Oracle® GoldenGate Application Adapters for BASE24

N24 Notifications Supplemental Guide

12*c* (12.1.2) Release

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Oracle GoldenGate Application Adapters for BASE24 N24 Notifications Supplemental Guide, 12*c* (12.1.2) Release

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CHAPTER 1

Introducing N24

This chapter introduces N24, a supplemental module that coordinates the notification event associated with full file refresh processing. The module enhances Oracle GoldenGate configurations that are optimized for load sharing, implementing bidirectional replication, and establishing BASE24 backup sites. This chapter covers the following topics:

Contents

Overview

The N24 supplement for BASE24 is an enhancement that coordinates the notifications associated with full refresh processing. Running solely on your target site, these tasks include:

- Renaming the newly refreshed file on the target system.
- Notifying the BASE24 processes to close and reopen the newly refreshed file.

Components

N24 has several components that run on your target system:

- **Notify:** This process runs as a BASE24 satellite process and sends the message to close and open the file that has been refreshed to all BASE24 processes on the Refresh notify list in the LCONF. Note: This process runs on a BASE24 6.x release. If yours is an earlier release, then please request the correct release of Notify from Oracle support.
- **GGSPROC:** This process is started by the user exit in Replicat when the User Exit processes a file RENAME operation. The process will start a TACL process and monitor the result of the TACL. Native object and objects for different versions of Oracle GoldenGate and the HP operating system are included. These are identified with the installation instructions on page 24.
- **GGSREFR:** This is an edit file that contains the names of all the files that will use the enhancement when they are fully refreshed. It also identifies which Replicat process on the source system will be sent the marker to close its files.
- **GLOBALS**: This parameter file includes the DEFINES needed for N24 for Extract and Replicat.
- **TACLB24:** This is the TACL macro that is run when the TACL process starts. This macro performs the following functions:
  - Starts CHGNOTE on the target system
  - Renames the newly created file to the current file name
  - Sends a marker to the corresponding Replicat process on the source system to close its files. The Replicat will reopen the files as it processes its extract trail records.

- **N24UE:** This is the C programming language user exit that is compiled and bound into the Replicat process. It monitors for file RENAME operations. When a RENAME is encountered it will start the GGSPROC ($GGB00) process to start and monitor the TACL. Native object and objects for different versions of Oracle GoldenGate and the HP operating system are included. These are identified with the installation instructions on page 24.

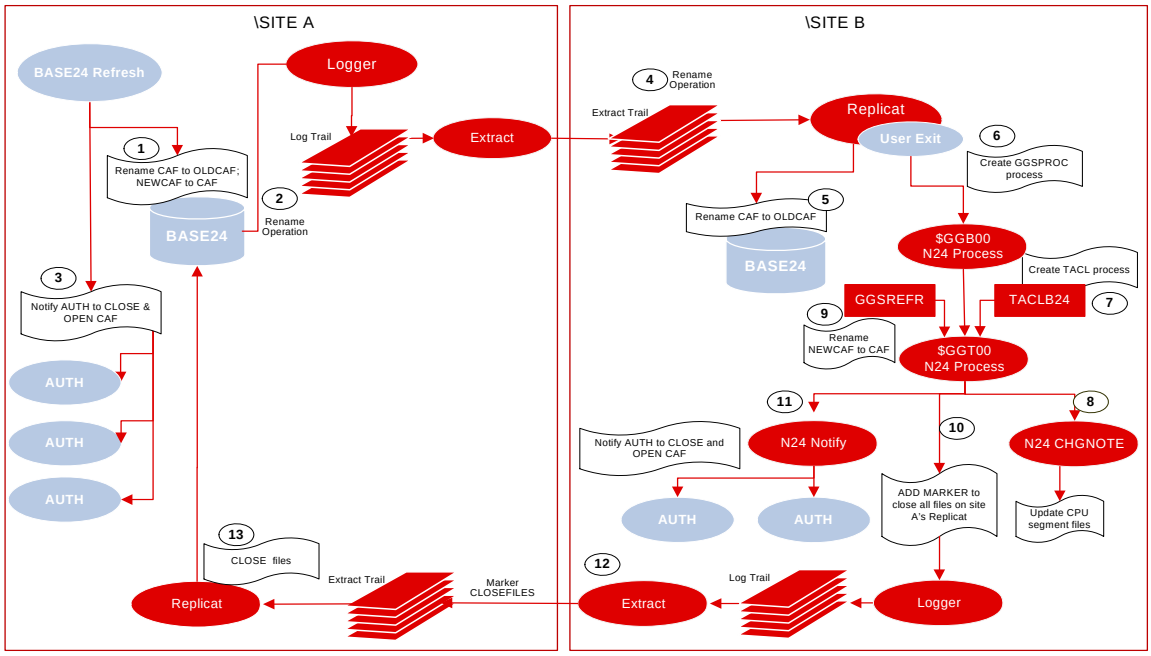
N24 processing

To understand how N24 affects your BASE24 and Oracle GoldenGate for BASE24 implementation, you must understand its logical data flow, illustrated in the diagrams in this section.

Full refresh replication

The following diagram illustrates full refresh processing for dual sites using replication. The sequence of events starts with the renaming of the CAF files and continues until the last acknowledgment of the refresh.

