

## White Paper

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# IBM® Sterling Gentran IFS Gateway (GIFSGATE) Command

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## What is GIFSGATE?

### Overview

GIFSGATE is an interface between Sterling Gentran:Server for iSeries and the Integrated File System (IFS). The IFS gateway is installed as a standard part of Sterling Gentran:Server for iSeries and no additional installation procedures are required.

The IFS gateway is logically positioned between the Sterling Gentran:Server communications queues and the IFS files that serve as the hand-off point between Sterling Gentran:Server and an external software product.

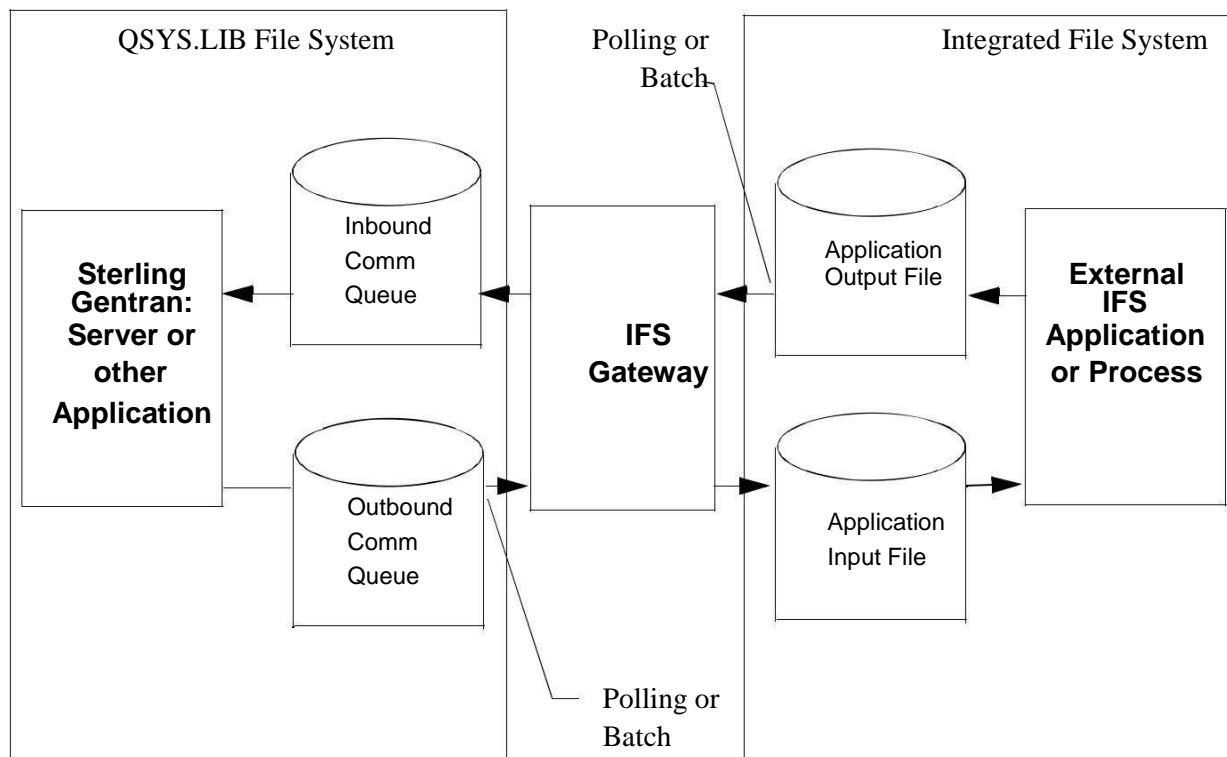


Figure 12-1 IFS Gateway

Two functions are performed by the gateway: inbound data transfer and outbound data transfer. You may configure the gateway to perform either function or both functions. The gateway can be configured many ways depending on your needs; however the two major ways are periodic polling and normal scheduled batch jobs.

## **Periodic Polling**

Periodic polling simply means checking periodically for data in a specified location and taking some action if data is present. This method is used by many PC and UNIX products. Using the IFS gateway in this way extends that concept to take the data as far as the Sterling Gentran:Server communications queues.

