Digital SNA Printer Emulator for OpenVMS

Use

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This document describes how to use and control the Digital SNA Printer Emulator (PrE) for OpenVMS. PrE allows Digital users on an OpenVMS system to receive and print data from IBM systems in an SNA network.

Revision/Update Information:	This is a revised manual.
Operating System and Version:	OpenVMS VAX Versions 6.1, 6.2, or 7.0 OpenVMS Alpha Versions 6.1, 6.2, or 7.0
Software Version:	Digital SNA Printer Emulator for OpenVMS, Version 1.3

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Preface

The Digital SNA Printer Emulator (PrE) for OpenVMS software is a Digital Equipment Corporation layered product. It enables an OpenVMS system to receive data from an IBM host system through TCP/IP transport or a Digital interconnect system: one of Digital's SNA Gateway products. To the IBM host system, PrE resembles one or more 3287 printers connected to a 3274 cluster controller. This allows IBM users to send data to the OpenVMS system or a queue on an OpenVMS system in the same way that they would to an actual 3287 printer.

Manual Objectives

Digital SNA Printer Emulator for OpenVMS Use describes the command utility (called SNAPRE) which controls PrE. The book also provides the information you need to start, use, exit, and manage PrE.

Intended Audience

This manual is aimed at users who need to be able to start and stop PrE as well as control the transfer of data to PrE. To do this you need a basic knowledge of OpenVMS. This manual also tells you how to set up and manage PrE.

For information about sending data from the IBM system, see the documentation for the IBM application you are using.

Changes and New Features

The Digital SNA Printer Emulator (PrE) for OpenVMS, Version 1.3 differs from the Version 1.2 product only in that it includes support for utilizing TCP/IP to communicate between PrE and the Gateways (Domain and/or Peer Server).

Those logicals relevant to TCP/IP transport support include:

- SNA_TCP_PORT
- SNA_TRANSPORT_ORDER

- Specifying TCP/IP hostnames

SNA_TCP_PORT

The SNA_TCP_PORT logical refers to the remote connection TCP/IP port. The default connection TCP/IP port number is 108. For example, if you want the remote connection TCP/IP port number to be 1234, you can enter the following command line:

```
$ define SNA_TCP_PORT 1234
```

If you want the remote connection TCP/IP port to be made to a service defined and enabled in the UCX database; for example *service_name*, you can enter the following command line:

```
$ define SNA_TCP_PORT service_name
```

SNA_TRANSPORT_ORDER

The SNA_TRANSPORT_ORDER logical refers to a transport list, which is used in automatic selection of transports. Connections are attempted once for each transport in the list until either a successful connection is made, or an error is returned when all transports in the list fail to connect.

For example, if you want the software to try the DECnet transport and if this fails then to try the TCP/IP transport, you can enter the following command line:

```
$ define SNA_TRANSPORT_ORDER "decnet, tcp"
$
```

If you want the software to try the TCP/IP transport and if this fails then to try the DECnet transport, you can enter the following command line:

```
$ define SNA_TRANSPORT_ORDER "tcp, decnet"
```

If you want the software to never try the DECnet transport and to try only the TCP/IP transport, you can enter the following command line:

```
$ define SNA_TRANSPORT_ORDER "nodecnet, tcp"
```

If you want the software to never try the TCP/IP transport and to try only the DECnet transport, you can enter the following command line:

```
$ define SNA_TRANSPORT_ORDER "decnet, notcp"
```

Note

If the SNA_TRANSPORT_ORDER logical is not defined, the default transport order for OpenVMS Alpha will be decnet, tcp; and the default

transport order for OpenVMS VAX will be local, decnet, tcp.

Specifying TCP/IP Hostnames

If you want to specify a TCP/IP full path hostname, without defining the SNA_TRANSPORT_ORDER with "tcp"; for example, "foo.bar.company.com" or foo.bar.company.com. Note that double-quotes are needed for case sensitivity.

If you want the TCP/IP transport to be used as the preferred transport, without specifying a TCP/IP full path hostname, then define the SNA_TRANSPORT_ ORDER with "tcp" as the first element in the transport list.

If the hostname ends with a single full-colon (":"), then the TCP/IP transport will be used; for example, "foo:" or foo:.

Note

If you specify a double full-colon ("::"), you force the DECnet transport to be used; for example, "foo::" or foo::.

Structure of the Manual

This manual consists of the following chapters and appendixes.

- Chapter 1 provides introductory information about PrE and what it does.
- Chapter 2 provides information about the SNAPRE command utility.
- Chapter 3 provides information about starting a connection, and receiving and controlling data coming from the IBM host system.
- Chapter 4 tells you how to get information about PrE.
- Appendix A explains how to manage PrE.
- Appendix B explains the messages you might see when using PrE.
- Appendix C illustrates the differences in EBCDIC to DMCS translations.
- Appendix D provides information about troubleshooting problems for PrE.