Figure 1 N24 data flow for full refresh replication



Source objects on site A	Data flow
BASE24 Refresh process	Renames the CAF file to OLDCAF and the NEWCAF file to CAF **(1).** The CAF and NEWCAF files are the Card Authorization Files set to be refreshed. Forwards cutover messages to all active BASE24 Refresh processes **(3).** Updates the OLDCAF and CAF files until all cutover messages are received **(3)**.

	Verifies that all BASE24 processes have closed OLDCAF and opened CAF **(3)**.
Logger, log trail	Extracts the file rename operations performed by the BASE24 refresh process and writes them to a log trail **(2)**.
Extract	Reads the log trail and writes the rename operation records to the extract trail on site B **(4)**.

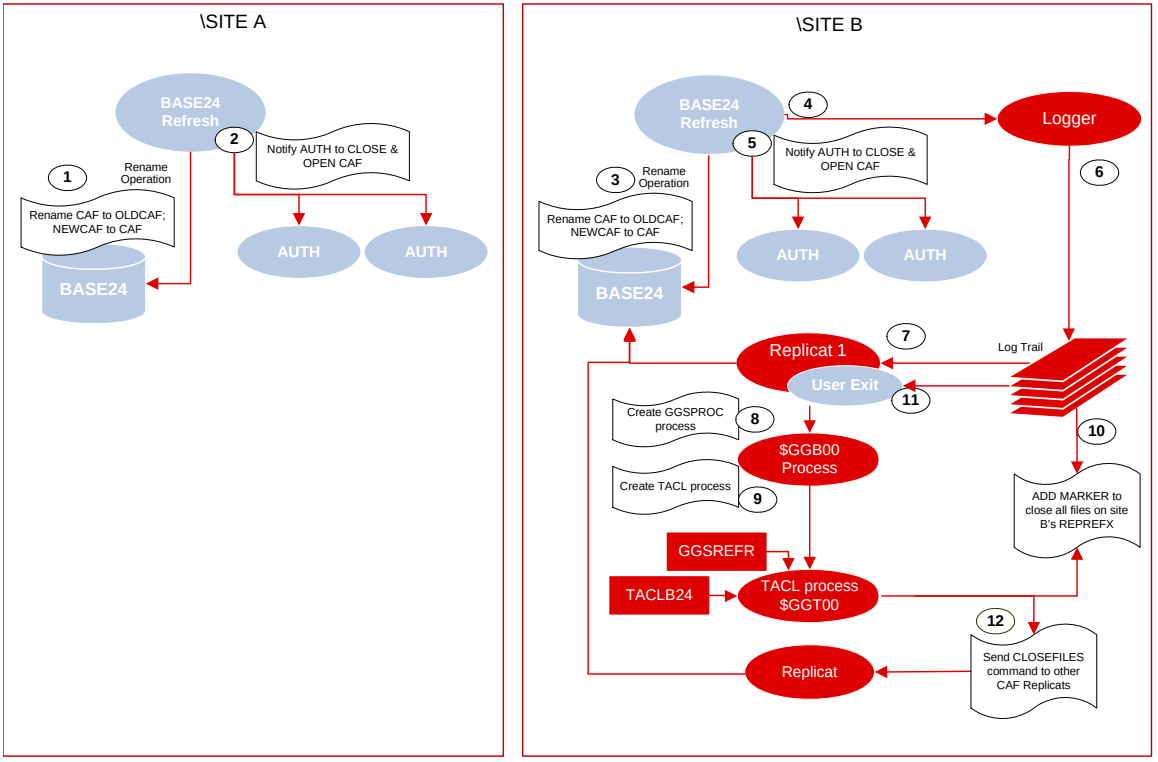
Target objects on site B	**Data flow**
Extract trail	Receives renamed file records from site A **(4)**.
Replicat	Replicates the file renames **(5)**. Starts first N24 GGSPROC process, $GGB00 **(6)**
N24 process $GGB00	Started whenever a renamed file contains an EXITPARM "NOTIFY" in its MAP statement. Starts the N24 TACL process $GGT00 **(7)**.
N24 process $GGT00	TACL process that runs the TACLB24 macro **(7)**, which: ◆ Verifies the values in incoming reference files. ◆ Starts the CHGNOTE program **(8)**. This triggers the intercept libraries to reread the shared segment file. ◆ Renames the files as requested by the user exit on site B. Renames NEWCAF to CAF. **(9)** ◆ Sends a CLOSEFILE marker to a Logger that writes the marker to its log trail **(10)**. ◆ Starts an NCPCOM process and sends cutover messages to Notify **(11)**.

Notify	Receives cutover messages from NCPCOM **(11)**. Forwards cutover messages to all active BASE24 Refresh processes **(11).** Updates the OLDCAF and CAF files until all cutover messages are received **(11)**. Verifies that all BASE24 processes have closed OLDCAF and opened CAF **(11)**.
Source objects on site B	**Data flow**
Logger, log trail	Extracts CLOSEFILE marker data from $GGT00 and writes it to a log trail**(10)**.
Extract	Reads the log trail containing CLOSEFILE markers and writes it to an extract trail on site A **(12)**.
Target objects on site A	**Data flow**
Extract trail	Receives CLOSEFILE markers from the Extract on site B **(12)**.
Replicat	Writes the CLOSEFILE marker to BASE24, which closes the current set of CAF and NEWCAF files and initiates the new renaming process **(13)**.

