

Release Notes for Oracle GoldenGate for HP NonStop (Guardian)

This document contains the release notes for the 23ai release of Oracle GoldenGate for HP NonStop on the Guardian platform. You can find additional information about the parameters and options described in these release notes in the *Reference Guide for Oracle GoldenGate for HP NonStop (Guardian)*. This product is for the support of Enscribe and SQL/MP, it does not support SQL/MX.

New Release 23ai — June 2024

This release contains several new features, some of which causes behavior changes and possibly require parameter modification depending on the version you are currently using. Therefore, Oracle recommends that you investigate the enhancements noted here as well as the *Reference Guide for Oracle GoldenGate for HP NonStop (Guardian)* and the *Fusion Middleware Administering Oracle GoldenGate for HP NonStop (Guardian)*, for more information. If you have questions, then you can also open a service request (SR) with [Oracle support](#) to resolve any issues that might affect your specific product usage.

This section outlines the new features that are being introduced in this release and includes the following:

New Parameters

This section lists the parameters that have been added for this release, please consult the reference manual for full details:

Replicat can now defer applying transactions until a specific amount of time has elapsed using `DEFERAPPLYINTERVAL`.

Extract and Replicat now have use of a new Colmap function `@SizeOf()` to allow the removal of hard coded lengths in mapping. This can be especially useful while using the `@GETTLFTOKEN()`.

Added the ability to use `=Defines` in `LogParm` for non audited Logger capture.

Added the parameter `CHECKTHRESHOLDMIN` for manager to alter the frequency that checks and reports `TMF DISKTHRESHOLD` percent.

Parameter Changes

This section explains the parameter changes that are included in this release.

Extract now has the option `RECEIVERPORT` for the `RMTHOST` parameter to communicate with an OpenSys MicroServices install. This should be used instead of `MGRPORT` or `PORT`.

Extract uses the `MAXFILESTHRESHOLD` as the number files left before `MAXFILES` is about to be reached that are displayed to EMS as critical warnings with emphasis. You now can set the `MAXFILESTHRESHOLD` on a per `EXTTRAIL` basis from GGSCI.

`EVENTACTIONS` can be used to trigger an event based on a file or table receiving a DML record. Added a new option `CLOSEFILES` to `EVENTACTIONS` to cause all open files and tables to be closed.

The User Exit parameters for Extract and Replicat have been modified to accommodate using Dynamically Linked Libraries.

Deprecated Parameters and Programs

This section explains the deprecated parameters and programs in release.

TNS mode objects for Extract and Replicat have been deprecated and de-supported. If you have coded your own user exits, then you will be required to recompile them in Native mode.

For those using the Oracle® GoldenGate Application Adapters for BASE24, native mode objects are provided as part of that download found only on OTN.

BlowFish for encryption over TCP/IP and encrypting passwords has been deprecated and de-supported. For encryption over TCP/IP, see the `Encrypt` option of `RMTHOST` in the *Reference Guide for Oracle GoldenGate for HP NonStop (Guardian)* as well as [Using Encryption](#) in the *Administering Oracle GoldenGate for HP NonStop (Guardian Data Sources)*. For encrypted passwords used with the `LOGON` parameter, passwords must be regenerated from GGSCI, which will now automatically be AES.

`ATCONFIG` for TMF recovery has been deprecated and de-supported.

Program Changes

This section explains the general changes that are included in this release.

Added support for volume names up to 7 bytes. This allows for the product to be install on a long-named volume as well as write trails. However this can only be done for Enscribe based usage, SQL/MP does not support this feature.

Installation and Upgrades

The installation file downloaded from Oracle is a standard ZIP file.

Upgrade Process

The instructions for installation and upgrading are documented by release version at <https://docs.oracle.com/en/middleware/goldengate/non-stop/index.html>

Installation Instructions Changes

Oracle recommends to perform installs or upgrades of any Oracle GoldenGate version to the target system before the source.

As a best practice before any install check the currently posted release notes for patch numbers and version information. Alternatively check 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>.

Corrected Problems and Enhancements

For questions on specific bugs or ticket numbers, consult Oracle Customer Support. BugDB is the bug identification number. You can obtain Patches from the My Oracle Support site or you can contact support by opening an SR to obtain the current patch.

