

**Oracle® GoldenGate v10.4  
Release Notes**



Oracle GoldenGate for Windows and UNIX - Release Notes current to 10.4.0.19 build 1  
(September 18<sup>th</sup>, 2009)

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# Release Notes

## License Keys

The 'pw' file is no longer needed to use Oracle GoldenGate TDM. Once you have upgraded, you can safely remove this file from the installation directory.

## New Features in 10.4.0

### Database-specific enhancements

#### *DB2 LUW*

- Oracle GoldenGate now supports Data Partitioning Feature (DPF) for DB2 LUW 9.5 and later. The following limitations apply:
  - Oracle GoldenGate runs as autonomous entities on each node, so there will be no coordination between the capture streams. This means there is no coordination of data within transaction boundaries or commit ordering from source to target.
  - Oracle GoldenGate does not support truncates in a DPF environment.
  - Oracle GoldenGate does not support the redistribution of table data (when nodes are added or removed, for example). The assumption is that any given row will always stay in the same DB2 node.
- Oracle GoldenGate now supports Multi Dimensional Clustered Tables (MDC) for DB2 LUW 9.5 and later.
- Oracle GoldenGate now supports Materialized Query Tables. Oracle GoldenGate does not replicate the MQT itself, but only the base tables. The target database automatically maintains the content of the MQT based on the changes that are applied to the base tables by Replicat.

#### *DB2 z/OS*

A new SQLID option was added to DBLOGIN that issues the SQL command SET CURRENT SQLID = 'sqlid' after the USERID login (with PASSWORD, if applicable) is completed. If the SET command fails, the entire DBLOGIN command fails as a unit.

#### *c-tree*

None

#### *Oracle*

- Oracle GoldenGate now supports Oracle 10.2 running on zLinux SUSE on S/390. A new LOGSOURCE target of S390 has been added to TRANLOGOPTIONS.

- For Oracle versions 10g and later, you can now use a simple parameter statement instead of a trace table to prevent Replicat transactions from being captured in a bidirectional configuration. This enhancement eliminates the overhead of creating and writing to the trace table. The new EXCLUDEUSER and EXCLUDEUSERID options of TRANLOGOPTIONS support this enhancement. These options also can be used to exclude the work of other database users, and multiple instances of either parameter can be used. For more information, see the *Oracle GoldenGate for Windows and UNIX Reference Guide*. For Oracle versions 9i and earlier, the trace table is still required.
- Concurrent with the EXCLUDEUSER and EXCLUDEUSERID enhancements, @GETENV was enhanced with two new functions: @GETENV ("TRANSACTION", "USERID") returns the user-id for the Oracle user that issued the last committed transaction. @GETENV ("TRANSACTION", "USERNAME") returns the name of the Oracle user that issued the last committed transaction.
- Oracle GoldenGate now supports Oracle Spatial objects, object tables, and XMLType stored as a UDT. A new XMLBUFSIZE option to DBOPTIONS sets the size of the memory buffer that stores XML data that was extracted from the sys.xmltype field. The default is 1MB, the max is 10MB.
- Oracle GoldenGate now supports cluster tables.
- Oracle GoldenGate now supports the capture and replication of Oracle DDL statements of up to 2 MB in length (including some internal Oracle GoldenGate maintenance information). Extract will skip statements that are greater than the supported length, but a new ddl\_ddl2file.sql script can be used to save the skipped DDL to a text file in the USER\_DUMP\_DEST directory of Oracle. **NOTE** To use the new support, the DDL trigger must be reinstalled in INITIALSETUP mode, which removes all of the DDL history. Follow the procedure in “Restoring an existing DDL environment to a clean state” on page 62 of the Oracle GoldenGate for Oracle Installation and Setup Guide.
- A new INSERTAPPEND and NOINSERTAPPEND parameter set controls whether or not Replicat uses an APPEND hint when it applies inserts to Oracle target tables. INSERTAPPEND is appropriate for use as a performance improvement when the replicated transactions are large and contain multiple inserts into the same table. These parameters can be used in two ways: When used as standalone parameters at the root of the parameter file, one remains in effect for all subsequent TABLE or MAP statements, until the other is encountered. When used within a MAP statement, they override any standalone INSERTAPPEND or NOINSERTAPPEND entry that precedes the MAP statement.