## **Scheduled Batch Jobs**

If you prefer, you can run the gateway without polling, as a single-pass process. Using it this way, it can be an extension of your existing batch processes. Jobs may be scheduled and executed using your existing operations facilities. Each time the job is run, inbound and/or outbound data will be transferred between the Sterling Gentran:Server communications queues and the external application input and output directories.

## **Sterling Gentran:Server Communications Profiles**

Although the traditional Sterling Gentran:Server communication subsystem is not used for communication via the IFS gateway, a communication profile is used to identify data moving through the Sterling Gentran:Server inbound and outbound communications queues. A communication profile named IDXGATE is included with Sterling Gentran:Server for this purpose. If you wish, you may use this profile or create one of your own. If you create a profile, you may use any protocol. Because the profile is only used to identify data on the queues and not for actual communications, the protocol and other protocol-specific fields are not important.

## How to Use the GIFSGATE Command

This procedure includes the steps necessary to use the GIFSGATE command that starts the IFS Gateway. A table of field definitions for the GIFSGATE command follows the procedure.

Type the command GIFSGATE at the command line and press **F4** (Prompt).

```
GENMAIN                IBM® Sterling Gentran:Server® for iSeries® 3.6
                                System:  ISDDEV01

Select one of the following:

    Work with Partners
    Work with Application Definition
3. Mapping Menu                (GENMAP)
4. Communications Menu        (GENCOM)
    Work with Standards
    Work with Environment Control

8. Audit Menu                 (GENAUD)
9. Message Center Menu       (GENMSG)
10. Processing Menu          (GENPRC)
11. System Administration Menu (GENSYS)
12. Viewpoint Menu          (GENVPT)
13. File Tracking Menu       (GENFILETRK)
14. Sterling Gentran:Server Search Index

Selection or command
====> GIFSGATE

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=User Support
(C) COPYRIGHT IBM, 2011, ALL RIGHTS RESERVED.
```

Figure 12-2 The Sterling Gentran:Server GENMAIN Menu

**System Response:** the GIFSGATE command displays.

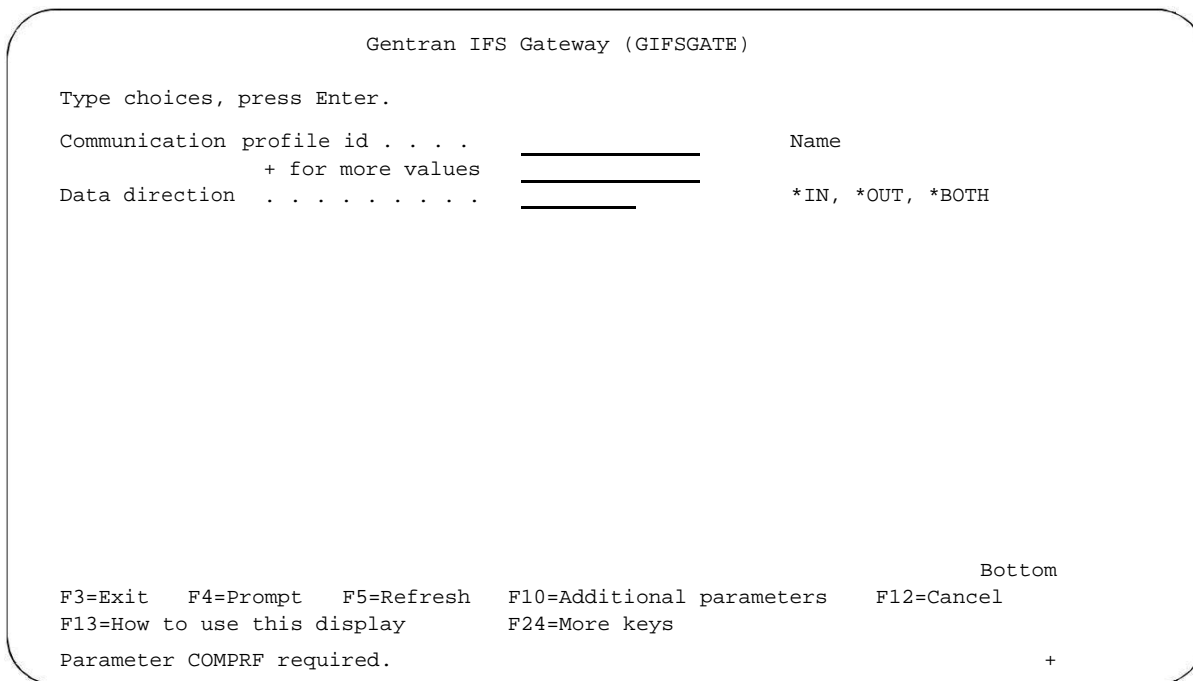


Figure 12-3 The IFS Gateway (GIFSGATE) command panel  
Type the following responses to the prompts and press **Enter**.

