

Oracle® GoldenGate for Mainframe

Release Notes for HP NonStop (Guardian)

12c (12.1.2)

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This document contains the release notes for the 12.1.2 release of Oracle GoldenGate for HP NonStop on the Guardian platform.

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New Features in 12.1.2

This section outlines the new features that are being introduced in this release. These include:

- [Internet Protocol version 6 Support](#)
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Internet Protocol version 6 Support

Changes for release 12.1.2 allow Oracle GoldenGate for HP NonStop (Guardian) to support Internet Protocol version 6 (IPv6) and to inter-operate with Oracle GoldenGate for Windows and UNIX running IPv6. These changes include:

- The IP address may now be entered for Manager or Extract as either IPv4 or IPv6.

- When both IPv4 and IPv6 are configured for a host, the default for a named host is to select IPv6. A new USEIPv4ONLY option for RMTHOST and RMTHOSTALT allows forcing the use of the IPv4 address.
- Parameter IPINTERFACE is now valid for Extract as well as Manager. This allows specification of a particular IP address.
- Parameter TCPIPPROCESSNAME has a new option *@ip_address* to allow specification of the IP address for Manager or Extract.
- Two new options for RMTHOST and RMTHOSTALT allow limiting a process to a specific IP address:

```
TCPIPPROCESSNAME process_name@ip_address
IPINTERFACE ip_address
```

DDL2 Support

Oracle GoldenGate for HP NonStop on Guardian now supports Data Definition Language dictionary builds for DDL2 as well as DDL. DDL versions that are supported include:

- C20 and C30 operating system, DDL Version 5
- D00, D10 and D20, DDL Version 6
- D30 and later, DDL Version 7
- H01 and later, DDL Version 8 and DDL2 Version 9

No parameters are required for DDL2 support. Definitions of either size are supported for column mapping.

User exits support record manipulation on the DDL2 large record formats by using a new set of function calls:

```
GET_RECORD2
GET_RECORD_LENGTH2
DECOMPRESS_RECORD2
COMPRESS_RECORD2
SET_TARGET_RECORD2
SET_TARTET_RECORD_LENGTH2
```

SQL Formatted Discard File

New SQL discard files provide SQLCI formatted input for failed replication operations to a target SQL/MP database.

Specify `SQLFORMATDISCARDFILE` in the Replicat parameter file to generate the SQL discard file.

To use the SQL formatted discard file, the target must be SQL/MP. The source of the operation can be any database and platform that Oracle GoldenGate for HP NonStop supports. The SQLCI formatted input will only process DML records once the original problem has been corrected.

To control how SQL formatted discard files are generated, use the new parameter `SQLFORMATDISCARDROLLOVER`. This parameter specifies when new files are created.

If there is no `DISCARDFILE` parameter for Replicat, a discard file is now created by default when Replicat is started from GGSCI.

New Float Conversion Function

A new `@CONVERTFLOAT` function converts HP NonStop Tandem (TDM) float numbers to Windows and UNIX Institute of Electrical and Electronics Engineers (IEEE) format or from IEEE float format to TDM float format.

The new parameters, `CONVERTALLFLOATSTOIEEE` and `CONVERTALLFLOATSTOTDM`, can be added to an Extract or Replicat parameter file to convert all the float type numbers in a file or table.

Support for Enhanced Key Sequenced Files

Release 12.1.2 supports Enhanced Key Sequenced Files that have more than 16 partitions. Capturing PURGEDATAS on these files requires the PARTONLYPURGEDATAS parameter.

New Parameters

This section lists the parameters that have been added for the 12.1.2 release.

CONVERTALLFLOATSTOIEEE | NOCONVERTALLFLOATSTOIEEE

Use CONVERTALLFLOATSTOIEEE to convert the Tandem (TDM) float data type numbers used by Oracle GoldenGate for HP NonStop to the Institute of Electrical and Electronics Engineers (IEEE) format used by Oracle GoldenGate for Windows and UNIX.

Note: To use CONVERTALLFLOATSTOIEEE, the operating system must be G06.06 or later, and the Extract and Replicat must be native objects; not TNS.

CONVERTALLFLOATSTOIEEE and NOCONVERTALLFLOATSTOIEEE can be used as toggles around the files and tables in the parameter file to turn the conversion on and off.

CONVERTALLFLOATSTOTDM | NOCONVERTALLFLOATSTOTDM

Use CONVERTALLFLOATSTOTDM to convert the Institute of Electrical and Electronics Engineers (IEEE) format used for float data type numbers from Oracle GoldenGate Windows and UNIX to the Tandem (TDM) format used by Oracle GoldenGate for HP NonStop.