- Schema name translation for DDL operations on objects of UNMAPPED scope was revised. When Oracle DDL is of UNMAPPED scope in the Replicat configuration, Replicat will set the current owner of the Replicat session to the owner of the source DDL object, then execute the DDL as that owner, then restore Replicat as the current owner of the Replicat session.

### ***SQL Server***

- Oracle GoldenGate now supports delivery to a SQL Server 2008 target. See the Oracle GoldenGate for SQL Server Installation and Setup Guide for more information.

### ***Sybase***

None

### ***NonStop SQL/MX***

None

### ***Teradata***

- Database name translation for DDL operations on objects of UNMAPPED scope was revised. When Teradata DDL is of UNMAPPED scope in the Replicat configuration, it is applied to the target in one of these ways:
  - If the required Replicat connection parameter TARGETDB contains just a DSN (as in tdtarg), but not a database name, it is applied to the target object with the same owner (database name) and object name as in the source DDL.
  - If a specific database name is used in TARGETDB (as in db@tdtarg), all of the DDL operations are applied to the target with the owner from TARGETDB.

## **Other enhancements**

### ***General***

- Oracle GoldenGate now supports the replication of DDL statements that contain a space before or after the owner and object names (or both before and after). For example, fin . customers.

### ***Column Conversion Functions***

- A new OSVARIABLE option of @GETENV returns the string value of a specified operating system environment variable. For example, @GETENV ("OSVARIABLE", "HOME") would return the value of the HOME variable. Because the function only returns an exact match, other variables that contain

“HOME,” such as ORACLE\_HOME, would not be returned. This option is valid for Extract and Replicat.

### ***Parameters***

- A new TRANSACTIONTIMEOUT parameter for Replicat limits the amount of time that Replicat will hold a target transaction open if it has not received the end-of-transaction record for the last source transaction in that grouped transaction. TRANSACTIONTIMEOUT helps prevent an uncommitted Replicat target transaction from holding locks on the target database and consuming its resources unnecessarily. You can change the value of this parameter so that Replicat can work within existing application timeouts and other database requirements on the target.
- A new GLOBALS parameter OUTPUTFILEUMASK specifies an octal umask that will be used by Oracle GoldenGate processes to create trail files and discard files. This parameter is not valid for WIN32 systems.
- The default for CACHESIZE is now 8GB for 64-bit systems and 2GB for 32-bit systems.

### ***Commands***

- The SEND EXTRACT <group> STATUS command now makes it clear when Extract is going through a recovery after an abend event by reporting the log position. This feature is especially useful when a very long-running transaction was open at the point of failure and Extract must search far back into the logs to find the begin-transaction record. The new status messages appear on the Current status line and look as follows:
  - In recovery[1] – Extract is recovering to its input checkpoint.
  - In recovery[2] – Extract is recovering to its output checkpoint.
  - Recovery complete – The recovery is finished, and normal processing will resume.
- To support TRANSACTIONTIMEOUT, the SEND REPLICAT command with STATUS has two more status conditions:
  - Performing transaction timeout recovery – Aborting current incomplete transaction and repositioning to start new one (see TRANSACTIONTIMEOUT parameter).
  - Waiting for data at logical EOF after transaction timeout recovery – Waiting to receive remainder of incomplete source transaction after a TRANSACTIONTIMEOUT termination.

## New Parameters

All new parameters in the 10.4 initial GA release are included in the Oracle GoldenGate Reference Guide for 10.4. The parameters listed here have been added to the Oracle GoldenGate 10.4 product release after the initial GA release, and are therefore not yet documented.

