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Oracle GoldenGate for NonStop Release Notes for 11g Release 1 (11.1.1)

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Release Notes – Oracle GoldenGate for NonStop 11*g* Release 1 (11.1.1)

New Features

Specify single byte for multibyte characters

The new runtime argument NCHARCOMPATIBILITY causes Defgen to use single byte datatypes for columns that are multibyte. The datatype changes from 2 to 0 for multibyte nchar columns and from 66 to 64 for multibyte nvarchar columns.

Set delay time for Logger to close files

The SEND LOGGER LOGFILECLOSEDELAY option delays closing the old file when Logger rolls to a new file. This delay allows time to flush used cache blocks for the old file. See the *New Commands* section for an explanation of the LOGFILECLOSEDELAY option and the GETLOGFILECLOSEDELAY option used to query the current value.

An ADD DEFINE option sets the default value for LOGFILECLOSEDELAY. The syntax is:

```
ADD DEFINE =GGS_LOGFILE_CLOSE_DELAY, CLASS MAP, FILE $x<seconds>
```

Where FILE is up to five digits for <seconds> and x can be any character from a to z.

Control emphasis for certain types of EMS messages

The new EMSEMPHASIS Server Collector parameter controls whether emphasis is turned on for certain types of messages coming from EMSCLNT on open systems. Emphasis can be turned on for CRITICAL and WARNING messages as well as FATAL messages. The syntax is:

```
-EMSEMPHASIS <type>
```

Where <type> can be CRITICAL, WARNING, FATAL, or ERROR.

Limit the Enscribe source key range for SOURCEISFILE

The FILE options STARTKEY and ENDKEY limit the range of Enscribe records selected for a SOURCEISFILE Extract. This allows loading of subsets of the data.

See the *New Parameters* section, FILE parameter for detail on these options.

New Logger trail format

As of release 11.1.1 Logger writes trails in the NonStop version 7 format. A new LOG option, OLDFORMAT, creates the trail format used prior to version 7.

See the *New Parameters* section, LOG parameter for detail on these options.

INFO LOGGER now displays whether the format of the trail is new or old.

Handle AUDSERV errors individually

AUDSERVPARAM now has the ARLIBERROR option to specify whether to IGNORE, WARN, or ABEND based on the error number.

ARERRORREPORTINTERVAL specifies the time to wait before reissuing a warning.

See the New Parameters section, AUDSERVPARAM for detail on these options.

Restartable SOURCEISFILE Extract

SOURCEISFILE Extracts that are added from GGSCI and that include the new RESTARTCHECKPOINTS parameter can be restarted from a checkpoint if they stop or abend.

See the *New Parameters* section, SOURCEISFILE RESTARTCHECKPOINTS for detail on these options.

Improved throughput over TCP/IP

With the STREAMING option for the RMTHOST parameter, Extract does not wait for a response from the previous message before sending another message. Extract only waits when it needs to checkpoint. This, coupled with potential increases in the message size implemented for TCPFLUSHBYTES and TCPBUFSIZE, can significantly improve throughput.

See the *New Parameters* section, RMTHOST STREAMING and *Changed defaults* TCPFLUSHBYTES and TCPBUFSIZE for more detail on this option.

New DELETE DEFINES for GLOBALS

It is now possible to delete defines in GLOBALS.

DELETE DEFINE =<define name>

New parameters and options

AUDSERVPARAM ARLIBERROR

Use the AUDSERVPARAM option ARLIBERROR to handle errors individually.

The syntax is:

```
AUDSERVPARAM
[ARLIBERROR <error_num>, <response>]
```

Where <response> may be:

IGNORE to continue processing without issuing a message WARN to issue a warning message and then continue processing ABEND to issue an error message and end processing

AUDSERVPARAM ARERRORREPORTINTERVAL

Use the AUDSERVPARAM option ARERRORREPORTINTERVAL to specify the number of seconds that AUDSERV should wait before repeating a warning message.