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Bug 29044245: EXTRACT NSK: Enable user exits as shared objects in native mode.

Enhanced Extract and Replicat to allow the use of a shared object DLL User Exit.

Bug 30777280: OTHER Support trail output from Logger or Extract to long named volume.

Added support for volume names up to 7 bytes when only used for Enscribe.

Bug 32515895: EXTRACT NSK: set error text in colfnc parse_argument.

Corrected lost error text on parsing details of @function() calls.

Bug 32690290: MANAGER NSK: Mgr missing audit reporting.

Corrected the double reporting of missing audit.

Bug 32716663: EXTRACT NSK: report duplicate column names.

Change formatting of warning messages for ambiguous referenced columns during mapping to give clearer indication of unintended name matches.

Bug 33060156: REPLICAT NSK: HandleCollisions should not be required for PKUUpdates.

Corrected the requirement for HandleCollisions to be used to skip the Delete portion of a missing target record of a PKUpdate.

Bug 33064538: REPLICAT NSK: Replicat update stats bucket for fileop and User Exit Ignore returned like DML.

Corrected the file stat after a User Exit returned Ignore Record such as the Base24 Rename that occurs during a Refresh.

Bug 33150018: EXTRACT Add column function @SIZEOF ().

Added a new column function to return the size of a column or Enscribe group level field.

Bug 33281294: REPLICAT NSK: init_targ_fields does not init pic 9(n) fields correctly.

Corrected the default values of pic 9 fields to ASCII Zeros instead of binary zeros, which could cause an error -8405 when replicating data from OpenSys.

Bug 33402823: GGSCI NSK: System command fails.

Corrected handling of procedure death message from `TMFSERVE` that caused the GGSCI system command to fail.

33749686 EXTRACT NSK: Fix the TCP/IP compression stats reported by extract.

Corrected the display value of compression stats.

Bug 33817095: REPLICAT NSK: Detect and handle lock length less than key length.

Corrected Replicat from not releasing file locks on Key Sequenced Enscribe when the lock length is not the same as the key length.

Bug 33821106: REPLICAT NSK: Add a CLOSEFILES option to eventAction.

Added the option of `CLOSEFILES` to the eventActions clause of MAP.

Bug 33993578: OTHER NSK: Add check for running processes during product install.

Change to ensure no existing processes are running if the product is reinstall to an existing location.

Bug 34009241: EXTRACT NSK: Marker history processing.

Corrected marker history performance issues by changing read/write processing to do 56K I/O.

Bug 34028237: EXTRACT NSK: add configurable warning threshold for maxfiles reached.

Allow the warning threshold default of 2 on MaxFiles to be changed.

Bug 34039862: MANAGER NSK: mgr needs to return additional info in some responses.

Added full detailed display to the response a remote manager returns from `GGSCI> GETMGRVERSION`.

Bug 34242185: GGSLIB NSK: Purge op not captured from fup dup, purge in baselib.

Added the capture of procedure call `FS_FILEPURGE_`, which executes during `FUP PARTONLY DUP`.

Bug 34510414: EXTRACT NSK: always output current read position.

Added current read location and last completed CSN to both Extract and Replica reports after send report and Stop commands.

Bug 34645149: GGSCI NSK:fix altering the TMF read position by seqno, rba.

Correct the timestamp associated with any configured AUX trails after an alter by `Extseqno` and `Extrba`.

Bug 34715923/35279460: AUDSERV NSK:Audserv needs to report SQL/MP error text from SQLCATOBUFFER().

Added SQL/MP error details on error getting partition details from the catalog.

Bug 34725132: REPLICAT NSK:Fix report file filling up.

Changed the mode of testing if a report file was going to become full from a timer to a prewrite test.

Bug 34739855: EXTRACT NSK:Extract storing aborted transaction data.

Changed Extract from holding aborted transaction data through the rollback unless `GetRollBacks` is in use.

Bug 34743352: EXTRACT NSK: FILENAME_TO_PATHNAME_ gets error 4202.

Added a more meaningful message that the Open System Services File System is required.

