Oracle® GoldenGate for Base24

N24 Notification Supplemental Guide

Version 3.0

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ORACLE

Oracle® GoldenGate for Base24 N24 Notification Supplemental Guide, version 3.0

Contents

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CHAPTER 1

Introducing N24

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

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Overview

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

- Renaming the newly full refreshed file on the target system.
- Notifying the BASE24 processes to close and reopen the newly full 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 version. If yours is an earlier version, please request the correct version of Notify from GoldenGate 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 GoldenGate and the HP operating system are included. These are identified with the installation instructions on page 25.

- **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 include the DEFINES needed for N24 for Extract and Replicat.

- **TACLB24:** This is the TACL macro that is executed 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 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 GoldenGate and the HP operating system are included. These are identified with the installation instructions on page 25.

N24 processing

To understand how N24 affects your BASE24 and GoldenGate for BASE24 implementation, you must understand its logical dataflow, illustrated in the following diagrams.

Full refresh replication

The following diagram illustrates dual site full refresh processing 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 dataflow for full refresh replication
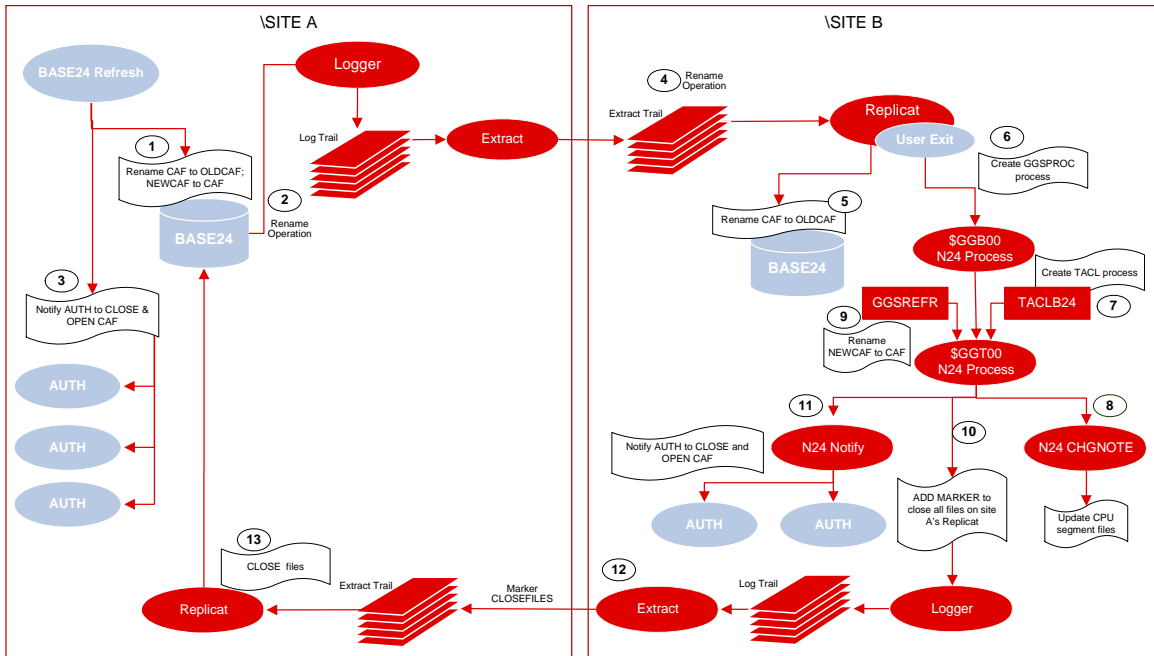
Source objects on site A	Dataflow
BASE24 Refresh process	Renames the CAF file to OLDCAF and the NEWCAF file to CAF **(1).** The CAF and NEWCAF files are the Card Authorization Files set to be refreshed.
	Forwards cutover messages to all active BASE24 Refresh processes **(3).**
	Updates the OLDCAF and 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	**Dataflow**
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 EXITPARAM "NOTIFY" in its MAP statement **(6)**. 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	**Dataflow**
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	**Dataflow**
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 kicks off 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 GoldenGate intercept library bound to itself or to the FUP used to load the new file. The refresh process on site B has the 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 dataflow for parallel full refresh processing

objects on site A	Dataflow

Objects on site B	Dataflow
BASE24 Refresh process	Renames the CAF file to OLDCAF and the NEWCAF file to CAF **(3).**
	Cutover messages are sent 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)**. Since 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)**.