### TRANLOGOPTIONS NODDLCHANGEWARNING

This parameter is used to force Extract to not log a warning when a DDL operation could cause a short record on a table that Oracle GoldenGate is capturing. A short record can cause Extract to write the incorrect data to the trail. It is recommended that all short records are corrected before starting Extract after a DDL operation. The default is to report a warning.

### FORMAT LEVEL parameter

This parameter functions very similar to FORMAT RELEASE, and should be used when replicating between different versions of Oracle GoldenGate. There are currently 3 settings for FORMAT LEVEL in Oracle GoldenGate 10.4.

FORMAT LEVEL 0, is compatible with Release 9.5.  
FORMAT LEVEL 1, is compatible with Release 10.0.  
FORMAT LEVEL 2, is compatible with Release 10.4.

Example, when the Extract is 10.4, and the Replicat is 10.0, the Extract parameter file should contain FORMAT LEVEL 1, so that the trails are written in a format that is compatible with the 10.0 Replicat process.

### ALTID option for MAP in Extract

ALTID option is only available for extract to allow it to capture tables of a foreign archived log. In Oracle, ALTID allows customer to capture partition(s) or sub-partition(s) in a high-volume load table so that the load can be distributed to more than 1 extract.

Example #1:

```
MAP owner.source, ALTID 75740;
```

-- The above extract parameter will substitute 75740 as the object id of owner.source regardless of the object-id value as defined by the database. The ALTID to use, would be the object id of the partition or subpartition that Oracle GoldenGate should capture.

Example #2:

```
WILDCARDRESOLVE IMMEDIATE  
MAP owner.source, ALTID 75257,75258;
```

-- The above extract parameter will cause extract to only capture partition 75257 and 75258.



When ALTID is specified the map will be resolved as IMMEDIATE, regardless of WILDCARDRESOLVE setting. This means user may experience a lag in extract start time, especially when a table has a large number of partitions.

Restriction:

DDL will not be supported with ALTID.

Wildcard table name is not allowed when ALTID is specified in the map parameter.

### **Deprecated/Discontinued Parameters**

Any parameter that has been deprecated or discontinued will cause EXTRACT, or REPLICAT to abend with an appropriate error message.

This section is left intentionally blank.

## Documentation Addendum

This section serves as an addendum to the Oracle GoldenGate for Windows and UNIX Administration Guide and Reference Guide. It includes items that have not been covered in the manuals due to changes made to the product or the documentation after the documentation has been published.

### General

- The documentation for the @GETENV options DBTRANSACTION and DBRECORD was changed to reflect the accurate names of TRANSACTION and RECORD. Various other minor errors were corrected in this section. The FORMAT option was added to the RMTTASK documentation. The same versioning concept that applies to trails and files also applies to the data format that is sent by Extract to a remote process.
- The default for AUTORESTART RESETMINUTES was changed to the correct value of 20 minutes.
- In Appendix 1 of the Oracle GoldenGate for Windows and Unix Administrator Guide, there is a cross reference that points to the Logdump documentation in the same manual. The Logdump documentation now resides in the Oracle GoldenGate for Windows and UNIX Troubleshooting and Performance Tuning Guide.

### SQL Server

- Online backups that were made using a third party product for SQL Server are not supported if they are RAIDED. Which is the default for Litespeed.

## Open Issues

Open Issues have been moved to the Oracle GoldenGate README file.

## Installation and Upgrade Procedure

The installation file downloaded from Oracle is not compressed using gzip, instead it is a standard .zip file. To uncompress the download, please use the following methods:

- Windows – Please use winzip or other method that can support files with the .zip extension.
- Unix / Linux – Please use the ‘unzip’ command utility to uncompress the downloaded file.
- Mainframe – Please use the ‘unzip’ command utility to uncompress the downloaded file.

If you do not have any of these utilities on the server, you can download them from Oracle’s website at <http://updates.oracle.com/unzips/unzips.html>

The rest of this section has been moved to the Oracle GoldenGate README file.