Parallel full refresh processing

The following diagram illustrates an environment where the full refresh processing runs independently on two sites. The refresh process on site A does not have the Oracle GoldenGate intercept library bound to itself or to the FUP used to load the new file. The refresh process on site B has the Oracle GoldenGate intercept library, but the FUP does not. In this case the optional processing flag <optflag> is set in the GGSREFR file.

Figure 2 N24 data flow for parallel full refresh processing



Objects on site A	Data flow
BASE24 Refresh process	Renames the CAF file to OLDCAF and the NEWCAF file to CAF **(1).** Sends cutover messages to all active BASE24 Refresh processes **(2).** Updates the OLDCAF and CAF files until all cutover messages are received **(2).** Verifies that all BASE24 processes have closed OLDCAF and opened CAF **(2).**

Objects on site B	Data flow
BASE24 Refresh process	Renames the CAF file to OLDCAF and the NEWCAF file to CAF **(3).** Sends cutover messages to all active BASE24 Refresh processes **(5).** Updates the OLDCAF and CAF files until all cutover messages are received **(5)**. Verifies that all BASE24 processes have closed OLDCAF and opened CAF **(5).**
Logger	Logger captures the rename operation **(4)**. Because the FUP process does not include the intercept library only file operations are captured by the Logger.
log trail	The rename operations are written to the log trail **(6)**.
Replicat 1	Reads the log trail and replicates the file renames **(7)**. Starts first N24 GGSPROC process, $GGB00 **(7)**. Reads the log trail and processes the CLOSEFILE **(11)**.
N24 process $GGB00	Starts the N24 TACL process $GGT00 **(8)**.
N24 process $GGT00	TACL process that runs the TACLB24 macro **(9)**, which: ◆ Verifies the values in incoming reference files ◆ Sends a CLOSEFILE marker to the Logger process log trail **(10)**. ◆ Sends a GGSCI CLOSEFILES command to all local Replicats identified in the GGSREFR **(12)**.

CHAPTER 2
Installing N24

This chapter guides you through preparing your N24 environment and installing the N24 code. These procedures are described in the following topics:

Contents

Downloading N24

Go to My Oracle Support to download N24:

https://support.oracle.com

1. Login to My Oracle Support.
2. Click the **Patches & Updates** tab.
3. Under the **Patch Search** tab, enter Patch Number **27024312**, and click **Search**.
4. Click the patch number, select your **Platform**, and then click **Download**.

Installing N24

Upload the files to your HP NonStop environment by using the following procedure:

1. Unzip the file on your workstation. The file is in PAK format. The file name will include information such as the:
   - The number of the Oracle GoldenGate release (such as GGv10)
   - Operating system of the NonStop system that will host Oracle GoldenGate represented as a letter and number.
2. Transfer the file to the HP NonStop Server in binary mode. Use the <GGS volume>.N24 as the destination location.

   The following files are included:

File name	Description
GGSPROC	Object to monitor the TACL process started by GGSREF. This is based on the latest version of Oracle GoldenGate and the HP NonStop operating system.
GGSPROCN	Native version of the GGSPROC object.

File name	Description
N24UE	The C programming language user exit that is compiled and bound into the Replicat process to monitor for file RENAME operations. This version is based on the latest version of Oracle GoldenGate and the HP NonStop operating system.
N24UEN	Native version of N24UE object.
GGSREFR	List of all full refreshes within the BASE24 system
GLOBALS	GLOBAL parameter file for all the DEFINE values required for Extract and Replicat.
Notify	Notify process runnable object.
TACLB24	TACL macro used by Extract and Replicat.

3. Restore the N24 files.

   Locate X24UNPAK. This macro is used to restore BASE24 modules using the syntax:

   ```
   TACL> RUN X24UNPAK <module>
   ```

   Where <module> can be D24, T24, or N24. If <module> is left blank, then HELP is displayed. If multiple modules are entered, then only the last is installed.

   Restore the files by running the X24UNPAK macro using N24 as the <module>.

   ```
   TACL> RUN X24UNPAK N24
   ```

   The macro restores the install files to $<GGS volume>.N24. Two additional subvolumes that include sample parameter files for site A and site B are restored to $<GGS volume>.N24A and $<GGS volume>.N24B.

Installation prerequisites

Before you install and start your N24 module, you must satisfy the following prerequisites:

- Edit the TACLB24 macro
- Edit GGSREFR
- Add N24 defines
- Edit the LCONF file
- Prepare parameter files

Edit the TACLB24 macro

To configure the TACLB24 macro to work in your environment, you must point it to your Pathway server, a variety of different programs and files, as well as set some Oracle GoldenGate default names.