Bug 34744267: EXTRACT NSK:propagate URI HISTORY in a pump.

Changed Extract to update the fileheader URI History value with producer info.

Bug 34756203: REPLICAT NSK:replicat network checkpoints.

Corrected the network checkpoint written to `REPCTXT` to only write actual record length, not size of record.

Bug 34816441: LOGDUMP NSK:Logdump infer datetime fraction precision

Corrected the formatting of the fractional part of a Timestamp/Datetime datatype.

Bug 34846029: REPLICAT NSK: Implement DEFERAPPLYINTERVAL.

Enhanced Replicat to wait a predetermined amount of time before applying data.

Bug 35007016: REPLICAT NSK: Correct handling of Unified PkUpdate from OpenSys.

Corrected the handling of Unified `PkUpdate` from OpenSys when columns are compressed out and or missing from a source OpenSys DB.

Bug 35080490: EXTRACT NSK: Remove the old ATCONFIG code.

Deprecated the antiquated `ATCONFIG` for `TMF` recovery in favor of `TMF Tape and Dumps`.

Bug 35111977: OTHER NSK: COMBLIB needs to verify the presence of entrylib.

Corrected to ensure `ENTRYLIB` exists so a combined library will not be built without it.

Bug 35112835: REPLICAT NSK: Fix control record when we have not seen an open on the file.

Corrected Replicat to handle a control that was intercepted without a prior open, caused by the intercept being built without `ENTRYLIB`.

Bug 35196789: EXTRACT NSK: Add MOM pid to Extract/Replicat banners.

Added process details to the report banners.

Bug 35224161: EXTRACT NSK: Extract pump on nsk files with no node.

Corrected handling of NSK formatted names coming from OpenSys where the node name was removed.

Bug 35241002: EXTRACT NSK: fix core dump when source & target are the same and using CONVERTALLFLOATS.

Corrected a possible trap in an Extract pump when converting floats.

Bug 35270299: OTHER NSK: Deprecate TNS mode Extract and Replicat.

Removed the TNS Extract and Replicat object from the distribution.

Bug 35315074: GGSLIB NSK: Non Audited capture needs to resolve defines in audconfig.

Added the ability to use `=Defines` in `LogParm` for non audited capture.

Bug 35339156: EXTRACT NSK: Allow the result of an expression in SQLEXEC.

Added the ability to reference an expression while doing a `SqlExec` in a map statement.

Bug 35351238: OTHER NSK: Clean up fupop to user exit from wildcard not resolved.

Corrected the name passed to a User Exit when a Fileop was performed before a DML.

Bug 35364061: REPLICAT NSK: Remote checkpoint message.

Clarified an error message when a remote host was not configured in globals.

Bug 35411505: GGSCI NSK: add maxfiles to the info logger display.

Added the `MaxLogfiles` configured for a Logger process from the GGSCI info logger command.

Bug 35421610/35950674: EXTRACT NSK: Correct MRKRGGS counted to output trails.

Corrected trail stats to match file buckets for marker records that had been previously hidden.

Bug 35422116: DEFGEN NSK: Correct part of key for Defgen.

Corrected the Defgen output to remove group level Enscribe fields as part of key.

Bug 35485096: EXTRACT NSK: Open MGRPORT option for RMTHOSTALT.

Added the ability to use `RMTHOSTALT` with `MGRPORT` and other supporting parameters.

Bug 35496620: GGSCI NSK: add PARAMS to the ggsci env output.

Added the display of session params to the env command from GGSCI.

Bug 35554736: EXTRACT NSK: Extract/replciat need to validate source files.

Added a bounds check on invalid NSK names with extra digits.

Bug 35623008: GGSCI NSK: Correct GGSCI command to start extract with NoFilterRestart.

Corrected the ability to have Extract restart without skipping duplicate records.

Bug 35702992: EXTRACT NSK: Dont send auditcomp records to an Opensys target.

Corrected and stopped Enscribe Auditcomp records from being sent to an OpenSys target.

Bug 35742874: EXTRACT NSK: Output more IP connection details.

Added more details to the report display after Extract gets an IP connect to a remote process.

Bug 35747018: EXTRACT NSK: add sqlexec sanity check.