Note: To use CONVERTALLFLOATSTOTDM, the operating system must be G06.06 or later, and the Extract and Replicat must be native objects; not TNS.

CONVERTALLFLOATSTOTDM and NOCONVERTALLFLOATSTOTDM can be used as toggles around the files and tables in the parameter file to turn the conversion on and off.

DISPLAYFILEREFRRESHES

In earlier releases, the default was to suppress messages generated by refreshing attributes. Use DISPLAYFILEREFRRESHES to enable these messages. DISPLAYFILEREFRRESHES is valid for Extract or Replicat. It is a global parameter that affects all of the FILE or MAP statements.

INCLUDESOURCEAPPINFO | EXCLUDESOURCEAPPINFO

Valid for Logger. Use INCLUDESOURCEAPPINFO to capture the name and process ID (PID) of the source application program that alters the files being logged for non-audited Enscribe. The process name and PID are added to the trail as token elements PROGRAMNAME and PROCESSNAME.

The information can be retrieved by using @GETENV. For example @GETENV ("RECORD", "PROCESSNAME") retrieves the name of the process.

SQLFORMATDISCARDFILE

Use SQLFORMATDISCARDFILE to create a file for SQLCI formatted statements of operations that have been discarded because of errors. Once the original problem is corrected, SQL discard files can be used as input to replicate the failed operations.

The requirements for using the SQL discard file are:

- The target for the Replicat must be SQL/MP. (The source database may be any database that Oracle GoldenGate for HP NonStop supports.)
- The contents of the SQL formatted discard file can be edited, but must be valid input to SQLCI.

The syntax is:

```
SQLFORMATDISCARDFILE file_name
[, APPEND | PURGE | ROLLOVER]
[, LINECOUNT number]
[, OWNER (group_number, user_number)]
[, SECURE "rwep"]
```

filename

A physical file name or an existing define name of class map. The *file_name* must include the file location.

APPEND | PURGE | ROLLOVER

Specifies the handling of the existing SQL discard file. The default is PURGE.

LINECOUNT *number*

Sets the number of lines in the edit file that will trigger rollover. *number* must be at least 5000 and no greater than 98000. The default is 98000 when no value is entered.

OWNER (*group_number*, *user_number*)

Defines ownership of the discard file.

SECURE "rwep"

Secures the file using standard Guardian security for read, write, execute and purge.

SQLFORMATDISCARDROLLOVER

Use SQLDISCARDROLLOVER to specify when a SQL discard file is aged and a new one is created. Old files are renamed in the format of *group_name*(*n*), where *group_name* is the name of the Replicat group and (*n*) is a number that is incremented by one each time a new file is created.

The syntax is:

```
SQLFORMATDISCARDROLLOVER {
AT hh:mm |
ON day_of_week |
AT hh:mm ON day_of_week
}
```

AT *hh:mm*

The time of day (hours and minutes) to age the file based on a 24-hour clock.

ON *day_of_week*

The day of the week to age the file. Valid values are SUNDAY through SATURDAY. They are not case-sensitive

SUPPRESSFETCHCOMPRESSEDISCARDS | NOSUPPRESSFETCHCOMPRESSEDISCARDS

Use SUPPRESSFETCHCOMPRESSEDISCARDS to stop the display of messages generated when a FETCHCOMP fails to find the needed record. The default is not to suppress the messages.

The syntax is: SUPPRESSFETCHCOMPRESSEDISCARDS

Parameter Changes

This section explains the parameter changes that are included in the 12.1.2 release of Oracle GoldenGate for HP NonStop on the Guardian platform.

IPINTERFACE Valid for Extract

Currently valid for Manager. Also valid for Extract as of release 12.1.2.

TCPIPPROCESSNAME New Options

As of release 12.1.2, TCPIPPROCESSNAME has a new *@ip_address* option to set the IP address for the designated process name.

The syntax is:

```
TCPIPPROCESSNAME process_name[@ip_address]
```

RMTHOST and RMTHOSTALT New Options

New options for controlling the IP address for RMTHOST and RMTHOSTALT are:

```
TCPIPPROCESSNAME process_name[@ip_address]
```

Use the new TCPIPPROCESSNAME option to restrict Extract to a specific process name and, optionally, to restrict the process to a specific IP address.

```
IPINTERFACE ip_address
```

Use the new IPINTERFACE option to restrict Extract to the specified IP address.

```
USEIPV4ONLY
```

Use the new USEIPV4ONLY option to force the use of IPv4 when both IPv4 and IPv6 protocols are configured and compatible.