To edit the TACLB24 macro:

1. Open the TACLB24 file using NonStop EDIT or TEDIT.
2. Look for the following comment line in the macro edit file:

   ```
   == Customer must populate these values
   ```

3. Enter the location of your Pathway PPD for your BASE24 network.

   ```
   [#set :ppmn     $ppmn]
   ```

4. Enter the location of your NCPCOM program.

   ```
   [#set :ncpcom <OGG volume>.xpnetnn.ncpcom]
   ```

5. Set the location of your CHGNOTE program.

   ```
   [#set :chgnote <OGG volume>.<OGG subvol>.chgnote]
   ```

6. Identify your default Oracle GoldenGate prefix.

   ```
   [#set :prfx     $GG]
   ```

7. Set the location of your AUDCFG file.

```
[#set :audcfg   $system.ggs.audcfg]
```

8. Identify the BASE24 Notify logical process name.

```
[#set :notify   <node name>.p1a^node.p1a^notify]
```

9. Set the location of GGSCI.

```
[#set :ggsci <OGG volume>.<OGG subvol>.ggsci]
```

10. Set the location of your Refresh edit file.

```
[#set :ggsrefr <OGG volume>.<OGG subvol>.ggsrefr]
```

If you run Refresh on each node at the same time, then you should preform the following two steps:

11. Set the Replicat name on Site 1.

```
[#set :repref1  REPREF1]
```

12. Set the Replicat name on Site 2.

```
[#set :repref2  REPREF2]
```

Your final file will look like this sample:

```
== Customer must populate these values
[#set :ppmn     $ppmn]
[#set :ncpcom   $data8.xpnet30.ncpcom]
[#set :chgnote  $data7.ggs.chgnote]
[#set :prfx     $GG]
[#set :audcfg   $system.ggs.audcfg]
[#set :notify   \ggs2.p1a^node.p1a^notify]
[#set :ggsci    $data7.ggs.ggsci]
[#set :ggsrefr  $data7.ggs.ggsrefr]
[#set :repref1  REPREF1]
[#set :repref2  REPREF2]
== Customer must populate these values above
```

Edit GGSREFR

This edit file defines the files that will use N24 when they are renamed. Edit this file to reflect your own paths.

Figure 3 Example of a space-separated list of BASE24 full refresh files:

```
=    <fname>          <refrgrp> <replcat> <refrtype> <optppd> <optnotify> <optflag> <optLCONF>
<location>.PRO1DATA.PBF  BK02    RPD24AB     1
<location>.PRO1DATA.CAF  0001    RPD24AB     7       $PPMN    P1A^NOTIFY
<location>.PRO1DATA.NEG  BK01    RPD24AB     D       $PPMN    P1A^NOTIFY
<location>.PRO1DATA.CAF0 BK11    RB2423      7       $PPMN    P1A^NOTIFY     5      CAF-0001
```

The fields specifed in the GGSREFR serve the following purposes:

- **<fname>**: The file names that are to be refreshed. These files should only be specified if there is a full refresh. The files specified are to be specified locally and will be considered the target file. If you have files in the same disk and subvolume, then specify the order of the files from largest file name size to shortest file name size. Fully qualify each file name with an HP NonStop system name as well.
- **<refrgrp>:** The BASE24 refresh group as defined in the IDF.
- **<replcat>**: The Replicat group name that closes and opens its files to allow bi-directional processing. This Replicat will always be on the *source* system and not the target.
- **<refrtype>:** Indicates which file has been refreshed. Valid values for files used by the Notify process are as follows:
  - 1 = Positive Balance File (PBF) for DDA and NOW accounts if multiple PBFs are used, or all accounts if PBFs are combined
  - 2 = Positive Balance File (PBF) for savings accounts if multiple PBFs are used
  - 3 = Positive Balance File (PBF) for credit card accounts if multiple PBFs are used
  - 5 = Stop Payment File (SPF)
  - 6 = No Book File (NBF) — BASE24-TELLER only
  - 7 = Cardholder Authorization File (CAF)
  - 9 = Warning/Hold/Float File (WHFF) — BASE24-TELLER only
  - A = Corporate Check File (CCF) — BASE24-ATM self-service banking (SSB) Check Application only

- B = Check Status File (CSF) — BASE24-ATM self-service banking (SSB) Check Application only
- D = Negative Card File (NEG)
- E = Customer/Card Information File (CCIF)
- F = Customer/Card Memo File (CCMF)
- Blank = Statement Print Data File (SPDF)

You can also choose to enter the following optional parameters:

- <**optppd**>: The BASE24 Pathway name that is associated with the file name specified for the target system. This process name is derived from the values you set in the TACLB24 macro, if not specified with this file. This value is to be used when there are multiple BASE24 environments and one Oracle GoldenGate environment.
- <**optnotify**>: The BASE24 symbolic name that is used to deliver a command to the associated Notify process for the target system and particular Target file name specified. The symbolic process name is derived from the TACLB24 macro, if not specified with this file. This value is to be used when there are multiple Logical Networks for a BASE24 environment and one Oracle GoldenGate environment. You must specify the <optppd> parameter when using this value.
- <**optflag**>: This option flag has two potential uses:
  - To indicate whether the macro should perform the full notification or limit it to only send the GGSCI command CLOSEFILES to other Replicats declared by the REPREF1 and REPREF2. Used mainly when full refreshes are required on target and source independent of each other.
    - **0** = full notification **(**default)
    - **1** = Send the CLOSEFILES command and marker to local Replicats only.
  - To allow specification of an LCONF assign to use in place of the file name in the <optLCONF>. This is required for non-standard ACI files.
    - **5** = allows specification of an LCONF assign to use in place of the file name, but does not generate a notification of a file name mismatch.
    - **6** = allows specification of an LCONF assign to use in place of the file name and notifies when the file name in GGSREFR does not match the LCONF value specified.

