10 is not supported by SharePlex.

## SQL Server to XML

SQL Server	XML
int	decimal
numeric	decimal
smallint	decimal
tinyint	decimal
float	decimal

SQL Server	XML
real	decimal
date	dateTime
datetime	dateTime
datetime2	dateTime
datetimeoffset	dateTimeStamp
smalldatetime	dateTime
time	dateTime
char	string
nchar	string
text	coob
ntext	clob
nvarchar	string
binary	base64Binary
varbinary	base64Binary
image long	base64Binary

## Supported SharePlex features

The following table shows whether or not SharePlex features are supported when SQL Server is the source.

SharePlex feature	Supported with Oracle Target	Supported with OpenTarget
Replication from SQL Server tables to any target where the version of SharePlex is earlier than 9.0.	No	No
Auto-add of new tables that satisfy a wildcard	No	No
<b>flush</b> command	Yes	Yes
<b>reconcile</b> command (target instantiation)	Yes	Yes
<b>compare/compare using</b> and <b>repair/repair using</b> commands	No	No
<b>copy/copy using</b> and <b>append/append using</b> commands	No	No

SharePlex feature	Supported with Oracle Target	Supported with OpenTarget
Hash horizontally partitioned replication	No	No
Column-based horizontally partitioned replication	No	No
Vertically partitioned replication	Yes	Yes
Column mapping	Yes	Yes
Key definition (SQL Server tables must have a defined key)	No	No
Build configuration with scripts	No	No
Named queues	Yes	Yes
Post Enhanced Performance	No	No
Transformation	Yes	No
Conflict resolution	Yes	No
Peer-to-peer replication (bi-directional)	No	No
Consolidated replication (many to one)	Yes	Yes
Broadcast replication (one to many)	Yes	Yes
Cascading replication (source-intermediary-target)	Yes	Yes
High availability replication (active/passive bi-directional)	No	No
Change history target (CDC)	Yes	No
Data encryption	No	No
Data compression	No	No
SSH	No	No
<b>auth_hosts</b> file	No	No
Monitoring scripts	No	No
SNMP monitoring	No	No
Continue posting on error (SP_OPX_CONT_ON_ERR)	Yes	Yes
Suspend on out of sync errors (SP_OPX_OUT_OF_SYNC_SUSPEND)	Yes	Yes
Reduced key (SP_OPX_REDUCED_KEY)	Yes	Yes
<b>sp_ctrl</b> commands	See the command documentation in the Reference Guide.	See the command documentation in the Reference Guide.
Logical Transaction Rollback on out-of-sync transactions	Yes	No

# 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.

## SQL Server capture known issue

If the source SQL Server version is 2012 and below, SharePlex will re-capture transactions that were already been processed if SharePlex is shut down ungracefully, either intentionally with a kill command or due to system failure. This results in double-posting on the target and resultant unique-constraint errors. To avoid these errors, always shut down SharePlex gracefully with the shutdown command in `sp_ctrl` before you shut down or reboot a system.

## General known issues

Known Issue	Issue ID
The reported core file was not generated on systems running Oracle 11g on the SunOS, AIX, HP-UX (PA-RISC and IA64), and Linux platforms.	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

## Install Upgrade known issues

Known Issue	Issue ID
A memory fault (core dump) was encountered during the "Setting file ownerships" section of the SharePlex installation on HP-UX PA-RISC.	71355

## 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

Known Issue	Issue ID
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

## 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 &amp;</pre>	N/A

## Character Sets known issues

Known Issue	Issue ID
Avoid replicating NCHAR datatypes 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	35198

Known Issue	Issue ID
-------------	----------

machine set to UTF8, you will get the following Oracle error message on the target, since it needs 3000 bytes:

```
ORA-01461 can bind a LONG value only for insert into a LONG column
```

### 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

### 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

### Vertical and Horizontal Partitioning known issues

Known Issue	Issue ID
-------------	----------

When using horizontal partition replication with DATE datatype in the column condition, the DATE needs to follow the SP date string format, 'MMDDSYYYHH24MISS'. 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 platforms.	29650