The syntax is:

```
AUDSERVPARAM
[ARERRORREPORTINTERVAL <seconds>]
```

FILE STARTKEY, ENDKEY

Use the FILE options STARTKEY and ENDKEY to limit the range of Enscribe records selected for a SOURCEISFILE Extract. The following Extract parameter settings are required:

- The FILE statement must specify an Enscribe file as the source.
- SOURCEISFILE must apply.
- Either DICTIONARY or SOURCEDEFS must be present.
- If SOURCEDEFS is used, the access must not be by ALTKEY.
- The PARTITIONS option can not be used.
- The FASTUNLOAD option can not be used.

The syntax is:

```
FILE <file name>
[, STARTKEY <key specification>, ENDKEY <key specification>]
```

FORMATXML

Use FORMATXML to specify that extracted data is output in XML format.

The syntax is:

Where:

INLINEPROPERTIES controls whether properties are included within the XML tag or written separately.

ONERECPERTRANS causes Extract to create one FORMATXML transaction per record if the SOURCEISFILE parameter is present. The default is one transaction per file.

TRANS controls whether or not transaction boundaries and commit timestamps should be included in the XML output. The default is to include them.

GETNETWORKALTFILENAMES

Use GETNETWORKALTFILENAMES to control whether the file system qualifies the alternate key file names with the local node name.

The syntax is:

```
GETNETWORKALTFILENAMES | IGNORENETWORKALTFILENAMES
```

The default is GETNETWORKALTFILENAMES, the file systems qualifies the alternate key file names with the local node name.

LOG OLDFORMAT

As of release 11.1.1 Logger writes trails in NonStop version 7 format. Use OLDFORMAT to create trails in the format used prior NonStop version 7.

```
LOG <trail id>
[, OLDFORMAT | NEWFORMAT]
```

The default is NEWFORMAT, which will write NonStop version 7 trails.

RMTHOST, STREAMING

Use the STREAMING option to stop Extract from waiting on a response before sending the next message. Extract will wait for a response only when it needs to checkpoint.

If STREAMING is specified, Extract checks if it is supported by the remote Server Collector. Extract reverts back to waiting for a response and to the 28000 byte default for TCPFLUSHBYTES and TCPBUFSIZE if the Collector does not support STREAMING.

RMTTASK does not allow STREAMING. If the RMTTASK parameter is used, STREAMING is ignored and the defaults for TCPFLUSHBYTES and TCPBUFSIZE are set back to 28000 bytes.

SOURCEISFILE | SOURCEISTABLE, SQLPREDICATE

SQLPREDICATE replaces USEKEY as the documented name for the SOURCEISTABLE option triggering the MAP WHERE clause used to query the table. This option allows data to be filtered as it is selected. The USEKEY name will continue to be honored.

SOURCEISFILE | SOURCEISTABLE, RESTARTCHECKPOINTS

Use the RESTARTCHECKPOINTS option to instruct Extract to save checkpoint information that will allow restart at the last record read if the process stops or abends.

When restarting you must not make certain changes, such as removing checkpoint information or adding, removing, changing critical parameters such as STARTKEY and ENDKEY and the FASTUNLOAD option. Refer to the *Oracle GoldenGate for NonStop Reference Guide* and *Administrator's Guide* for more information on the conditions and restrictions of restarting.

SUPPRESSALLALTERMESSAGES

The Extract parameter to suppress all ALTER messages is documented in version 11.1.1. The default is not to suppress all ALTER messages.

New commands and options

ADD EXT[RMT]TRAIL SEQNO

The SEQNO option of ADD EXTTRAIL and ADD RMTTRAIL allows Extract trails to be started at a user defined sequence number. The syntax is

ADD RMTTRAIL <trail id>, EXTRACT <group name> [, SEQNO <number>]

SEND LOGGER LOGFILECLOSEDELAY

LOGFILECLOSEDELAY sends the number of seconds that the Logger process should delay rolling to a new file after it closes the old file. The syntax is:

SEND LOGGER [PROCESS \$\$process_name>], LOGFILECLOSEDELAY <seconds>

SEND LOGGER GETLOGFILECLOSEDELAY

GETLOGFILECLOSEDELAY outputs the current value for LOGFILECLOSEDELAY.