- **<optLCONF>:** If the <optflag> is set to 5 or 6, then this specifies an LCONF assign to validate.

Note When the primary refresh file has partitions, only the primary file name should be specified in GGSREFR.

Once you have edited the GGSREFR, you must edit your parameters to ensure that the GLOBALS file includes all the required DEFINES as explained later in this section.

Add N24 defines

Edit the GLOBALS parameter file for the DEFINES required by Oracle GoldenGate for BASE24 and N24. You must edit this file so it contains your own paths to your AUDCFG file and the TACLB24 macro.

```
delete define =ggs_audcfg
delete define =ggs_prefix
delete define =notify
add define =ggs_audcfg, class map, file $system.ggs.audcfg
add define =ggs_prefix, class map, file $gg
add define =notify, class map, file $data1.ggs.taclb24
```

Note The DEFINE =NOTIFY statement is required by N24. This contains the location of the TACLB24 macro.

If you are currently running Manager, then stop the process and restart it. This will pick up the DEFINES from GLOBALS.

Edit the LCONF file

Unless the LCONF value was specified in GGSREFR using the <optflag> = 5 or 6, LCONF assigns must be added in order for the Notify process to retrieve the proper file name when sending out messages. Edit your file with paths for your environment.

Figure 4 Sample LCONF Assign screen

```
************************** LCONF ASSIGN MESSAGE ****************************

                Process Name:  ****************

                     ASSIGN:  CAF-<IDF Refresh group>
                         TO:  <node name>.<volume>.PR01DATA.CAF
                   Template:  <node name>.<volume>.PR01TPLT.CAF
 Product Use:
     BASE       ATM        POS



 Comments:     THE NAME OF THE CARD AUTHORIZATION FILE.  TEMPLATE REQUIRED FOR
               FULL-FILE REFRESH.  READ BY THE REFRESH PROCESS AND NOTIFY
               PROCESS.


User Field:

 Record read O.K.
 ====================  Last Modified 01/10/10 08:44:04 ======================
F2=READ F3=ADD F4=DELETE F5=UPDATE F6=RD NEXT F7=PREV F10=PRINT F16=EXIT
SF2=SEARCH-FOR-MATCH
```

Prepare parameter files

Prepare parameter files for each Manager, Logger, Extract, and Replicat you add to your BASE24/N24 environment. Of these, Replicat parameter files require special attention for N24 to work properly. The examples in this section are for a two Replicat N24 implementation.

Replicat 1 parameter example

```
************************************************************************
--REPLICATOR 01 ($GGR01) updates target SITE 2 -
--                       TES1 NETWORK DATABASE
************************************************************************
REPLICAT REPREST

DISCARDFILE $DATA3.GGSDISC.REPREST,PURGE
ASSUMETARGETDEFS
```

```
NOFILLSHORTRECS
NOAUDITREPS
BULKIOLOAD
FASTREADS
REPERROR 11, DISCARD
OPENTIMEOUTMINUTES 5
GETFILEOPS
CUSEREXIT
MAP \LA.$DATA6.TES1DATA.*CAF*, TARGET \NY.$DATA3.TES1DATA.*,
   EXITPARAM "NOTIFY";
MAP \LA.$DATA6.TES1DATA.*PBF*, TARGET \NY.$DATA3.TES1DATA.*,
   EXITPARAM "NOTIFY";
```

Replicat 2 parameter file with EXCEPTIONSONLY

```
************************************************************************
-- REPLICATOR 02 ($GGR02) updates target SITE 1-
--                       TES1 NETWORK DATABASE
-- REPICAT parameter file REPREXP
************************************************************************
REPLICAT REPREXP

DISCARDFILE $DATA7.GGSDISC.REPREXP, APPEND
ASSUMETARGETDEFS
NOFILLSHORTRECS
NOAUDITREPS
BULKIOLOAD
FASTREADS
GETFILEOPS
REPERROR 11,EXCEPTION
OPENTIMEOUTMINUTES 5
CUSEREXIT

MAP \NY.$DATA3.TES1DATA.CAF, TARGET \LA.$DATA6.TES1DATA.CAF;
MAP \NY.$DATA3.TES1DATA.CAF, TARGET \LA.$DATA6.TES1DATA.OLDCAF,
      EXCEPTIONSONLY;
MAP \NY.$DATA3.TES1DATA.OLDCAF, TARGET \LA.$DATA6.TES1DATA.OLDCAF;
MAP \NY.$DATA3.TES1DATA.OLDCAF, TARGET \LA.$DATA6.TES1DATA.CAF,
      EXCEPTIONSONLY;
MAP \NY.$DATA3.TES1DATA.N*, TARGET \LA.$DATA6.TES1DATA.*,
      EXITPARAM "NOTIFY";
```