## 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

## 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

## ora\_cleansp known issues

Known Issue	Issue ID
On HP-Itanium systems, you might see the following warning when running ora_cleansp: Warning: Ignoring setuid/setgid bit on "./ora_cleansp" as the system tunable "secure_sid_scripts" is set. This occurs when ora_cleansp is run by a user who is not the owner of ora_cleansp and when secure_sid_scripts, a system tunable parameter, is set. This condition is harmless to ora_cleansp and you should ignore the warning.	NA

## 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

## Hybrid Columnar Compression known issues

Known Issue	Issue ID
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: sysctl -w kernel.core_pattern=core. 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	SPO-1368



Known Issue	Issue ID
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.	
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
There is a known issue with INSERT DIRECT LOAD VALUES (IDLV) in Oracle 11g that prevents the reading or modification of an object after modifying it in parallel. Oracle has provided three (3) solutions for addressing this issue. They can be found in the Oracle update of SR6849411.993 dated 05-07-2008. This issue was fixed by Oracle in 11gR2	53701
Oracle versions 10.2.0.1 through 11.1.0.6 on AIX 5.3 (64 bit), members of SharePlex Admin group, other than the installation user, cannot run ora_setup or start SharePlex. This is an Oracle issue. Please refer to Oracle Bug# 6800649 and apply Patch 6800649.	59258
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, 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.	92152
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

# Licensing

The current license model for SharePlex is to license for a specific host, which depending on edition is licensed by core(s) or socket(s) and specific message repository (i.e. database, JMS/text files) etc. Specifics of license terms should be obtained from your account manager.

## ***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.

# Third Party Contributions in this release

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>.

**Table 1: List of Third-Party Contributions**

Component	License or Acknowledgment
ActiveMQ-CPP 3	<p>Apache License Version 2.0, January 2004 <a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a></p> <p>Apache License Version 2.0, January 2004 <a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a></p> <p>TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION</p> <p>1. Definitions.</p> <p>"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.</p> <p>"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.</p> <p>"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.</p> <p>"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.</p> <p>"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.</p> <p>"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.</p> <p>"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is</p>

included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

- (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and
- (b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions.

Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage,

computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

- Apache Commons Cli 1.2 Apache License  
Version 2.0, January 2004
- Apache Commons IO 2.4 <http://www.apache.org/licenses/>  
TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION
- Apache Commons Collections 3.2.1 1. Definitions.  
"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.  
"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.  
"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.  
"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.  
"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.  
"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.  
"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).  
"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.
- Apache Commons Lang 3.1

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative

Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions.

Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend,



and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

Apache Portable Runtime  
(APR) 1.3.9

Apache License Version 2.0,

January 2004

<http://www.apache.org/licenses/>

Apache License

Version 2.0, January 2004

<http://www.apache.org/licenses/>

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes

of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the

Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions.

Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

Berkeley DB 8.6  
BSD 4.4

Copyright 1979, 1980, 1983, 1986, 1988, 1989, 1991, 1992, 1993, 1994 The Regents of the University of California. All rights reserved.