The syntax for RMTHOST with new options is:

```
RMTHOST {host_name | ip_address}
[, PORT port_number | MGRPORT port_number]
[, IPINTERFACE ip_address]
[, STREAMING | NOSTREAMING]
[, TCPIPPROCESSNAME process_name[@ip_address]]
[, USEIPV4ONLY]
[, dynamic_options]
```

RMTHOST STREAMING New NOSTREAMING Option

The RMTHOST STREAMING now has a NOSTREAMING option to turn off streaming, which is now the default.

The syntax for RMTHOST with the new option is:

```
RMTHOST {host_name | ip_address}
[, PORT port_number | MGRPORT port_number]
[, IPINTERFACE ip_address]
[, STREAMING | NOSTREAMING]
```

```
[, TCPIPPROCESSNAME process_name[@ip_address]]  
[, USEIPV4ONLY]  
[, dynamic_options]
```

DISCARDFILE Default Change

The default has changed for DISCARDFILE for 12.1.2. Now the discard file will be created by default if there is no DISCARDFILE parameter when Replicat is started from GGSCI.

DISCARDROLLOVER New Rules

There are additional rules that apply to the rollover of the discard file:

- The discard file will not roll over if it is empty.
- The discard file will not roll over if it was created by default.

FORMATASCII BCP New Option

A new option for FORMATASCII BCP allows setting the timestamp fraction. This is valid when sending to Windows or UNIX SQL in bulk copy format.

The syntax is:

```
FORMATASCII BCP TIMESTAMP {0 | 3 | 6}
```

The value for TIMESTAMP can be set to:

0

Truncates the fraction. For example 2014-03-2014-03-01:14:09:47.123456 becomes 2014-03-01:14:09:47. This is the default.

3

Limits the fraction to three digits. For example 2014-03-01:4:09:47.123456 becomes 2014-03-01:14:09:47.123.

6

Limits the fraction to 6 digits. For example 2014-03-01:14:09:47.123456 remains 2014-03-01:14:09:47.123456.

Note: FORMATLOCAL must be used with the TIMESTAMP fractional options 3 and 6 for proper processing.

OPENTIMEOUT Valid for Extract

OPENTIMEOUT | OPENTIMEOUTMINUTES is now valid for Extract. This is used when source files are opened and FETCHCOMPS or FETCHLASTIMAGE is used on audit compress records. If there is no further activity, these files will close when the OPENTIMEOUT value is reached.

The entered time must be in minutes. The default is 60 minutes.

NETWORKCHECKPOINTS Default Change

As of release 12.1.2, NETWORKCHECKPOINTS will be set by default whenever files or partitions are found on remote nodes. Therefore checkpoint files that are found on a partition's remote node are updated.

TCPBUFSIZE Maximum Value

The maximum value allowed for TCPBUFSIZE has changed from 65530 to 65519.

FILLSHORTRECS | NOFILLSHORTRECS

In addition to being valid for Extract, FILLSHORTRECS | NOFILLSHORTRECS is now valid for Replicat MAP statements that have a COLMAP statement to trigger mapping. Also FILLSHORTRECS and NOFILLSHORTRECS can be toggled around FILE or MAP statements to turn the functionality on and off based on the file. The default is FILLSHORTRECS OFF.

New and Changed Conversion Functions

This section explains the new conversion functions and changes to existing conversion functions.

@CONVERTFLOAT

@CONVERTFLOAT is a new function for release 12.1.2 that converts HP NonStop Tandem (TDM) float numbers to Windows and UNIX Institute of Electrical and Electronics Engineers (IEEE) format or from IEEE float format to TDM float format.

The syntax is:

```
@CONVERTFLOAT (col_name, (TOIEEE | TOTDM))
```

@SETENV Handling of Literals Changes

The handling of literals with @SETENV has been changed for release 12.1.2.

- Without quotes: the variable is upshifted
`SETENV (repl = repall)` will result in `REPALL`
- With double quotes: the variable is returned with quotes removed, but otherwise as entered
`SETENV NAME = "Name"` will result in `Name`
- With outer single quotes: the variable is considered a literal so the content is enclosed in double quotes and otherwise unchanged.
`SETENV NAME = 'a literal'` will result in `"a literal"`
- With outer double quotes and single quotes around the content: the literal inside the double quotes is unchanged.
`SETENV WILL = "'WILL'"` will result in `'WILL'`
- Use an escape character for embedded quotation marks, so that the embedded quotation marks will be unchanged.
`SETENV name = 'John\'s name'` will result in `'John's name'`

@GETENV New Option

@GETENV allows use of the RECORD information type. This returns information about the records that are being processed. The syntax is:

```
@GETENV ("RECORD", "option")
```

option can be one of the following:

FILESEQNO

Returns the sequence number of the trail file without any leading zeros

FILERBA

Returns the relative byte address of the record within the FILESEQNO

TRANSID

Returns the TMF transaction ID associated with the record

PROCESSNAME

Returns the name of the process that modified the source file record

PROGRAMNAME

Returns the program name of the application that modified the source file record

Command Changes

This section explains the changes to GGSCI commands that are introduced in release 12.1.2.