## **Corrected Problems**

For questions on specific bugs or ticket numbers, please consult Oracle Customer Support. For historical purposes, DT#, or OS-# is the Development Ticket number, TS#, SF# is the Technical Services Ticket number, DR# is the Teradata Ticket number.

### **Version 10.4.0.19 build 2 – 18 September 2009**

#### **Builds Only**

### **Version 10.4.0.19 build 1 – 16 September 2009**

#### **General**

OS-9541 / SF#14911 - Increased the number of allowable trail files that Oracle GoldenGate can handle in a single directory from 32k to over 2 billion.

### **Version 10.4.0.18 build 1 – 11 September 2009**

#### **DB2 z/OS**

OS-9449 / SF#14911 - Fixed a problem in the TRANLOGOPTIONS buffer when it contained more than 65,600 records.

OS-9535 / SF#15890 – Fixed an internal check to help ensure that the remaining row image after a fixed length column is correctly obtained.

### **Version 10.4.0.17 build 1 – 2 September 2009**

#### **SQL Server**

OS-9512 / SF#15609 - Fixed a problem that would cause Extract was loop while trying to do a scan of the log files to read the log headers. SQL Server reported a size of 0 and this caused Extract to continue to re-read the same location. We modified the calls to find the size of the log header.

#### **Oracle**

OS-9501 / SF#15491 – Altered EXTRACT to ignore trailing LMN records for certain Delete transactions. This was causing Delete operations to not get flushed to the trail in a timely matter.

### **Version 10.4.0.16 build 1 – 28 August 2009**

#### **Oracle**

OS-9495 / SF#15505 – Fixed DEFGEN to ignore SEQUENCES listed in the DEFGEN parameter file.

**Version 10.4.0.15 build 2 – 25 August 2009**

**Builds Only**

**Version 10.4.0.15 build 1 – 24 August 2009**

**Builds Only**

**Version 10.4.0.14 build 2 – 21 August 2009**

**General**

OS-9372 / SF#13166 – Fixed an issue that was causing numeric conversions functions to treat K, G, M incorrectly. These letters are now only accepted in memory settings, like CACHEMGR.

**Sybase**

OS-9464 / SF#15081 – Added EOFDELAY and EOFDELAYCSECS to the Sybase product.

**Version 10.4.0.14 build 1 – 17 August 2009**

**Builds Only**

**Version 10.4.0.13 build 1 – 13 August 2009**

**Oracle**

OS-9461 / SF#15163 - Added a new internal parameter to allow Extract to bypass a duplicate transaction ID, when a commit record is not found for that transaction. The parameter is TRANLOGOPTIONS \_ALLOWDUPSECONDARYXID and should only be used when instructed to do so by Oracle GoldenGate Technical Support.

**Version 10.4.0.12 build 1 – 12 August 2009**

**Oracle**

OS-9213 / SF#15050 - The DDL trigger was incorrectly handling ALTER INDEX statements and was not attaching the appropriate owner to the DDL operation. Therefore, when the DDL operation was sent to the target, it was being executed as the Replicat user, instead of the mapped user. ALTER INDEX operations were also incorrectly

scoped as OTHER. They should have been attached to the table they are associated with as either MAPPED or UNMAPPED in scope.

### **Version 10.4.0.11 build 1 – 7 August 2009**

#### **Teradata**

OS-9438 / SF#14914 – Fixed a regression bug that did not allow PASSTHRU in a pump on Teradata.

### **Version 10.4.0.10 build 4 – 3 August 2009**

#### **Oracle**

OS-9398 / SF#12416 - The compiler flags were changed to optimize array dereferencing. And array dereferencing was changed in the code that formats data to write to the trail. This change was for all platforms but will make the most difference on HP-UX.

OS-9403 / SF#14590 - Fixed a call that could lead to memory being overwritten which would cause Replicat to crash without any error messages.