The syntax is:

SEND LOGGER [PROCESS \$\$process_name>], GETLOGFILECLOSEDELAY

General changes

EMS event subsystem ID changed

GoldenGate for NonStop previously used the vendor identifier GGSOFT in the subsystem ID for all EMS messages. This has been changed to ORACLE. The full SSID is ORACLE.GOLDENGATE.xnn where xnn is the minimum OS version on which the product runs, G06 and H06.

Note: This will impact customers who have written EMS filters that depend on the SSID beginning with GGSOFT.

Default changes

EXCLUDEGGSTRANSRECS | INCLUDEGGSTRANSRECS

The creation of network transaction records is suppressed unless the parameter INCLUDEGGSTRANSRECS is added to the Extract parameter file. The default changed from INCLUDEGGSTRANSRECS to EXCLUDEGGSTRANSRECS.

LOGFILEOPENS

The default for the LOGFILEOPENS parameter for Logger and GLOBALS is now 8. The maximum is 16.

LOGGERFLUSHSECS | LOGGERFLUSHCSECS

The default for the Logger and GLOBALS parameter LOGGERFLUSHSECSECS has changed. This default for the number of centiseconds for Logger to buffer records before

flushing is now 1 instead of 50. The comparable default for LOGGERFLUSHSECS changed from .50 to .01 seconds.

HOMETERMMESSAGES

The default for the GLOBALS parameter HOMETERMMESSAGES is now NO, suppress writing to the home terminal and write only to EMS.

MAP PARTIALCOLSOK

The default for the MAP option PARTIALCOLSOK has been changed to produce a compressed fragment from the available partial data. To allow backward compatibility the option NOPARITALCOLSOK has been added. This can be used to specify that when the column exceeds the amount of available data, the column should be excluded from replication.

The syntax is:

```
MAP <source file name>, TARGET <target file name>
DEF <sourcedef>, TARGETDEF <targetdef>
[, PARTIALCOLSOK | NOPARTIALCOLSOK]
```

TCPBUFSIZE and TCPFLUSHBYTES

The valid range is now 0 to 65530. The default has been increased from 28000 to 65530 bytes for release 11.1.1 and later Extracts and Server Collectors.

Deprecated/Discontinued Parameters/Commands

DEFERREDRESOLUTION

The DEFERREDRESOLUTION parameter has been deprecated. If a file is missing at startup, the attributes are looked up when the program is ready to process the file.

REFRESH MANAGER

The REFRESH MANAGER command has been deprecated and should no longer be used to activate changes made to a running Manager's properties. Instead you should stop and restart the Manager process.

Documentation Addendum

This section serves as an addendum to the Oracle GoldenGate for NonStop Administration and Reference Guides. It includes items that have not been covered in the guides due to changes made to the product or documentation after document publication.

Installation and Upgrades

Note: If you are currently running any of the X24 products (D24, N24, T24) you need to also download and install their latest release due to a compatibility issue between Oracle GoldenGate for NonStop release 10 and the earlier X24 releases.

The installation file downloaded from Oracle is not complressed using gzip; instead it is a standard .zip file. To uncompress the download, please use the zlib ZIP utilities.

You can download the utility here: http://ftp.bsi2.com/pub/oss/ZIP.tar.Z

Additional information on this utility can be found here: http://ftp.bsi2.com/pub/oss/ZIP.README

The upgrade process for Oracle GoldenGate for HP NonStop remains the same.

Resolved Tickets

For questions on specific bugs or ticket numbers, please consult Oracle GoldenGate support.

Audserv

BDB #9427654, #9429583, and 9569200 – Audserv abended on a missing temporary file. A new AUDSERVPARAM option, ARLIBERROR, is now available to allow users to bypass individual errors such as this. See *Handle AUDSERV errors individually* in the *New Features* section for more detail.

BDB #9429898 – Audserv reported fatal errors to EMS and LOGGGS, but not to Extract. Extract therefore abended without the ability to report on the specific problem that caused Audserv to abend. Audserv now sends error messages to Extract before abending and Extract provides more information on the specific problem.

Extract and Replicat

BDB #9249744 —STRNUM RIGHTZERO did not pad the length as documented. It now correctly pads with zeros to the specified length.