bzip2 1.0.6	<p>The full text of the license may be found on our website at <a href="https://www.quest.com/legal/third-party-licenses.aspx">https://www.quest.com/legal/third-party-licenses.aspx</a>.</p> <p>Copyright 2010 Julian R Seward. All rights reserved.</p> <p>The full text of the license may be found on our website at <a href="https://www.quest.com/legal/third-party-licenses.aspx">https://www.quest.com/legal/third-party-licenses.aspx</a>.</p>
Eclipse RCP 4.2 (Juno)	<p>License: Eclipse 1.0</p> <p>The full text of the license may be found on our website at <a href="https://www.quest.com/legal/third-party-licenses.aspx">https://www.quest.com/legal/third-party-licenses.aspx</a>.</p> <p>The source code for this component may be found on our website at <a href="https://opensource.quest.com/">https://opensource.quest.com/</a>.</p>
gdb 7.6.1	<p>The source code for this component may be found on the SharePlex AMI image in the /home/ec2-user/src directory.</p> <p>License Agreement for: GNU LGPL  GNU LESSER GENERAL PUBLIC LICENSE  Version 3, 29 June 2007  Copyright (C) 2007 Free Software Foundation, Inc. &lt;<a href="http://fsf.org/">http://fsf.org/</a>&gt;  Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.</p> <p>This version of the GNU Lesser General Public License incorporates the terms and conditions of version 3 of the GNU General Public License, supplemented by the additional permissions listed below.</p> <p>0. Additional Definitions.</p> <p>As used herein, “this License” refers to version 3 of the GNU Lesser General Public License, and the “GNU GPL” refers to version 3 of the GNU General Public License.</p> <p>“The Library” refers to a covered work governed by this License, other than an Application or a Combined Work as defined below.</p> <p>An “Application” is any work that makes use of an interface provided by the Library, but which is not otherwise based on the Library. Defining a subclass of a class defined by the Library is deemed a mode of using an interface provided by the Library.</p> <p>A “Combined Work” is a work produced by combining or linking an Application with the Library. The particular version of the Library with which the Combined Work was made is also called the “Linked Version”.</p> <p>The “Minimal Corresponding Source” for a Combined Work means the Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.</p> <p>The “Corresponding Application Code” for a Combined Work means the object code and/or source code for the Application, including any data and</p>

utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

#### 1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL.

#### 2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.

#### 3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the object code with a copy of the GNU GPL and this license document.

#### 4. Combined Works.

You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the Combined Work with a copy of the GNU GPL and this license document.

c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.

d) Do one of the following:

0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.

1) Use a suitable shared library mechanism for linking with the Library. A

suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.

e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)

#### 5. Combined Libraries.

You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

#### 6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

GNU standard C++ class  
library 3

GNU General Public License with runtime exception

Version 2, June 1991

Copyright 1989, 1991 Free Software Foundation, Inc.

51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

#### GNU GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by

this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- a. You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
- b. You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
- c. If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or



collective works based on the Program.

Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
  - a. Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
  - b. Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
  - c. Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by

law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.
7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

As a special exception, you may use this file as part of a free software library without restriction. Specifically, if other files instantiate templates or use macros or inline functions from this file, or you compile this file and link it with other files to produce an executable, this file does not by itself cause the resulting executable to be covered by the GNU General Public License. This exception does not however invalidate any other reasons why the executable file might be covered by the GNU General Public License.

END OF TERMS AND CONDITIONS

ICU4C 51.2

ICU License - ICU 1.8.1 and later

## COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1995-2008 International Business Machines Corporation and others

All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, provided that the above copyright notice(s) and this permission notice appear in all copies of the Software and that both the above copyright notice(s) and this permission notice appear in supporting documentation.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.

Java 1.6.0

All copyright and legal notices are within the code.

ksh 20120801(Korn Shell)

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

Licensed under Eclipse Public License - v 2.0

THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS ECLIPSE PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

### 1. DEFINITIONS

"Contribution" means:

a) in the case of the initial Contributor, the initial content Distributed under this Agreement, and

b) in the case of each subsequent Contributor:

i) changes to the Program, and

ii) additions to the Program;

where such changes and/or additions to the Program originate from and are Distributed by that particular Contributor. A Contribution "originates" from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf.

Contributions do not include changes or additions to the Program that are not Modified Works.

"Contributor" means any person or entity that Distributes the Program.

"Licensed Patents" mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Program" means the Contributions Distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement or any Secondary License (as applicable), including Contributors.

"Derivative Works" shall mean any work, whether in Source Code or other form, that is based on (or derived from) the Program and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship.

"Modified Works" shall mean any work in Source Code or other form that results from an addition to, deletion from, or modification of the contents of the Program, including, for purposes of clarity any new file in Source Code form that contains any contents of the Program. Modified Works shall not include works that contain only declarations, interfaces, types, classes, structures, or files of the Program solely in each case in order to link to, bind by name, or subclass the Program or Modified Works thereof.