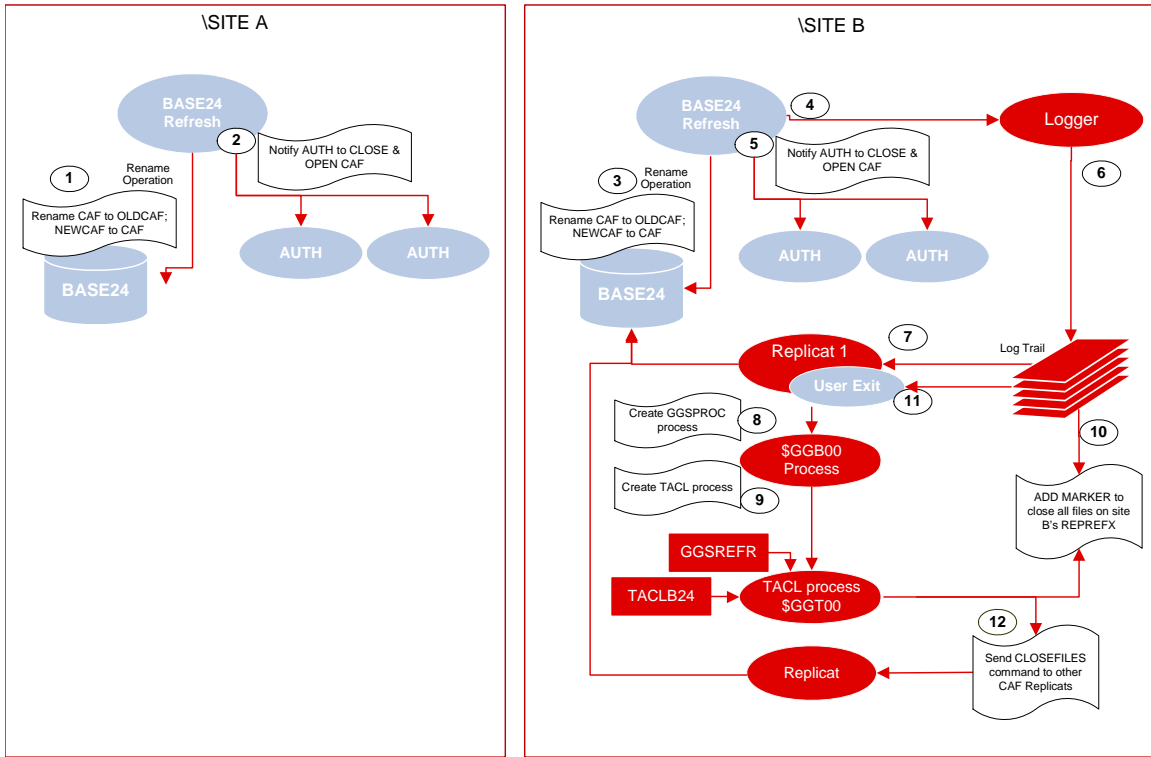| BASE24 Refresh process	Renames the CAF file to OLDCAF and the NEWCAF file to CAF **(1).**
	Cutover messages are sent to all active BASE24 Refresh processes **(2).**
	Updates the OLDCAF and CAF files until all cutover messages are received **(2)**.
	Verifies that all BASE24 processes have closed OLDCAF and opened CAF **(2).**

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)**.

Installing N24

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

Contents

Uploading N24

To access the N24 code, contact GoldenGate Technical Services. Once you have received the .zip files, 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:

❍ Version number of the GoldenGate release (e.g. GGv10)

❍ Operating system of the NonStop system that will host GoldenGate represented as a letter and number (e.g. G06).

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 version is based on the latest version of GoldenGate and the HP NonStop operating system.
GGSPROCN	Native version of the GGSPROC object.
N24UE	The C 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 GoldenGate and the HP NonStop operating system.
N24UEN	Native version of N24UE object.
GGSREFR	List of all full refreshes within the BASE24 system

File name	Description
GLOBALS	GLOBAL parmeter file for all the DEFINE values required for Extract and Replicat.
Notify	Notify process excutable 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> may be D24, T24, N24, or M24. If <module> is left blank, HELP is displayed. If multiple modules are entered, 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 GoldenGate default names.

To edit the TACLB24 macro:

1. Open the TACLB24 file using NonStop's 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 <GG volume>.xpnetnn.ncpcom]
   ```

5. Set the location of your CHGNOTE program.

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

6. Set the location of your Logdump program.

   ```
   [#set :logdump <GG volume>.<GG subvol>.logdump]
   ```

7. Identify your default GoldenGate prefix.

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

8. Set the location of your AUDCFG file.

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

9. Identify BASE24's Notify logical process name.

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

10. Set the location of GGSCI.

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

11. Set the location of your Refresh edit file.

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

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

12. Set the Replicat Name on Site 1.

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

13. 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 :logdump   $data7.ggs.logdump]
[#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 filename(s) 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, specify the order of the files from largest filename size to shortest filename size. Fully qualify each filename 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 = Statment Print Data File (SPDF)

You may also choose to enter the following optional parameters:

- **\<optppd\>**: The BASE24 Pathway name that is associated with the filename
  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 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
  filename 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 GoldenGate
  environment. You must specify the <optppd> parameter when using this
  value.

- **\<optflag\>**: This option flag has two potential uses:
  - ○ This option flag indicates 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.

  - ○ Allows specification of an LCONF assign to use in place of the filename 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 filename mismatch.

○ **6** = allows specification of an LCONF assign to use in place of the file name and notifies when the filename in GGSREFR does not match the LCONF value specified.

● **<optLCONF>:** If the <optflag> is set to 5 or 6, 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 below.

Add N24 defines

Edit the GLOBALS parameter file for the DEFINES required by 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, 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 filename 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>.PRO1DATA.CAF
                     Template:   <node name>.<volume>.PRO1TPLT.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 following are examples 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 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 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. Initiate the session with
NLDEXIT by entering the following command from the main 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 GoldenGate version 5

To bind the user exit for GoldenGate version 5, enter the following command on the GoldenGate main subvolume,

```
TACL>  RUN BINDEXIT
```

This will initiate 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, execute 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

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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 GoldenGate Support if this error persists.

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 GoldenGate Support if this error persists.

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 filename and the GGSREFR file exists.

Recovery   Check the GGSREFR file location contained within the TACLB24 macro and start the full Refresh process again. Contact GoldenGate Support if this error persists.

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 GoldenGate Support if this error persists.

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 GoldenGate Support if this error persists.

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,
you may 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
GoldenGate Support if this error persists.

<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 you may 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
GoldenGate Support if this error persists.

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 you may 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 GoldenGate Support if this error persists.

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, you may 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 GoldenGate Support if this error persists.

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 GoldenGate Support if this error persists.

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, you may 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 GoldenGate Support if this error persists

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 REF-NOTIFYxx list and was acknowledged successfully.