BDB #9427383 – Extract and Replicat now resolve attributes at start up if the file or table exists, otherwise they are resolved on the first DDL or DML operation. For Enscribe, invalidating and refreshing the file attributes will only occur when GETFILEOPS is used. SQL CREATE and DROP TABLE is not supported.

Extract

BDB #9251185 – The presence of SOURCEDEFS triggered a SOURCEISFILE Extract to abend with a SQL error. This was a timing issue on setting the eye-catcher for SQLDA that has now been fixed.

BDB #9267141 – Multiple declared THRESHOLDMSECS and incorrect tracking of the interval caused lag reports to display negative Pct below lag numbers. This has been corrected. Also Average Lag was documented incorrectly as the "Average time lag during the interval for all records processed". The documentation has been corrected to define Average Lag as Peak Lag plus Min Lag divided by 2.

BDB #9376554 – An odd-byte misalignment caused Extract to abend when the SCF TNSMISALIGN attribute was set to FAIL and SQLEXEC was not using BROWSE ACCESS. The logic has been changed to take into account an integer on an odd-byte boundary.

BDB #9416407 – Extract waiting for the Server Collector to respond that it had received the message caused a bottleneck on a high latency network. The message size was increased and a new option RMTHOST STREAMING was added to deal with this. Extract was modified to wait for a response only before updating the checkpoint if STREAMING was selected. See *Improved throughput over TCP/IP* in *New Features* for details.

BDB #9427411 – When support for network transactions was implemented, creating the transaction records was set as the default (INCLUDEGGSTRANSRECS). For customers who are not using network transaction support, creating these transaction records has proven to be inconvenient, so the default has been changed to EXCLUDEGGSTRANSRECS. See *Default changes* for more information.

BDB #9427645 – SQLEXEC in a SOURCEISFILE Extract started a TMF transaction, but did not commit it. Logic was added to end the SQLEXEC generated transaction in this situation.

BDB #9427834 – There was a customer request to use checkpoints during an initial load SOURCEISFILE Extract to allow restarts after a failure. This was implemented. See *Restartable SOURCEISFILE Extract* in the *New Features* section for more information.

BDB #9428320 – DELIMITER did not work correctly in SOURCEISFILE Extract when using FORMATLOCAL. The use of FORMATLOCAL changed the DELIMITER value to a comma unless FORMATLOCAL was specified before FORMATASCII. This problem is fixed.

BDB #9429013 – Extract did not abend when TCPERRS maximum retries was exceeded. The timing of the retry was changed to correct the problem.

BDB #9430067 – An SQL/MP DESCRIBE error -8110 was generated on a SOURCEISFILE Extract that was using a source definitions file for the tables being extracted. The error was caused by a timing issue on setting the eye-catcher when the SQL catalog was not accessed. This has been fixed.

BDB #9455662 – There was an issue that Extract could checkpoint a write to EXTTRAIL, but because of the timing of a CPU failure on the target, the write was not flushed to disk. Extract will now force the flush to disk.

BDB #9724231 – After an Expand link went down, RETRYERR EXPAND generated errors when the source was TMF audit. Additional logic was added to correct this.

BDB #10055685 – An Extract with FORMATASCII and SQLLOADER was not producing the desired results. This has been corrected.

Replicat

BDB #9351991 — There was a customer issue when data was not replicated because the column was partial and the default was not to map partial columns. Partial columns were mapped only when the MAP option PARTIALCOLSOK was specified. The default was changed to PARTIALCOLSOK and the new option NOPARTIALCOLSOK was introduced for backward compatibility.

BDB #9388894 —A fatal open error on an Enscribe target file with NOAUDITREPS caused an immediate abend for the Replicat. When Replicat restarted with RESTARTCOLLISIONS off, an

error was triggered when it tried to process with the earlier checkpoint. Now when there is a fatal error and NOAUDITREPS is in effect, the checkpoint is updated before abending.

BDB #9417207 – The DEFERREDRESOLUTION parameter has been deprecated because of changes for ticket #9427383.

BDB #9422417 —Instead of only excluding wildcarded MAPS, Replicat was evaluating the MAPEXCLUDE and excluding explicit MAP statements. MAPEXCLUDE has been fixed to exclude files only from MAP statements that use wildcards.