"Distribute" means the acts of a) distributing or b) making available in any manner that enables the transfer of a copy.

"Source Code" means the form of a Program preferred for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Secondary License" means either the GNU General Public License, Version 2.0, or any later versions of that license, including any exceptions or additional permissions as identified by the initial Contributor.

## 2. GRANT OF RIGHTS

a) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, Distribute and sublicense the Contribution of such Contributor, if any, and such Derivative Works.

b) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in Source Code or other form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.

c) Recipient understands that although each Contributor grants the licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights

and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to Distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.

d) Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant the copyright license set forth in this Agreement.

e) Notwithstanding the terms of any Secondary License, no Contributor makes additional grants to any Recipient (other than those set forth in this Agreement) as a result of such Recipient's receipt of the Program under the terms of a Secondary License (if permitted under the terms of Section 3).

### 3. REQUIREMENTS

3.1 If a Contributor Distributes the Program in any form, then:

a) the Program must also be made available as Source Code, in accordance with section 3.2, and the Contributor must accompany the Program with a statement that the Source Code for the Program is available under this Agreement, and informs Recipients how to obtain it in a reasonable manner on or through a medium customarily used for software exchange; and

b) the Contributor may Distribute the Program under a license different than this Agreement, provided that such license:

i) effectively disclaims on behalf of all other Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;

ii) effectively excludes on behalf of all other Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;

iii) does not attempt to limit or alter the recipients' rights in the Source Code under section 3.2; and

iv) requires any subsequent distribution of the Program by any party to be under a license that satisfies the requirements of this section 3.

3.2 When the Program is Distributed as Source Code:

a) it must be made available under this Agreement, or if the Program (i) is combined with other material in a separate file or files made available under a Secondary License, and (ii) the initial Contributor attached to the Source Code the notice described in Exhibit A of this Agreement, then the Program may be made available under the terms of such Secondary Licenses, and b) a copy of this Agreement must be included with each copy of the Program.

3.3 Contributors may not remove or alter any copyright, patent, trademark, attribution notices, disclaimers of warranty, or limitations of liability ("notices") contained within the Program from any copy of the Program which they Distribute, provided that Contributors may add their own appropriate notices.

### 4. COMMERCIAL DISTRIBUTION

Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who

includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense. For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

5. NO WARRANTY EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE PROGRAM IS PROVIDED ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Each Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement, including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

#### 6. DISCLAIMER OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

#### 7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable

law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable. If Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. The Eclipse Foundation is the initial Agreement Steward. The Eclipse Foundation may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be Distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to Distribute the Program (including its Contributions) under the new version.

Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel or otherwise. All rights in the Program not expressly granted under this Agreement are reserved. Nothing in this Agreement is intended to be enforceable by any entity that is not a Contributor or Recipient.

No third-party beneficiary rights are created under this Agreement.

Exhibit A - Form of Secondary Licenses Notice

"This Source Code may also be made available under the following Secondary Licenses when the conditions for such availability set forth in the Eclipse Public License, v. 2.0 are satisfied: {name license(s), version(s), and exceptions or additional permissions here}." Simply including a copy of this Agreement, including this Exhibit A is not sufficient to license the Source Code under Secondary Licenses. If it is not possible or desirable to put the notice in a particular file, then You may include the notice in a location (such as a LICENSE file in a relevant directory) where a recipient would be likely to look for such a notice. You may add additional accurate notices of copyright ownership.

libaio

Licensed under GNU Lesser General Public License Version 2.1.