OS-9425 / SF#14651 - Fixed an issue that was causing Replicat to abend when the source was Tandem, and a SQLEXEC was used to return multiple values from a stored procedure.

### **Version 10.4.0.10 build 1 – 30 July 2009**

#### **Oracle**

OS-9411 / SF#14467 – Fixed some issues in memory management when fetches on LONG data fail. This could cause Extract to abend with GGS ERROR 146.

OS-9403 / SF#14590 - Fixed a call that could lead to memory being overwritten which would cause Replicat to crash without any error messages.

#### **General**

OS-8482 / SF#14428 – Fixed a problem that could have caused the data pump to create a trail header with incorrect information.

### **Version 10.4.0.9 build 1 – 27 July 2009**

#### **General**

OS-9011 – SEND STATUS command on Replicat during a SKIPTRANSACTION will now display the correct number of records in the current transaction.

## **Version 10.4.0.8 build 2 – 24 July 2009**

### **Oracle**

OS- 9390- Fixed an issue dealing with Binary Integer in Oracle 8i.

## **Version 10.4.0.8 build 1 – 24 July 2009**

### **Sybase**

OS-9377 - Fixed an issue that would not allow FETCHCOLS to work properly.

### **Teradata**

OS-9368 – Fixed an issue that would cause extract to miss recovery records during a crash recovery of the mid tier server.

## **Version 10.4.0.7 build 1 – 22 July 2009**

### **Builds Only**

## **Version 10.4.0.6 build 1 – 21 July 2009**

### **SQL Server**

OS-9375 / SF#14362 – Replicat will no longer abend on zero length CSN's.

## **Version 10.4.0.5 build 1 – 20 July 2009**

### **Oracle**

OS-9370 / SF#14343 – Extract now ignores DDL operations that contain binary data instead of abending.

## **Version 10.4.0.4 build 1 – 17 July 2009**

### **Oracle**

OS-9364 / SF#14315 - Fixed a problem that had caused Extract to abend in rare cases when DDL forced fetching of data when NOUSESNAPSHOTS is turned on.

### **Sybase**

OS-8555 / SF#9856 – Defferred inserts (opcode 6) are now supported in Sybase.

### **Teradata**

OS-9311 / SF#12487 - Fixed a problem in the E1 Extract and the cache manager functionality that would sometime cause internal checkpoints to not move properly. This could result in missing data in the trail.

## **Version 10.4.0.3 build 1 – 14 July 2009**

### **Oracle**

OS-9357 / SF#14228 – Fixed a memory leak that occurs when using HANDLECOLLISIONS, OVERRIDEDUPS, or INSERTMISSINGUPDATES.

### **Sysbase**

## **Version 10.4.0.2 build 1 – 14 July 2009**

### **SQL Server**

OS-8065 / SF#12442 – Extract will now log a warning if a DDL operation is performed on a table being extracted if it the DDL operation could create short records. Oracle GoldenGate requires that all short records with variable length fields be removed before starting Extract.

## **Version 10.4.0.1 build 2 – 13 July 2009**

### **SQL Server**

OS-9349 SF#13828 - Fixed a SQL Server initial positioning issue to start the log reader at the last LSN instead of the first LSN.

## **Version 10.4.0.1 build 1 – 10 July 2009**

### **SQL Server**

OS-8089 / SF#8115 – Fixed a bug that was causing Short Records with fixed length data types to be handled incorrectly.

### **Oracle**

OS-9213 – Added support for ALTER INDEX ... REBUILD PARTITION DDL operations.

OS-9270 / SF#12801 - Fixed a problem in the DDL trigger that was causing rollbacks not to affect the DDL\_HISTORY and DDL\_MARKER tables. This change requires the DDL trigger to be rebuilt.

### **DB2 z/OS**

OS-9348 / SF#14039 – Fixed a build issue on library files in the DB2 z/OS installation tarball. Please see the DB2 installation instructions earlier in this document.

## **Version 10.4.0.0 build 14 – 1 July 2009**

Initial GA release of 10.0.