BDB #9423704 – On an update for an entry sequenced file, the length of the target record was zero and the length of the source trail record was 818. Replicat abended because it cannot change the record length for an entry sequenced file. The logic was modified to attempt to fit an uncompressed update into the block when the target record does not exist or is zero length. If the update is compressed, the Replicat will still error out.

BDB #9424916 – The checkpoint commit logic in Replicat was based on the counts of source records processed. This was inconsistent with open systems, so the logic has been changed to use number of target records instead.

BDB #9427002 – When SOURCEDEFS was used, the array index for SQLEXEC parameters was not set properly causing the parameters not to be passed. The array is now set correctly.

BDB #9427120 – Replicat abended leaving outstanding I/Os on one or more of the alternate key files when duplicate record errors occurred. This was changed to cancel and undo any outstanding alternate key operations if necessary.

BDB #9427479 – The parameters REVERSEWINDOWSECS, ENTRYSEQUPDATES EXACTKEY, and TMFEXCEPTIONS were in affect when an out-of-order transaction caused Replicat to abend because the entry sequenced file record did not exist. The Replicat was producing an error 10021, which was the wrong error to activate TMFEXCEPTIONS. The code was changed to produce an error 11 when the entry sequenced file record for update does not exist.

BDB #9427660 – Replicat encountered a fragment in the trail with an offset of zero and a length of zero, and this caused the process to loop. Replicat has been changed to detect a negative length in a fragment and abend.

BDB #9428036 – An inaccurate error message was generated when an alternate key could not be found when using the USEALTKEY option. The message has been changed to: "Unable to find altkey from record for file \$vol.subvol.filename."

BDB #9428470 – During primary key update testing, native mode Replicat abended when not using ASSUMETARGETDEFS. A problem was found when the source to target map was for two different files and Replicat was trying to concatenate data columns removing column indexes and lengths. This has been corrected.

BDB #9663181 —If the user positioned the read position past the end of the trail file, Replicat held the trail and did not process the next sequence of trails. To avoid this problem, the logic now checks to see if the next trail file exists when the current position is greater than current EOF.

BDB #9762621 – When using INSERTUPDATES, the report totals were counting source updates as inserts for report totals. For INSERTDELETES, the counts are based on the source I/O type, so

they are counted as deletes. INSERTUPDATES logic has been changed so they are now counted as INSERTS.

BDB #9861578 – Replicat abended unable to start a new transaction. There was not enough information to determine why it abended, so more error reporting was added to log more details when such an event occurs.

BDB #9869960 – A macro with variables for volume, subvolume and table name added a space after the volume and subvolume and passed \$vol . subvol . tablename. This has been corrected.

BDB #10098948 – REPERROR (3, RETRYOPEN) interacted with the OPENWARNING parameter to result in multiple opens. Now an OPENWARNING will be ignored if a REPERROR RETRYOPEN for that error exists. Also if a file was opened, it is closed before RETRYOPEN.

BDB #10158713 – A Replicat with PURGEOLDEXTRACTS was not purging trails until it was stopped. This was an issue when the trail was filling with GGSTRANS records and causing the Extract to reach MAXFILES. This has been corrected.

BDB #10637825 – Locks were not released for unaudited targets when an error occurred that REPERROR was set to ignore. The locks are now released.

SFGExit

BDB #9429448 – If the NOOSOPENS option was used with OPENCHECK in the SFEXIT module, messages that the intercept library was not bound were returned for programs running on SSYSTEM. SYSTEM. This was fixed.

BDB #9429449 – If the OSOPENDETAIL option was used with OPENCHECK in the SFEXIT module, only one message was appearing in EMS when two were generated. For OSOPENSUMMARY, two were appearing when only one should have. This was caused by the mistaken identification of some system and non-system programs. This has been corrected.

BDB #9430125 – The Safeguard exit was running at a lower priority than Safeguard and was not able to execute. This effectively hung Safeguard. The Safeguard Exit will now be set to the same priority as Safeguard.

GGSCI

BDB #9427627 – A new ADD RMTTRAIL/EXTTRAIL option, SEQNO, was implemented in response to a customer request. See *New commands and options* for more information.