	<p>The full text of the license may be found on our website at <a href="https://www.quest.com/legal/third-party-licenses.aspx">https://www.quest.com/legal/third-party-licenses.aspx</a>.</p> <p>The source code for this component may be found on the SharePlex AMI image in the /home/ec2-user/src directory.</p>
librdkafka 0.9.2	<p>Copyright 2012-2015 Magnus Edenhill. All rights reserved.</p> <p>Copyright 2006-2012 Thomas Pircher.</p> <p>Copyright 2011 Intel Corporation. All Rights Reserved.</p> <p>Copyright 2012 Marcus Geelnard.</p> <p>Copyright 2013-2014 Evan Nemerson.</p> <p>Copyright 2002 Todd C. Miller .</p> <p>Copyright 2000 The NetBSD Foundation, Inc. All rights reserved.</p> <p>Copyright 1991 1993 The Regents of the University of California. All rights reserved.</p> <p>The full text of the license may be found on our website at <a href="https://www.quest.com/legal/third-party-licenses.aspx">https://www.quest.com/legal/third-party-licenses.aspx</a>.</p>
MKS Toolkit and NuTCRACKER 9	<p>On the Windows platform, SharePlex installs the MKS Toolkit® operating environment from Parametric Technology Corporation (PTC), formerly known as Mortice Kern Systems NuTCRACKER. This software enables SharePlex to be ported to all supported platforms in a uniform manner. Quest has an OEM agreement with PTC to use MKS Toolkit and there is no charge for this to SharePlex customers outside of the SharePlex license.</p>
Open SSL 0.9.8i	<p>This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<a href="http://www.openssl.org/">http://www.openssl.org/</a>).</p> <p>This product includes cryptographic software written by Eric Young (<a href="mailto:ey@cryptsoft.com">ey@cryptsoft.com</a>).</p> <p>This product includes software written by Tim Hudson (<a href="mailto:tjh@cryptsoft.com">tjh@cryptsoft.com</a>).</p> <p>The full text of the license may be found on our website at <a href="https://www.quest.com/legal/third-party-licenses.aspx">https://www.quest.com/legal/third-party-licenses.aspx</a>.</p>
Oracle Instant Client 11.2.0.2	<p>Redistribution of this component is not allowed.</p> <p>This component may contain open source components for which source code is available upon written request submitted to:</p> <p>Oracle America, Inc. 500 Oracle Parkway Redwood City, CA 94065</p>
Protobuf 3.2	<p>Copyright 2014, Google Inc. All rights reserved.</p> <p>Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:</p> <ul style="list-style-type: none"> <li>* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.</li> <li>* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.</li> <li>* Neither the name of Google Inc. nor the names of its contributors may be</li> </ul>

used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Code generated by the Protocol Buffer compiler is owned by the owner of the input file used when generating it. This code is not standalone and requires a support library to be linked with it. This support library is itself covered by the above license.

pugixml 1.2

Licensed under the MIT License. <http://sourceforge.net/projects/stemkit>  
The full text of the license may be found on our website at <https://www.quest.com/legal/third-party-licenses.aspx>.

Ruby 1.8.6

Licensed under the Ruby License. Copyright 2007 Yukihiro Matsumoto. Source was not modified. The original distribution can be found via the Ruby home page at <http://www.ruby-lang.org/en/>.

snakeyaml 1.11.0

Apache License

Version 2.0, January 2004

<http://www.apache.org/licenses/>

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and

configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in

Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions.

Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable

law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

STEMKIT-CPP 0.52

Licensed under the MIT License.

The full text of the license may be found on our website at <https://www.quest.com/legal/third-party-licenses.aspx>.

StompConnect 1.1.0

Apache License

Version 2.0, January 2004

<http://www.apache.org/licenses/>

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is

included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions.

Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or

losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

Tecla 1.6.1

<http://www.astro.caltech.edu/~mcs/tecla/> Copyright (c) 2000, 2001, 2002, 2003, 2004, 2012, 2014 by Martin C. Shepherd. All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, provided that the above copyright notice(s) and this permission notice appear in all copies of the Software and that both the above copyright notice(s) and this permission notice appear in supporting documentation. THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE. Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.

- TSC-BUILD 0.2
- TSC-TPM 0.2

Licensed under the BSD 4.4 License. <http://sourceforge.net/projects/tsc-tpm/> Copyright 1979, 1980, 1983, 1986, 1988, 1989, 1991, 1992, 1993, 1994 The Regents of the University of California. All rights reserved.