Prompt	Response
Communications profile ID	In this instance, use the sample ID provided with the Sterling Gentran:Server <b>IDXGATE</b>
Data direction	Enter the direction that the gateway will send the data: <b>*IN</b> (data coming in from the integrated file system) <b>*OUT</b> (data going from Sterling Gentran:Server to integrated file system) <b>*BOTH</b> (in and out)

**System Response:** The system displays additional fields.

```

Sterling Gentran IFS Gateway (GIFSGATE)

Type choices, press Enter.

Communication profile id . . . . . > IDXGATE      Name
      + for more values
. . . . .Datadirection > *BOTH      *IN, *OUT, *BOTH
Inbound IFS directory . . . . . _____
_____
Inbound IFS file . . . . . _____
_____
Batchid to Queue . . . . . _____
_____
Inbound End of Line . . . . . *FIXED      *CRLF, *CR, *LF, *LFCR
Remove Hex Characters? . . . . . *NO      *YES, *NO
. . . . .OutboundIFSdirectory _____
_____
Outbound IFS file . . . . . _____
_____

More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display F24=More
keys

```

Figure 12-4 The GIFSGATE command panel with additional fields displayed

Type a value in each field, using the Field Definition descriptions that follow this procedure for reference.

```

Sterling Gentran IFS Gateway (GIFSGATE)

Type choices, press Enter.

Communication profile id . . . . . > IDXGATE      Name
      + for more values
. . . . .Datadirection . . . . . *BOTH      *IN, *OUT, *BOTH
Inbound IFS directory . . . . . /HOME/ECENGINE/DATA/MYCO/EDIIN
_____
Inbound IFS file . . . . . *
_____
Batchid to Queue . . . . . _____
_____

Inbound End of Line . . . . . *FIXED      *CRLF, *CR, *LF, *LFCR...
Remove Hex Characters? . . . . . *NO      *YES, *NO
Outbound IFS directory . . . . . /HOME/ECENGINE/DATA/MYCO/EDIOUT
_____
Outbound IFS file . . . . . MYFILE1
_____

More

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