Replicat parameter file for independent refreshes with optional flag used

This Replicat is used to monitor when a BASE24 full refresh performs its rename from current to old. At this point, the new fully refreshed file is completely loaded.

```
--*****************************************************************
--REPLICATOR REPREF1 Monitors Rename
--*****************************************************************
REPLICAT REPREF1

DISCARDFILE $BASE02.GGSDISC.REPREF1, PURGE
GETFILEOPS
CUSEREXIT
IGNOREINSERTS
IGNOREUPDATES
IGNOREDELETES

MAP \NY.$PROD*.PRO1DATA.CAF, TARGET \LA.$*.*.*,
      EXITPARAM "NOTIFY";

IGNOREFILEOPS

MAP \NY.$PROD*.PRO1DATA.O*, TARGET \LA.*.*.*;
```

Installing N24

To install N24 in your BASE24 environment, you must:

- Move components to their proper location
- Bind the N24 user exit to Replicat
- Add the Notify process to XPNET
- Start N24on site 2

Move components to their proper location

Move the following files to the Oracle GoldenGate main subvolume:

- TACLB24
- N24UE(N)
- GGSPROC(N)

Move the Notify program to the <volume>.<subvolume> where your other BASE24 object programs are located.

Bind the N24 user exit to Replicat

The BINDEXIT macro binds the user exit N24UE with the Replicat program. On the Oracle GoldenGate main subvolume, enter the following command:

```
TACL> RUN BINDEXIT
```

The following is a sample of an interactive BINDEXIT session:

```
BINDEXIT Utility
Enter X at any prompt to quit.

Enter type of GGS object to create
Extract or Replicat:
GGS Object Type:                        REPLICAT
Enter $Vol.Subvol for REPLICAT :        $DATA1.GGS
```

```
Enter location of userexit object :     $DATA1.GGS.N24UE
Enter name for new object file :        NEWREP

Creating new REPLICAT object file...New REPLICAT file
$DATA1.GGS.NEWREP created with user exits.

Accelerate code when BIND finished (Y)  Y
Accelerating $DATA1.GGS.NEWREP...
ACCELERATOR - T9276D30 - 14NOV05 - (Oct 26 2005)
Copyright Tandem Computers, Incorporated, 1988-1997
Options:  SAFE UC PROCDEBUG NOTLINKABLE INHERITSCC_ON ATOMIC_ON
          OVTRAP_ON TRUNCATEINDEXING_ON SAFEALIASINGRULES_ON

System name = \GGS
CPU number = 2, CPU type = Unknown
Accelerated on 04/19/2006 at 10:32:25.

TNS File Name: \GGS.$DATA1.GGS.NEWREP
Binder Region Present
Symbols Region Present

0 Errors were detected
0 Warnings were issued

Accelerated File Name: \GGS.$DATA1.GGS.NEWREP
CPU Time 0:02:16.873
Elapsed Time 0:02:43
Extended segment size = 32881268 bytes.

SQL Catalog for SQLCOMP (or N to avoid SQL compile): N
```

Binding the native version

If you are running your NonStop environment in native mode, you must bind your native exits using NLDEXIT instead of BINDEXIT. Begin the session with NLDEXIT by entering the following command from the main Oracle GoldenGate subvolume:

```
TACL> RUN NLDEXIT
```

The following is a sample of an interactive session with NLDEXIT:

```
NLDEXIT Utility

Creates a new Native EXTRACT or REPLICAT object file linked with a
USEREXIT module.
Enter X at any prompt to quit.

Enter type of GGS object to create
Extract or Replicat:
GGS Object Type:                                REPLICAT
Enter $Vol.Subvol for REPLICAT Relinkable:      $DATA1.GGS
Enter location of userexit object:              $DATA1.GGS.N24UEN
Enter name for new object file:                 NEWREPN
Does your User Exit contain C++ modules(Y/N):   N
Does your User Exit contain Cobol modules(Y/N): N

New REPLICAT file $DATA1.GGS.NEWREPN created with user exits.

SQL Catalog for SQLCOMP (or N to avoid SQL compile): N
```

Binding for Oracle GoldenGate version 5

To bind the user exit for Oracle GoldenGate release 5, enter the following command on the Oracle GoldenGate main subvolume:

```
TACL>  RUN BINDEXIT
```

This will begin an interactive session with BINDEXIT.

```
BINDEXIT Utility
Creates a new EXTRACT or REPLICAT object file with bound-in USER
EXIT routines. Enter X at any prompt to quit.

Enter type of object to create, EXTRACT or REPLICAT: REPLICAT
Enter name of your USER EXIT object file:            N24UE5
Enter name of the NEW REPLICAT object file:          NEWREP
SQL Catalog for SQLCOMP (or N to avoid SQL compile): N
Accelerate code when BIND finished (Y/N)?            Y
Creating new REPLICAT object file...
New REPLICAT file $DATA1.GGS.NEWREP created with user exits.
Accelerating $DATA1.GGS.NEWREP...
@ACCELERATOR - T9276D30 - 14NOV05 - (Oct 26 2005)
```

```
Copyright Tandem Computers, Incorporated, 1988-1997
Options:  SAFE UC PROCDEBUG NOTLINKABLE INHERITSCC_ON ATOMIC_ON
          OVTRAP_ON TRUNCATEINDEXING_ON SAFEALIASINGRULES_ON

System name = \GGS
CPU number = 0, CPU type = Unknown
Accelerated on 4/19/2006 at 12:02:39.
204523 TNS instruction words
294909 TNS/R instructions
2.88 inline code expansion factor

TNS File Name: \GGS.$DATA1.GGS.NEWREP
Binder Region Present
Symbols Region Present
0 Errors were detected
0 Warnings were issued

Accelerated File Name: \GGS.$DATA1.GGS.NEWREP
CPU Time 0:04:05.633
Elapsed Time 0:05:53
Extended segment size = 17545640 bytes.
```