The full text of the license may be found on our website at <https://www.quest.com/legal/third-party-licenses.aspx>.

unixODBC 2.3.1

This component is governed by the GNU LGPL 2.1 license.

Copyright (C) 2007 Free Software Foundation, Inc. <<http://fsf.org/>>

The full text of the license may be found on our website at <https://www.quest.com/legal/third-party-licenses.aspx>.

The source code for this component may be found on our website at <https://opensource.quest.com/>.



yaml-cpp 0.3.0

Licensed under the MIT license.

Copyright 1987, 1988, 1995, 1996 by the Massachusetts Institute of Technology.

The full text of the license may be found on our website at <https://www.quest.com/legal/third-party-licenses.aspx>.

- zlib 1.2.7
- zlib 1.2.8

Portions copyright 1995-2012 Jean-loup Gailly and Mark Adler.

# About us

## We are more than just a name

We are on a quest to make your information technology work harder for you. That is why we build community-driven software solutions that help you spend less time on IT administration and more time on business innovation. We help you modernize your data center, get you to the cloud quicker and provide the expertise, security and accessibility you need to grow your data-driven business. Combined with Quest's invitation to the global community to be a part of its innovation, and our firm commitment to ensuring customer satisfaction, we continue to deliver solutions that have a real impact on our customers today and leave a legacy we are proud of. We are challenging the status quo by transforming into a new software company. And as your partner, we work tirelessly to make sure your information technology is designed for you and by you. This is our mission, and we are in this together. Welcome to a new Quest. You are invited to Join the Innovation™.

## 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.

## Contacting Quest

For sales or other inquiries, visit [www.quest.com/contact](http://www.quest.com/contact).

## Technical support resources

Technical support is available to Quest customers with a valid maintenance contract and customers who have trial versions. You can access the Quest Support Portal at <https://support.quest.com>.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request
- View Knowledge Base articles
- Sign up for product notifications
- Download software and technical documentation
- View how-to-videos

- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product

**© 2018 Quest Software Inc. ALL RIGHTS RESERVED.**

This guide contains proprietary information protected by copyright. The software described in this guide is furnished under a software license or nondisclosure agreement. This software may be used or copied only in accordance with the terms of the applicable agreement. No part of this guide may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording for any purpose other than the purchaser's personal use without the written permission of Quest Software Inc.

The information in this document is provided in connection with Quest Software products. No license, express or implied, by estoppel or otherwise, to any intellectual property right is granted by this document or in connection with the sale of Quest Software products. EXCEPT AS SET FORTH IN THE TERMS AND CONDITIONS AS SPECIFIED IN THE LICENSE AGREEMENT FOR THIS PRODUCT, QUEST SOFTWARE ASSUMES NO LIABILITY WHATSOEVER AND DISCLAIMS ANY EXPRESS, IMPLIED OR STATUTORY WARRANTY RELATING TO ITS PRODUCTS INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. IN NO EVENT SHALL QUEST SOFTWARE BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE, SPECIAL OR INCIDENTAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, BUSINESS INTERRUPTION OR LOSS OF INFORMATION) ARISING OUT OF THE USE OR INABILITY TO USE THIS DOCUMENT, EVEN IF QUEST SOFTWARE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Quest Software makes no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. Quest Software does not make any commitment to update the information contained in this document.

If you have any questions regarding your potential use of this material, contact:

Quest Software Inc.

Attn: LEGAL Dept

4 Polaris Way

Aliso Viejo, CA 92656

Refer to our Web site (<https://www.quest.com>) for regional and international office information.

**Patents**

Quest Software is proud of our advanced technology. Patents and pending patents may apply to this product. For the most current information about applicable patents for this product, please visit our website at <https://www.quest.com/legal>.

**Trademarks**

Quest, the Quest logo, SharePlex, and Join the Innovation are trademarks and registered trademarks of Quest Software Inc. For a complete list of Quest marks, visit <https://www.quest.com/legal/trademark-information.aspx>. All other trademarks and registered trademarks are property of their respective owners.

SharePlex Release Notes

Updated - 2/22/2018

Version - 9.1