Add missing bounds check to ensure one of either `BeforeFilter` or `AfterFilter` was provided.

Bug 35756813: OTHER NSK: Change bad install (altkeys) message to reinstall product.

Clarified abend message for an incorrectly installed product.

Bug 35761645: GGSCI NSK: add direct read info to the info extract display

Added to the display info on a DirectRead Extract group to show the type, such as, `ACITLF`, `ENTRY`, or `ADVANTAGE`.

Bug 36571170 - NSK: Encryption over IP does not account for enough to pad buffer overhead.

Corrected the padded allotment to account for the AES initialization vector being appended to the message.

Bug 35778120/35788026: GGSCI NSK: Fix ggsci writing max length REPCTXT records.

Corrected GGSCI from updating `REPCTXT` records to 4040 bytes when altering a group to use actual count.

Bug 35788026: REPLICAT NSK: allow opensys table names longer than 48 bytes.

Correct limitation of OpenSys ANSI table name longer than 48 bytes.

Bug 35928952: MANAGER NSK:MGR trapped when it received a long message on TCP/IP.

Corrected manager from trapping by adding a bound check on incoming messages to manager when a process is sending messages larger than it can handle.

Bug 36014904: GGSCI NSK:Fix view report on very large report files.

Corrected positioning into a report file when viewing the last or end of a very large report.

Bug 36096307: LOGGER NSK:Logger dangling opens on logtrails.

Corrected dangling logfile opens due to `SIGNALTIMEOUT` failures.

Bug 36128271: GGSCI NSK:Fix incorrect check of errno after fgets.

Corrected the error testing during reading of parameter files from view command.

Bug 36139507: EXTRACT NSK:Calculate rate on the RecordCount display.

Added display of rate per interval when reporting ReportCount.

Bug 36192203: AUDSERV NSK:fix audserv parsing of ARLIBERROR.

Corrected parsing of Extract parameter `AUDSERVPARAM` option `ARLIBERROR` `<error>`, `<action>`.

Bug 36421312: EXTRACT NSK: Fix abend when resolving MRKRGGGS.

Corrected a TMF Extract getting an error "Unable to add new file MRKRGGGS" for a marker file from a different Oracle GoldenGate installation on the same node.

Bug 36504603: OTHER NSK: Remove Blowfish method from usage.

Deprecated and removed the use of BlowFish encryption from the product. This affects the GGSCI command `Encrypt Password`, the `Logon` parameter to `Extract` and `Replicat`, as well as `Extract` encryption over IP. For more information, see [Using Encryption](#) in the *Administering Oracle GoldenGate for HP NonStop (Guardian Data Sources)*

Bug 36525748: EXTRACT NSK: Bounds check rmtthost to OpenSys MA to not allow encryption over IP.

Added `RECEIVERPORT` for `Extract` to send `RMTTRAIL` data to an OpenSys MicroServices remote and properly test valid parameters. This is to be used instead of either `PORT` or `MGRPORT`.

36626655 NSK: Extract does not write restart abend record after maxfiles abend and prior trail was already complete.

Corrected `Extract` to output a restart abend record on restarting after `Extract` reached the configured `Maxfiles` causing an abend.

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.

When you contact support, provide full and concise details. Use the PAK utility to provide all reports for each of a given process group of Extract (TMF and or PUMP) as well as Replicat for full source to target details. Use the same PAK utility to provide any relevant ZZSA files and matching object file.

Example of using PAK:

```
TACL> PAK Pakfile, <$vol>.<subvol>.<group name>*, Open
```

Known Issues

This chapter describes the known issues at the time of Oracle GoldenGate HP NonStop Release.

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Metadata Requirement as of Version GoldenGate for HP NonStop 19c

Extract may need access to source metadata to be able to write it to the output trails. This is subjective to your need and usage of column information downstream.

By default a metadata record (TDR) is written to the trail for each file or table before its first DML.

In the case of SQL/MP, the catalog is already accessible and nothing needs to be changed.