Rename and license

After the successful completion of the BIND, rename Replicat and replace with the newly bound version.

```
TACL>  RENAME REPLICAT, REPORIG
TACL>  RENAME NEWREP, REPLICAT
TACL>  FUP LICENSE REPLICAT
```

Note To excute the FUP command LICENSE REPLICAT you must be logged in as Super.Super

Add the Notify process to XPNET

You will need to add and configure a Notify process for each Logical Network that exists within your BASE24 environment. To add Notify to XPNET, perform the following commands:

```
TACL> NCPCOM $PPMN

   1 > set process like P1A^REFR
      Process \GGS.P1A^NODE.P1A^REFR set complete.
   2 > set process ppd $P1NO
   3 > set process program $DATA8.BA53OBJ.NOTIFY
   4 > add process \GGS.P1A^NODE.P1A^NOTIFY
      Process \GGS.P1A^NODE.P1A^NOTIFY added.
```

Start N24on site 2

Start the Notify process by executing the following commands:

```
TACL> NCPCOM $PPMN

   1 > start process P1A^NOTIFY

   Process \GGS.P1A^NODE.P1A^NOTIFY started.
```

APPENDIX 1
N24 Messages

This appendix lists common messages and suggested actions for their resolution. Message types include:

Contents

EMS and TACL messages

EXPECTING VALID ORIGINAL <FILENAME>

Cause The file specified as the original file is not in a valid format. The TACL macro will not complete processing unless the file and associated parameters passed to the macro are in a valid HP NonStop format.

Recovery Check all mapping parameters contained within Replicat and start the full Refresh process again. Contact Oracle Support if this error persists. For more information, go to http://support.oracle.com.

EXPECTING VALID TARGET <FILENAME>

Cause The file specified as the target file is not in a valid format. The TACL macro will not complete processing unless the file and associated parameters passed to the macro are in a valid HP NonStop format.

Recovery Check all mapping parameters contained within Replicat and start the full Refresh process again. Contact Oracle Support if this error persists. For more information, go to http://support.oracle.com.

RENAME ERROR <GUARDIAN ERROR> ON <ORIGINAL FILE> <TARGET FILE>

Cause The rename for the specified files could not take place; the Guardian error specified is the reason and cause. The TACL macro will not complete processing unless the files are renamed.

Recovery Rename the problem files and restart the Replicat to complete the full Refresh process on the target site.

EXPECTING EXISTING <FILENAME>

Cause The rename for the specified file could not take place; the file specified does not exist. The TACL macro will not complete processing unless the files are renamed.

Recovery Rename the problem file and restart the Replicat to complete the full Refresh process on the target site.

EXPECTING EXISTING <GGSREFR FILE> <FILENAME SPECIFIED>

Cause The GGSREFR file is not in a valid format or does exist. The TACL macro will not complete processing unless the file and associated parameters within the macro are in a valid HP NonStop format for a file name and the GGSREFR file exists.

Recovery Check the GGSREFR file location contained within the TACLB24 macro and start the full Refresh process again. Contact Oracle Support if this error persists. For more information, go to http://support.oracle.com.

ERROR <NCPCOM PROCESS> IS NOT A PROCESS !

Cause The process specified as the NCPCOM process is not in a valid format or does not exist as a PATHMON process. The macro will not complete processing unless the process :ncpcom is in a valid HP NonStop format.

Recovery Make sure your TACLB24 macro or GGSREFR file contain the correct process name for NCPCOM, and proper HP NonStop syntax is observed. Once edits have been made, start the Replicat process again. Contact Oracle Support if this error persists. For more information, go to http://support.oracle.com.

ERROR <NCPCOM PROCESS> IS NOT A PATHWAY MONITOR !

Cause The process specified as the NCPCOM process is not in a valid format or does exist as a PATHMON process. The macro will not complete processing unless the process NCPCOM is in a valid HP NonStop format and the process exists as a PATHMON process.

Recovery Make sure your TACLB24 macro or GGSREFR file contain the correct process name for NCPCOM, and proper HP NonStop syntax is observed. Once edits have been made, start the Replicat process again. Contact Oracle Support if this error persists. For more information, go to http://support.oracle.com.

ERROR IN SENDING NCPCOM MESSAGE <OUTPUT FROM NCPCOM>

Cause The process starting NCPCOM was not able to deliver the message to the Notify process for reasons specified in the message output. The TACLB24

will not complete processing unless the Notify process message is delivered.

Recovery Check the BASE24 processes that have the OCAF still open. If all items completed successfully for the Refresh and the Replicat, then you can send the 9503***<filename><refrg><refrt> to Notify or just WARMBOOT your BASE24 processes. Validate that all other steps have finished processing before manual intervention. Contact Oracle Support if this error persists. For more information, go to http://support.oracle.com.