SEND REPLICAT New Options

Two new options are available for the SEND REPLICAT command.

To close the current discard file and open a new one, specify the ROLLDISCARD option. To close the current SQL formatted discard file and open a new one, specify the ROLLSQLDISCARD option. These options rename the current discard file by adding 0 and increment the sequence number of the remaining discard files. If a discard_file9 exists, it will be deleted to make room for the replacement.

```
SEND REPLICAT group_name (ROLLDISCARD | ROLLSQLDISCARD)
```

ADD MARKER GROUPCMD CLOSEFILES Valid for Extract

ADD MARKER GROUPCMD CLOSEFILES can now be used for Extract groups. It will close source files based on the OPENTIMEOUT minutes after a FETCHCOMPS or FETCHLASTIMAGE on audit compress records.

INFO MANAGER Displays More Information

For 12.1.2 INFO MANAGER displays information on the TCPIPPROCESSNAME and the IPV4 or IPV6 address.

For example:

```
Manager process $MYMGR is running
(Process \NY,$ZTC1, IP 2001:db8:2010:5040:4fff:ffff:ffff:28 port 1809)
```

Deprecated Parameters and Programs

This section lists the parameters and parameter options that are deprecated as of release 12.1.2. It also lists the utility programs that are no longer supported.

FORMATLOAD

The FORMATLOAD parameter is deprecated as of release 12.1.2.

TNS Audserv Support

TNS Audserv will no longer be supported as of the 12.1.2 release. A program named AUDSERVN will no longer be delivered with the software; the AUDSERV program will be the native version.

SYNCTAB and DIFFFLS No Longer Used

The utilities SYNCTAB and DIFFFLS are no longer delivered with Oracle GoldenGate for HP NonStop. They have been removed from the list of components.

FILE | TABLE Parameter Option EXITMAP Deprecated

The EXITMAP option of the FILE parameter was deprecated as of release 11.1.1.

DEMORCOB Deprecated

The DEMORCOB example program for reading Extract trails using the API is no longer valid and has been removed from the installation.

Installation and Upgrades

The installation file downloaded from Oracle is not compressed using gzip; instead it is a standard zip file.

Installation Instructions Change

The installation instructions for release 12.1.2 were changed to direct the user first to My Oracle Support (MOS), Patches and Upgrades to see if any patches are available for the requested release. If there are no available patches, the user is directed to <https://edelivery.oracle.com>.

Upgrade Process

The upgrade process for Oracle GoldenGate has not changed.

Corrected Problems

Bug *number* is the number of the Bug DB ticket. For questions on specific tickets or issues, consult Oracle Customer Support.

Release 12.1.2.0.0 -- July 29, 2014

BugDb #16013394 - Corrected an error that occurred when 1) both the source and target are the same Enscribe file, 2) a DEF was used in the MAP statement, but 3) a TARGETDEF was not used for the target file. The error was "Error in COLMAP clause. No columns defined for file \NY.\$DATA02.MYSRC.ACCTS".

BugDB #15992788 -Implemented an enhancement that allows Extract to detect an ENV that was modified by adding new audit volumes in TMF.

BugDB #15886095 - Corrected a problem that Logger spiked to 90% busy because of abended OPEN errors that were not cleared. out.

BugDB #14274006 - Implemented an enhancement to support DDL2. This was implemented for release 12.1.2 as explained in the *New Features* section.

BugDB #13605172 - Corrected a Logdump problem with interval stats when doing a count with an interval. The stats for the last interval would be missing and the stats for the first interval were incorrect when the user did the count twice.

BugDB #13014372 - The OPENTIMEOUT parameter and the CLOSEFILES marker were added for FETCHCOMPS and FETCHLASTIMAGE to implement this enhancement. See the *Parameter Changes* section for information on OPENTIMEOUT and *Command Changes* for ADD MARKER CLOSEFILES.

BugDB #12898669 - A change to allow a SETENV value to be used as a literal in a COLMAP or SQLEXEC statement was implemented. See the section on *Conversion Functions Additions and Changes* for details.

BugDB #12883717 - Corrected a problem that the downstream Replicat could checkpoint too frequently when cascading replication using GETREPLICATS.