```

Figure 12-5 The GIFSGATE command panel with field values entered

Once you have entered the appropriate field values, press **Page Down** to display Additional Parameters.

```

Sterling Gentran IFS Gateway (GIFSGATE)

Type choices, press Enter.

Batchid to Dequeue . . . . . > _____

Outbound End of Line . . . . . *FIXED      *CRLF, *CR, *LF, *LFCR...
Append Data? . . . . . *NO            *YES, *NO
Include SA Status? . . . . . *NO            *YES, *NO
Periodic polling . . . . . _____    *NO, *YES
. . . . .Pollinginterval _____    SECONDS
. . . . .1stHexCharacter _____    Character value
. . . . .2ndHexCharacter _____    Character value

Additional Parameters

Process Name . . . . . GIFSGATE _____
Start Profile Sequence Number . 0 _____ Number
. . .EndProfileSequenceNumber 999999 _____ Number
Record Entries in Comm Hist? . . *YES      *YES, *NO
More...

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Figure 12-6 The GIFSGATE command panel with additional parameters displayed

Type a value in each field, using the Field Definition table that follows this procedure for reference. When complete, press **Enter**.

**System Response:** The job will be submitted. If you chose to run the job interactively, gateway processing begins immediately in your interactive session and the screen displays status messages.

## Field Descriptions for the GIFSGATE Command

### Communication profile id (COMPRF)

The name of the Sterling Gentran:Server communication profile that is to be accessed through the IFS gateway. For outbound processing, the data will be extracted from the communication profile entered and placed in the IFS file system. For inbound processing, the data coming from the IFS file system will be placed on the queue entered.

A communication profile named IDXGATE is included with the Sterling Gentran:Server for this purpose. If you wish, you may use this profile or create one of your own. If you create a profile, you may use any protocol. This profile is only used to identify data on the queues and not for actual communications. The protocol and other protocol specific fields are not important.

#### + for more values

Used to enter either additional communication profile IDs or the '+' symbol to access the Specify More Values for Parameter COMPRF panel where you may enter up to 25 (total) communication profile IDs.

**Data direction (DIRECTION)**

You can control whether this invocation of the gateway will process inbound data, outbound data, or both. You may also run multiple invocations of the gateway, giving you flexibility.

**Inbound IFS directory (INDIR)**

This is the directory where the IFS gateway will look for files. If it finds the files, it copies them to the inbound queue under the specified profile ID.

When you have multiple data directories to pull, you can use the %PROFILE% variable, along with the multiple communication profiles parameter. To use this feature, the profile ID to transfer must exist in the communication profile parameter and it must be part of the directory path. The program will replace %PROFILE% with each communication profile entered and the IFS Gateway.

**Example**

Two directories contain data:

/home/inbound/partner1

/home/inbound/partner2

You must create two communication profiles, called PARTNER1 and PARTNER2. On the GIFSGATE command, enter PARTNER1 and PARTNER2 in the COMPRF parameter. For the Inbound IFS directory (INDIR) parameter, enter /home/inbound/%PROFILE% and an '\*' for the Inbound IFS file (INFILE). When the GIFSGATE job executes, it will place all of the files in directory /home/inbound/partner1 in the inbound communication queue for profile PARTNER1. It will then continue and place all files found in /home/inbound/partner2 into the inbound communication queue for profile PARTNER2.

**Inbound IFS file (INFILE)**

Specify a single asterisk (\*) to check for any and all files in the Inbound IFS Directory. Specify a fully qualified filename (path and file) if you only want to check for one specific file. You can also use the \* as a wildcard. It can be used as a prefix or suffix wildcard.

**Example:** \*.text will pick up all files in the directory specified that end with ".txt".

**Example:** EDI\* will pick up all files in the directory specified that begin with "EDI".

**Batchid to Queue (BATCHIDI)**

Enter a batch ID if you want the inbound batches to be marked with the given batch ID. Leave blank if you do not want a batch ID.

**Inbound End of Line (INEOL)**

Specify the end-of-line characters which are recognized in the stream file during copying of records.

All records are transformed to a fixed-length format as they are copied to the database file. The fixed-length is equal to the length of the database file records to which they are copied. If one of the end-of-line character options is selected (ENDLINFMT(\*FIXED)) is

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not specified) the stream file is read up to the first occurrence of that character. The end-of-line character is stripped from the record. The remainder of the record is padded with blanks. The data is converted to the destination data format (if specified) and copied to the database file member. If a record is too long to fit in the fixed-length format, it is truncated, then copied.

The possible values are:

*ALL	Any single or double character combination of carriage-return and line-feed is appended to the end of each line.
*CRLF	Carriage-return followed by line-feed is appended to the end of each line.
*LF	Line-feed is appended to the end of each line
*CR	Carriage-return is appended to the end of each line.
*LFCR	Line-feed followed by carriage-return is appended to the end of each line.
*FIXED	<p>Text lines in the stream file are considered fixed-length records of the same length as the database file records to which they are being copied. Any encountered CR, LF, or EOF characters are not stripped from the stream file. Tab expansion is not allowed and the TABEXPN parameter is not valid. If the last record in the stream file does not fill the database file record, that record is padded with blanks.</p> <p>Only stream files and database files with compatible encoding schemes, which do not result in the expansion of data record lengths, are valid with this option. If an incompatible encoding scheme combination is detected, the operation will fail. The following encoding scheme combinations are supported:</p> <p>Single-byte to single-byte</p> <p>Double-byte to double-byte</p> <p>Mixed ASCII to mixed ASCII</p> <p>Mixed EBCDIC to mixed EBCDIC</p>
*ALL	Any single or double character combination of carriage-return and line-feed is appended to the end of each line.

#### Remove Hex Characters (RMCHAR)

This parameter is only valid when \*IN or \*BOTH is specified on the Data Direction (DIRECTION). It allows the user to specify up to 2 hex characters to be removed from the data before adding to the queue. \*FIXED should be specified on the Inbound End of Line (OUTEOL) parmameter.