<LCONF ASSIGN> ASSIGN NAME NOT FOUND IN THE LCONF

Cause The Notify process was not able to deliver its message to all BASE24 processes for reasons specified in the message output. The TACLB24 will complete processing but the Notify process message is not delivered.

Recovery Check the BASE24 processes that have the old file still open. Make sure your LCONF values are correct and or there are no errors within the GGSREFR for the REFRESH GROUP. If all items completed successfully for the Refresh and the Replicat, then you can send the 9503***<filename><refrg><refrt> to Notify or just WARMBOOT your BASE24 processes. Validate that all other steps have finished processing before manual intervention. Contact Oracle Support if this error persists. For more information, go to http://support.oracle.com.

NO NOTIFY MESSAGE DELIVERED TO B24 PROCESSES

Cause The Notify process was not able to deliver the message to all BASE24 process for reasons specified in the message output. The TACLB24 macro will compete processing but the Notify process message is not delivered.

Recovery Check the BASE24 processes that have the old file still open. Make sure your LCONF values are correct and or there are no errors within the GGSREFR for the REFRESH GROUP. If all items completed successfully for the Refresh and the Replicat, then you can send the 9503***<filename><refrg><refrt> to Notify or just WARMBOOT your BASE24 processes. Validate that all other steps have finished processing before manual intervention. Contact Oracle Support if this error persists. For more information, go to http://support.oracle.com.

ERROR PARTITION SPECIFIED IN GGSREFR FILE HAS TO BE THE PRIMARY FILE ONLY.

Cause A partition was specified as a file name in the GGSREFR file.

Recovery Change the <filename> to the name and location of the primary file. Specifying a partitioned file without the optional LCONF parameter will not notify the proper file name within BASE24. Specify the <optflag> = 5 or 6 and add an <optLCONF> parameter to the GGSREFR file.

ERROR ALTKEY SPECIFIED IN GGSREFR FILE HAS TO BE THE PRIMARY FILE ONLY.

Cause An alternate key file was specified as a file name in the GGSREFR file.

Recovery Change the <filename> to the name of the primary file. Specifying an alternate key file without will not notify the proper file name within BASE24. Specify the <optflag> = 5 or 6 and add an <optLCONF> parameter to the GGSREFR file.

Message warnings

MACRO EXITING <FILENAME> NOT FOUND IN <EDIT FILE NAME>

Cause The file specified is not in the edit file for BASE24 full file refreshes. The macro will not complete processing unless the file and associated parameters are contained in the GGSREFR edit file.

Recovery Add the Refresh file name <fname> to the edit file GGSREFR, along with all parameters, and start the full Refresh process again.

ASSUMING RESTART OF REPLICAT <FILENAME> EXISTS

Cause A specified file rename process could not take place; the file specified already exists. The macro will complete processing yet the files will not be renamed.

Recovery This message is only to inform you that processing is completed within the macro even though the rename was not accomplished.

REFRESH GROUP TRUNCATED

Cause GGSREFR contains an entry for the Refresh Group <refrgrp> that is greater than the maximum size of a Refresh group. The TACLB24 will truncate the value and continue processing. The macro completes using the truncated value.

Recovery Modify the GGSREFR file for the Refresh Group that is longer than it should be. At this point, you have two options:

- Start the full Refresh process again.
- If all items completed successfully for the Refresh and the Replicat, then you can send the 9503***<filename><refrg><refrt> to Notify or just WARMBOOT your BASE24 processes.

Validate that all other steps have finished processing before manual intervention. Contact Oracle Support if this error persists. For more information, go to http://support.oracle.com.

REPLCAT NAME TRUNCATED

Cause The file GGSREFR contains an entry for a Replicat <replcat> that is greater than the maximum size of a Replicat name. TACLB24 will truncate the value and continue processing. The macro completes using the truncated value.

Recovery Modify the GGSREFR file for the Replicat name that is longer than it should be. Start the full Refresh process again. Contact Oracle Support if this error persists. For more information, go to http://support.oracle.com.

REFRESH TYPE TRUNCATED

Cause GGSREFR contains an entry for the REFRESH TYPE <refrtype> that is greater than its maximum size. TACLB24 will truncate the value and continue processing. The macro completes using the truncated value.

Recovery Modify the GGSREFR file for the Refresh Type that is longer than it should be. At this point, you have two options:

- Start the full Refresh process again.

- If all items completed successfully for the Refresh and the Replicat, then you can send the 9503***<filename><refrg><refrt> to Notify or just WARMBOOT your BASE24 processes.

Validate that all other steps have finished processing before manual intervention. Contact Oracle Support if this error persists. For more information, go to http://support.oracle.com.

Informational messages

RENAME FOR <ORIGINAL FILE> TO <TARGET FILE> COMPLETED.

Cause The rename for the specified file was successful.

CHGNOTE COMPLETED.

Cause The CHGNOTE process executed.

NOTIFY MESSAGE QUEUED TO <BASE24 NOTIFY PROCESS> FOR REFRESH <REFRESH GROUP>

Cause The Message was sent to the BASE24 Notify process and was delivered successfully.

REFRESH FOR <FILENAME> ACKNOWLEDGED BY ALL PROCESSES.

Cause The Message was sent to each BASE24 process contained on the REFNOTIFYxx list and was acknowledged successfully.