BugDB #12880442 - Replicat was abending intermittently with an error 120 due to a DP2 problem with unstructured opens. A change has been made to work around this problem.

BugDB #12835984 - Corrected a problem of Replicat abending on PURGEDATA with an error 73.

BugDB #12727614 - Added a RMTHOST NOSTREAMING option and changed the default for TCP streaming to ON. See the *Parameter Changes* section for details.

BugDB #12567693 - Corrected a problem where the back out of a duplicate record failed when COMPRESSDELETES was used.

BugDB #12410304 - Implemented an enhancement to control NOFILLSHORTRECS at the file level and to set the default to OFF. FILLSHORTRECS and NOFILLSHORTRECS can now be toggled around the file statements. See the *Parameter Changes* section for more detail.

BugDB #11931536 - Enhanced Key Sequenced Enscribe files that have more than 16 partitions are supported as of the 12.1.2 release. See the *New Features* section for more detail.

BugDB #11658598 - Corrected a problem that was generating an error 75 on GROUP because of an UNLOCKFILE() done outside of TMF.

BugDB #11064741 - Corrected a problem that caused abends when the Collector could open stderr.

BugDB #10425449 - Remove errors 200 through 299 from the Expand errors that cause Extract to abend.

BugDB #9572108 - Corrected a problem that files were not extracted when the parameter file contained many wildcards/MAPS/TABLES/FILES statements that were not terminated with a semicolon (;).

BugDB #9430477 - Implemented the length option for functions @HIGHVAL () and @LOWVAL (), which did not have length as an option, although the documentation indicated that they did.

BugDB #9430359 - Corrected a problem with SQLEXEC retries with RAISE ERROR.

BugDB #9430131 - Corrected a problem that a file was not created from a MAP using CREATETEMPLATE.

BugDB #9429857 - Implemented an enhancement to support for IPV6. See the *New Features* section for more detail.

BugDB #9427715 - Implemented a new RMTHOST option to specify the local TCP/IP process name for each connection and a new TCPIPPROCESSNAME parameter. See the *New Features* section for more detail.

BugDB #9427487 - The error 101 Bad parameter: Bad file name. was misleading. When the remote trail name has a node name that is not accessible, Extract now reports the error: FILENAME_TO_OLDFILENAME error 18.

BugDB #9426021 - Implemented a new parameter SUPPRESSFETCHCOMPRESSEDISCARDS | NOSUPPRESSFETCHCOMPRESSEDISCARDS to suppress fetch errors on FETCHCOMPS for missing rows. See the *New Parameters* section for more detail.

BugDB #9420378 - Corrected a problem where the search for VIEW GGSLOG did not correctly find mixed-case strings because the string was being upshifted.

BugDB #9420263 - Corrected bad sys keys extracted using SOURCEISFILE from Enscribe relative files containing empty records.

BugDB #9420262 - Corrected the Extract logic for extracting a view to identify a NO-OP update by changing it to enable the check, test that the actual non-keycols are present, and to allow KEYCOLS.

BugDB #16740836 - Support for CLEARONPURGE for the MAP CREATETEMPLATE option.

Known Issues

The following are known issues for the 12.1.2 release:

- User Exits - If you are using user exits to do primary key updates, you will need to change the key length fields to a long instead of a short. This is due to the new support for the larger records of DDL2
- When an Extract is using SOURCEISTABLE or SOURCEISFILE, FASTUNLOAD or FASTUNLOADSHARED, and RESTARTCHECKPOINTS, there is a problem that Extract abends when a fully qualified name that is to be extracted does not exist.

The subsequent restart will cause an error that "Checkpoint for GROUP *group_name* does not match parameter file, FASTUNLOAD/SHARED was ADDED."

The only option to continue processing is to delete and re-add the Extract group, even if the file or table was created.

Documentation Changes

The Oracle GoldenGate documentation for NonStop on the Guardian platform has the following changes and improvements for release 12.1.2:

- New library pages - the documentation libraries are now organized into a task-based structure designed to make it easier to locate information about the task you are interested in.
- Book and chapter titles have been changed to be more task oriented.
- Each chapter now begins with a brief summary and a list of the topics included in the chapter. Each section begins with a brief summary.
- The formatting for syntax statements has been changed to remove less than (<) and greater than (>) symbols, put variables in italics, and use variable lists rather than tables to conform to Oracle standards.
- The Logdump documentation has been incorporated into a new book named *Logdump Reference for Oracle GoldenGate*. This Reference applies to both Oracle GoldenGate and Oracle GoldenGate for HP NonStop (Guardian). It can be found in the Oracle GoldenGate 12.1.2 library under the Books tab.

Getting Help with Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

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