In the case of Enscribe files, if there is no `DICTIONARY` and `DEF` provided, Extract will fabricate metadata based solely on the details obtained from `FILEINFO`. While this is sufficient for the basic mapping of `FILE A` to `FILE A`, there would be no means to use `ColMap`, `FILTER/WHERE`, `KEYCOLS`, and others features or functions that would require column names and data type information. If this functionality is required, then you must use a `DICTIONARY` and provide a `DEF` for each `FILE`.

The metadata is required by an OpenSys target, and therefore the Extract writing remote trails to another OS is no longer allowed to send fabricated metadata for Enscribe files. You must provide a `DICTIONARY` and provide a `DEF` for each `FILE`. This eliminates the requirement of running `DEFGEN` to provide the OpenSys Replicat of `SOURCEDEFS`.

When Replicating from an OpenSys source to HP NonStop, as of HP NonStop v12.3, you no longer need to use `DEFGEN` to provide column information to the remote Extract on OpenSys. No mapping of filenames or columns is required. This can now all be accomplished in the NSK Replicat because of metadata in the trail.

For more information about trails, please see Oracle GoldenGate Self-Describing Trail Files in the *Fusion Middleware Administering Oracle GoldenGate for HP NonStop (Guardian)*.

Metadata Compatibility

Metadata in trails for SQL/MP and Enscribe DDL without redefines is compatible with any 12.2 or higher version.

Metadata in trails for Enscribe DDL that contains Redefines, can only be sent to OpenSys targets of versions of 12.2.0.1.7 or higher and NSK targets of 12.3.0.1.0 or higher.

Metadata in trails that was fabricated for Enscribe files when DDL was not provided can cause problems for Replicat using `TARGETDEF` on a Map statement, please consult the manuals to correct this.

When Extracting from OpenSys, providing a Map from a ANSI name to an NSK name and not providing a `TargetDef` will result in an Error `TDR invalid column metadata, mismatched`. Remove the `MAP` statement and only send the ANSI name.

Trail Version Compatibility

Oracle recommends that both the source and target versions be of the same major release versions, but if this is not possible and the target version is older than the source, the output data trails must be created by Extract in the targets version formatting, use the appropriate `FORMAT RELEASE <major.minor>` option with the `EXTTRAIL/RMTTRAIL` parameter.

Open Issues

- When configuring Extract to send to an OpenSys Microservices install, ensure that you are using `TCPBufSize 27000`.
- `LOGGER` can write bad GGS Tokens to the trail after a backup take over from a CPU failure.
- Oracle GoldenGate for HP NonStop does not support SSL/TSL encryption to and from OpenSys MicroServices installs. To communicate with a MicroServices install you must not use SSL security when configuring the deployment.

Note:

- It is recommended NOT to use FastReads on a trail that is being written with normal 4K I/O and do not use FastReads in a low volume situation. The most common problems are bad records read in an Extract Pump/Replicat, Replicat receiving an error 59, or corrupted data. This issue can be caused by common and incorrect setups:
 1. A Logger process is doing 4K writes (default) and either an Extract pump/Replicat is using `FASTREADS`.
 2. An Extract is not doing `FASTIO` and either an Extract pump/Replicat is using `FASTREADS`.
 3. An Extract is sending to a `RMTTAIL` and the Server Collector is doing 4K writes (default) and Replicat is using `FASTREADS`.
- If you are using User Exits to do primary key updates, you must change the key length fields to a long instead of a short. This is due to the support for the larger records of DDL2.
- When capturing non audited change data using `LOGGER`, applications are required to open logged files with the correct elections setting for the file in question when opened. While `FILE_OPEN_()` may allow 64 bit primary key access on a `FORMAT 1` file, those updates will be captured as `FORMAT 2` and causes a miss-match with Oracle GoldenGate metadata. If column information is required for any reason, Maps, Filters, or `SQLExec`, an Extract pump or Replicat fails.
- The Oracle GoldenGate product cannot be installed on volumes of 7 digits (if any SQL/MP is expected to be processed). This limitation is within the SQL/MP product, and not Oracle GoldenGate.

Related Information

[Oracle GoldenGate Documentation](#)

[Oracle GoldenGate for Distributed Applications and Analytics](#)

[OCI GoldenGate](#)

[Oracle Database High Availability](#)

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

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