If you enter \*YES for the Remove Hex Characters field, 1st Hex Character and 2nd Hex Character fields are displayed for you to enter in hex to be removed from the data.

**Outbound IFS directory (OUTDIR)**

This is the directory where data from the outbound queue will be placed.

When you have multiple communication profiles to send, you can use the %PROFILE% variable, along with the multiple communication profiles parameter. To use this feature, the profile ID to transfer must exist in the communication profile parameter and it must be part of the directory path. The program will replace %PROFILE% with each communication profile entered and the IFS Gateway.

**Example**

Two communication profiles have data to send to the IFS file system:

PARTNER1

PARTNER2

You must create two like directories with the profile name as part of the directory path: /home/outbound/partner1 and /home/outbound/partner2. On the GIFSGATE command, enter PARTNER1 and PARTNER2 in the COMPRF parameter. For the Outbound IFS directory (OUTDIR) parameter, enter /home/outbound/%PROFILE%. When the GIFSGATE job executes, it will place all batches with a 'Q' status found in communication profile PARTNER1 into directory /home/outbound/partner1. It will then continue and place all batches with a 'Q' status found in communication profile PARTNER2 into directory /home/inbound/partner2.

**Outbound IFS file (OUTFILE)**

This controls the file name to be used when files are created in the Outbound IFS Directory. Specify any name you want. You can also use the special character sequences %PROFILE%, %BATSEQ%, and %DATETIME% to include the communication profile ID, profile batch sequence number, and/or date and time stamp, in the file name.

**Batchid to Dequeue (BATCHIDO)**

Enter a batch ID when you want only those batches of data to be pulled that have the batch ID entered and the correct status. When this parameter is left blank, all batches will be pulled that have the appropriate status, whether they have a batch ID or not.

**Outbound End of Line (OUTEOL)**

Specifies the end-of-line characters which are recognized in the stream file during copying of records.

If one of the end-of-line character options is selected (ENDLINFMT(\*FIXED) is not specified) the database file records are transformed to variable-length stream file text lines as they are copied. Each database file record is trimmed of any trailing blanks. The data is converted to the destination data format (if specified) and the end-of-line character is appended to the end of the text line. The text line is copied to the stream file.

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The possible values are:

- \*ALL Any single or double character combination of carriage-return and line-feed is appended to the end of each line.
- \*CRLF Carriage-return followed by line-feed is appended to the end of each line.
- \*LF Line-feed is appended to the end of each line
- \*CR Carriage-return is appended to the end of each line.
- \*LFCR Line-feed followed by carriage-return is appended to the end of each line.
- \*FIXED Text lines in the stream file are considered fixed-length records. CR and LF characters are not added at the end of each line, trailing blanks are not removed from the end of each record. The length of the stream file records equals the length of the database file records.

Only stream files and database files with compatible encoding schemes, which do not result in the expansion of data record lengths, are valid with this option. If an incompatible encoding scheme combination is detected, the operation will fail. The following encoding scheme combinations are supported:

Single-byte to single-byte

Double-byte to double-byte

Mixed ASCII to mixed ASCII

Mixed EBCDIC to mixed EBCDIC

#### **Append Data? (APPEND)**

If \*YES, data extracted is appended to the existing data within the file.

If \*NO, existing data with the file is overwritten.

#### **Include SA Status? (SA)**

If \*YES, batches that have SA or Q status are picked up for file transfer.

If \*NO, only batches with a Q status are picked up for file transfer.

#### **Periodic polling (POLL)**

This field enables you to continuously run the command or execute it only once.

Type \*YES if the command is to run on a periodic basis.

Type \*NO if it is to run only once.

#### **Polling interval (INTERVAL)**

If polling, how many seconds to wait before the next check.

#### **Process Name (PRCNAM)**

This area is used to label the command for the Message Center. The default for this prompt is the command name, but can be changed to any 15-byte field to help further identify this process. The process name displays on the first panel of the Work with Message Center screen (EDIX600) and will always track under this name.

---

**Start Profile Sequence Number (STRSEQ)**

This field is used to type the profile sequence number that extract processing will begin with. The parameter is valid only if option '32' (GIFSGATE) is entered on the Work with Outbound Queue Control panel (EDIX-CTL01). Otherwise, the system ignores it.

**End Profile Sequence Number (ENDSEQ)**

This field is used to type the profile sequence number that extract processing will end with. The parameter is valid only if option '32' (GIFSGATE) is entered on the Work with Outbound Queue Control panel (EDIX404-CTL01). Otherwise, the system ignores it.

**Record entries in Comm Hist? (COMMLOG)**

Enter \*YES to record the information in the Communications History File and to assign a Comm stamp number to the batch of data and in the Communication file. Enter \*NO to not record information in the Communications History file.

**Run interactively (INT)**

This parameter allows you to perform the process interactively (immediately). If you select to run the command in an interactive mode (\*YES), you can monitor system messages that occur during processing. However, you are locked out of the system from the terminal the job was submitted on until the process is complete.

**Schedule job (SCHED)**

This alphanumeric field is used to designate if you want to run this option by scheduling it as a job. Use \*NO as the default for this field.

You can also access the IFS Gateway from the Work with Outbound Queue Control panel (EDIX404-CTL01). (SEE the topic "Operations and Management of Communications" in Chapter 1 of this guide for more information.)

---

## How to Use the GENIBQIFS Command

This command enables you to copy batches from the inbound communication queue to the IFS file system. The following procedure includes the steps necessary to use the GENIBQIFS command. A table of field definitions for the GENIBQIFS command follows the procedure.

Type the command GENIBQIFS at the command line and press **F4** (Prompt).