BDB #9427849 – If an Extract is added with a different group name than the one in the Extract parameter file, an error message is generated and the Extract abends. In the same circumstance, a Replicat would start up successfully. This has been changed to generate an error message and abend when a Replicat is added with a different group name than the one in the parameter file.

BDB #9429027 – The GGSCI command SEND EXTRACT *group*, ROLLOVER did not display the same trail sequence number for local trails as that displayed for remote trails. One displayed the old sequence number and the other displayed the new one. Both now display the new sequence number, which is the number of the trail resulting from the rollover.

BDB #9429813 – NonStop would not reply to the Director without a password file. The test for the password file was removed from GGSCI.

BDB #9430341 – The STOP ER *, WAIT command thought the processes were still running and did not return the GGSCI prompt when the Oracle GoldenGate instance included tasks. This has been fixed.

GGSLIB

BDB #9417472 and #9426433 – FUP LOAD turns off DEFINEMODE so GGSLIB did not pick up the =EMS_COLLECTOR DEFINE statement. DEFINEMODE is now turned back on when there is a FUP LOAD so that the collector DEFINE can be recognized.

BDB #9429257 — BASELIB intercept caused problems for subtype 30 processes that used INITIALIZER (). This was caused by a message that was sent on a call to FILEINFO (). This call has been removed.

BDB #10076661 – A customer file was not being intercepted by GGSLIB. The reason was that TNS mode Cobol runtime was not in the GGSLIB build. It was not included because BUILDMAC skipped the Cobol runtime libraries during the bind step. This has been corrected.

Manager

BDB #9425455 – Manager abended when the number of PURGEOLDEXTRACT parameters exceeded 200. The maximum number of PURGEOLDEXTRACT entries has been increased to 250 and the number is now checked in order to generate an error message when the upper boundary is reached.

BDB #9800469 – Manager generated errors when executing GGSCI > REFRESH MGR if it was using AUTORESTART. This was because the restart table was only allocated during start up. It is now also allocated when parameters are refreshed.

BDB #12591376 – Manager abended when there were more than 512 processing groups. The number of processing groups that can be supported has been increased to 1024.

Other

BDB #9424427 – The Oracle GoldenGate Rollback utility was not reversing primary key updates. This has been changed so that the utility will correctly back out the changed key columns.

BDB #9425456 and #9426260 –The DEFGEN options USEDASH and USEUNDERSCORE were not working as expected. The default is now USEDASH and the options USEDASH, USEUNDERSCORE and USETWOUNDERSCORES are applied on the expansion of groups and indexes. Also either the dash or the underscore is used consistently for the column name to avoid names with mixed separators.

BDB #9426542 – SQL TRACE ERROR was not displaying numeric columns. This has been corrected.

BDB #9426754 – EMS messages were set to critical when the message text contained "WARNING". This could be confusing, so a new Server Collector parameter was added to allow

the user to reset the message type. See *Control emphasis for certain types of EMS messages* in *New Features* for more detail.

BDB #9427459 – The Migrate macro skipped copying data if it encountered the error that checkpoint data existed in the target location. The macro was ignoring errors and continuing to process. It was changed to stop and log to a file when an error is encountered.

BDB #9428145 – The command to purge GGSTRANS was added to the DBINIT script.

BDB #9428797 – An HP change that wrote the function name to a message caused NLDEXIT to find the name in the message when searching for the user exit function. This caused an error. The search now does not find the name in the message.

BDB #9429241 – The Oracle GoldenGate Nonstop Reference Guide states that ZEROSUPPRESS is the default for STATOPTIONS, but this was not true for the initial 10.0.0 release. The change was made for one of the early 10 patch sets and ZEROSUPPRESS is the default for STATOPTIONS in 11.1.1.

BDB #9429474 – The template files for SQL Server and Sybase did not default NOT NULL on key columns and NULL on all others as expected. This was because the templates created a unique index instead of a primary key. The template has been fixed to create a primary key.

BDB #9430521 – There was a request for the ability to use WHERE/FILTER criteria to position the file for a SOURCEISFILE Extract in order to split the load across multiple Extracts. This has been implemented. See *Limit the Enscribe source key range for SOURCEISFILE* in the *New Features* section for more detail.

Known Issues

There are no known issues at this time.