```

GENMAIN          IBM® Sterling Gentran:Server® for iSeries® 3.6
                                     System:   ISDDEV01

Select one of the following:

    Work with Partners
    Work with Application Definition
3. Mapping Menu          (GENMAP)
4. Communications Menu  (GENCOM)
    Work with Standards
    Work with Environment Control

    8. Audit Menu        (GENAUD)
    9. Message Center Menu (GENMSG)
10. Processing Menu     (GENPRC)
11. System Administration Menu (GENSYS)
12. Viewpoint Menu     (GENVPT)
13. File Tracking Menu  (GENFILETRK)
14. Sterling Gentran:Server Search Index

Selection or command                                     More...
====>GENIBQIFS
-----

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=User Support
(C) COPYRIGHT IBM, 2011, ALL RIGHTS RESERVED.

```

Figure 12-7 The Sterling Gentran:Server GENMAIN Menu

**System Response:** The GENIBQIFS command displays.

```

                                Gentran IBQ to IFS Gateway (GENIBQIFS)

Type choices, press Enter.

Communication profile id . . . .  _____  Name
. . . . .OutboundIFSdirectory  _____
. . . . .OutboundIFSfile       _____

Outbound End of Line . . . . .  *FIXED      *CRLF, *CR, *LF, *LFCR...
Periodic polling . . . . .      _____  *NO, *YES

                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display   F24=More keys

```

Figure 12-8 The Gentran IBQ to IFS Gateway (GENIBQIFS) command panel

Type a value in each field, using the Field Definition table that follows this procedure for reference. Press **F10** to display additional parameters. When complete, press **Enter**.

**System Response:** The job will be submitted. If you chose to run the job interactively, gateway processing begins immediately in your interactive session and the screen displays status messages.

```

Gentran IBQ to IFS Gateway (GENIBQIFS)

Type choices, press Enter.

Communication profile id . . . . . IDXGATE      Name
Outbound IFS directory . . . . . '/HOME/ECENGINE/DATA/MYCO/EDIOUT'

Outbound IFS file . . . . . MYFILE1

Outbound End of Line . . . . . *FIXED      *CRLF, *CR, *LF, *LFCR...
Periodic polling . . . . . _____      *NO, *YES

                        Additional Parameters

Process Name . . . . . GENIBQIFS
Append Data? . . . . . *NO      *YES, *NO
Start Profile Sequence Number . . 0      Number
End Profile Sequence Number . . . 999999      Number
Record Entries in Comm Hist? . . . *YES      *YES, NO
Include RA Status? . . . . . *NO      *NO, *YES
Run interactively . . . . . *NO      *YES, *NO
Schedule job . . . . . *NO      *YES, *NO

Bottom

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display F24=More keys
    
```

Figure 12-9 The Gentran IBQ to IFS Gateway (GENIBQIFS) command panel with additional parameters displayed

## Field Descriptions for the GENIBQIFS Command

### Communication Profile ID (COMPRF)

The name of the Sterling Gentran:Server communication profile that contains the data that you want to extract the data from and that is placed in the integrated file system (IFS).

### Outbound IFS Directory (OUTDIR)

This is the directory where data from the inbound queue will be placed.

### Outbound IFS File (OUTFILE)

This controls the file name to be used when files are created in the Outbound IFS Directory. Specify any name you want. You can also use the special character sequences %PROFILE%, %BATSEQ%, and %DATETIME% to include the communication profile ID, profile batch sequence number, and/or date/time stamp in the file name.

**Outbound End of Line (OUTEOL)**

Specifies the end-of-line characters recognized in the stream file during copying of records.

If one of the end-of-line character options is selected (ENDLINFMT(\*FIXED) is not specified), the database file records are transformed to variable-length stream file text lines as they are copied. Each database file record is trimmed of any trailing blanks. The data is converted to the destination data format (if specified) and the end-of-line character is appended to the end of the text line. The text line is copied to the stream file.

The possible values are:

- \*ALL Any single or double character combination of carriage-return and line-feed is appended to the end of each line.
- \*CRLF Carriage-return followed by line-feed is appended to the end of each line.
- \*LF Line-feed is appended to the end of each line
- \*CR Carriage-return is appended to the end of each line.
- \*LFCR Line-feed followed by carriage-return is appended to the end of each line.
- \*FIXED Text lines in the stream file are considered fixed-length records. CR and LF characters are not added at the end of each line, trailing blanks are not removed from the end of each record. The length of the stream file records equals the length of the database file records.

Only stream files and database files with compatible encoding schemes, which do not result in the expansion of data record lengths, are valid with this option. If an incompatible encoding scheme combination is detected, the operation will fail. The following encoding scheme combinations are supported:

Single-byte to single-byte

Double-byte to double-byte

Mixed ASCII to mixed ASCII

Mixed EBCDIC to mixed EBCDIC

**Periodic polling (POLL)**

This field enables you to continuously run the command or execute it only once. Type

\*YES if the command is to run on a periodic basis. Type \*NO if it is to run only once.

**Process Name (PRCNAM)**

This area is used to label the command for the Message Center. The default for this prompt is the command name, but can be changed to any 15-byte field to help further identify this process. The process name displays on the first panel of the Work with Message Center screen (EDIX600) and will always track under this name.

---

**Append (APPEND)**

This field lets you specify whether the records in the files being copied are to be appended (\*YES) to the target file, or are to create a file for each batch copied.

**Start Profile Sequence Number (STRSEQ)**

This field is used to type the profile sequence number that extract processing will begin with. The parameter is valid only if you enter option '32' (GENIBQIFS) on the Work with Inbound Queue Control panel (EDIX407-CTL01). Otherwise, the system ignores it.

**End Profile Sequence Number (ENDSEQ)**

This field is used to type the profile sequence number that extract processing will end with. The parameter is valid only if you enter option '32' (GENIBQIFS) on the Work with Inbound Queue Control panel (EDIX-407-CTL01). Otherwise, the system ignores it.

**Record entries in Comm Hist? (COMMLOG)**

Enter \*YES to record the information in the Communications History File and to assign a Comm stamp number to the batch of data and in the Communication file. Enter \*NO to not record information in the Communications History file.

**Include RA Status? (RA)**

If \*YES, batches that have RA or RN status are picked up for file transfer.

If \*NO, only batches with an RN status are picked up for file transfer.

**Run Interactively (INT)**

This parameter enables you to perform the process interactively (immediately). If you select to run the command in an interactive mode (\*YES), you can monitor system messages that occur during processing. However, you are locked out of the system from the terminal the job was submitted on until the process is complete.

**Schedule Job (SCHED)**

This alphanumeric field is used to designate if you want to run this option by scheduling it as a job. Use \*NO as the default for this field.

You can also access the Gentran IBQ to IFS Gateway from the Work with Inbound Queue Control panel (EDIX407-CTL01). (SEE the topic "Operations and Management of Communications" in Chapter 1 of this guide for more information.)

## Stopping the IFS Gateway

If you are running the IFS gateway in polling mode, stop the gateway by cancelling the gateway jobs using the \*IMMED option. If you are not using polling, the gateway will end on its own after making one check of the inbound and/or outbound data source.

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