Associated Documents

The following documents make up the manual set for PrE:

- *Digital SNA Printer Emulator for OpenVMS Installation*
- *Digital SNA Printer Emulator for OpenVMS Use*

You should have the following Digital documents available for reference when you use the PrE:

- *Digital SNA Domain Gateway Guide to IBM Resource Definition*
- *Digital SNA Domain Gateway Installation*
- *Digital SNA Domain Gateway Management*
- *Digital SNA Gateway-CT Installation Guide*
- *Digital SNA Gateway Problem Determination Guide*
- *Digital SNA Gateway-CT Problem Solving (OpenVMS & ULTRIX)*
- *Digital SNA Gateway-CT Guide to IBM Parameters*
- *Digital SNA Gateway-CT Management (OpenVMS)*
- *Digital SNA Gateway-ST Installation Guide*
- *Digital SNA Gateway-ST Guide to IBM Parameters*
- *Digital SNA Gateway-ST Problem Solving (OpenVMS)*
- *Digital SNA OpenVMS Gateway Management Guide*
- *Digital SNA Peer Server Installation and Configuration*
- *Digital SNA Peer Server Management*
- *Digital SNA Peer Server Network Control Language Reference*
- *Digital SNA Peer Server Guide to IBM Resource Definition*

See the *Digital SNA Introduction* for an overview of interconnect concepts.

Associated IBM Documents

You should have the following IBM documents for reference.

- *ACF for VTAM Version 2, Messages and Codes* (IBM Order No. SC27-0614)
- *IBM 3270 Information Display System and 3274 Control Unit Description and Programmer's Guide* (IBM Order No. GA23-0061)

- *IBM 3287 Printer Models 1 and 2 Component Description* (IBM Order No. GA27-3153)
- *MVS/TSO/VTAM Data Set Print Program Description/Operations Manual* (IBM Order No. SB21-2070)
- *IBM 3270 Information Display System*, Order No. GA23-0060
- *IBM 3270 Information Display System Data Stream Programmer's Reference*, Order No. GA23-0059
- *Systems Network Architecture—Introduction to Sessions Between Logical Units*, Order No. GC20-1869
- *Systems Network Architecture—Sessions Between Logical Units*, Order No. GC20-1868
- *IBM 3270 Information Display System: Operator's Guide*, Order No. GA27-2742

Conventions

This manual uses the following conventions:

Convention	Meaning
`SNAPRE> SET LINE` *`line-id`*	Command examples show system output and user input in black special type. In both command and syntax examples, uppercase letters represent text that you must enter exactly as shown. Lowercase letters in italics represent variables for which you must substitute specific information.
[*opt-arg*]	Square brackets enclose optional parts of a command.
RET	A symbol with a one- to three-character abbreviation indicates that you press a key on the terminal (in this example, the RETURN key). Unless otherwise stated, end every command line by pressing RET.
CTRL/*x*	This symbol indicates that you press and hold down the key labeled CTRL while simultaneously pressing another key (for example, CTRL/C or CTRL/T).

Terminology

Interconnect System	Refers to the Digital SNA Gateway-ST, the Digital SNA Gateway-CT, the Digital SNA Domain Gateway, the Digital SNA Peer Server, or the OpenVMS/SNA (OpenVMS VAX Version 6.1 only).
Interconnect Products	Refers to the Digital SNA Gateway-ST, the Digital SNA Gateway-CT, the Digital SNA Domain Gateway, the Digital SNA Peer Server, the OpenVMS/SNA (OpenVMS VAX Version 6.1 only), and the Digital SNA Printer Emulator for OpenVMS.
Interconnect Manager	Refers to the person responsible for the installation and management of an interconnect product.

1
Introduction

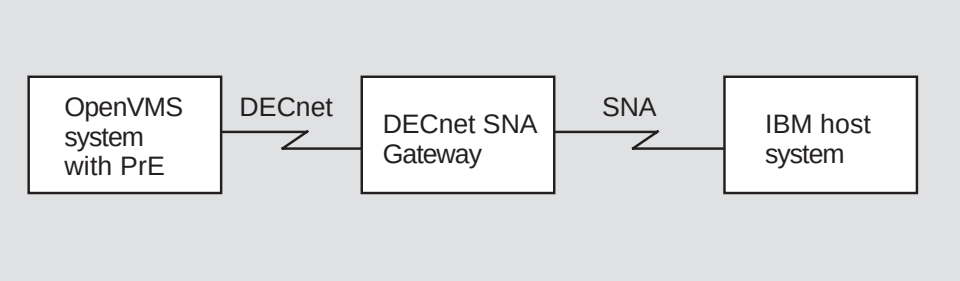
This chapter tells you about the Digital SNA Printer Emulator (PrE) for OpenVMS software and what it does. It discusses how PrE and the Digital SNA 3270 Terminal Emulator (TE) for OpenVMS software complement each other, and gives an example of how they can be used together.

1.1 What Is PrE?

PrE allows users of an OpenVMS system to receive data from an IBM host system in an SNA environment. The data passes between the two computer networks through the interconnect system (one of the Digital SNA Gateways).

To allow communication between an IBM system and an OpenVMS system, the OpenVMS system with PrE installed emulates one or more 3287 printers connected to a 3274 cluster controller. The 3287 printer is a table-top printer which prints data in SNA Character String format or 3270 Data Stream format. Figure 1–1 shows how PrE is connected to the IBM host system through the DECnet SNA Gateway. Note that the DECnet interconnect system could also be TCP/IP, and that the DECnet SNA Gateway refers to either the Digital SNA Gateway-CT, the Digital SNA Gateway-ST, or the Digital SNA Domain Gateway.

Figure 1–1 Digital SNA Configuration Using PrE



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You control PrE with the SNAPRE command utility, which has its own prompt and accepts commands to set up, control, and exit from PrE. SNAPRE passes all commands to PrE's background process (SNAPREDET), which runs on your OpenVMS system and handles messages and data sent between the IBM host system and PrE. You start the background process when you install PrE. It runs independently of SNAPRE, and continues to run if you leave SNAPRE and use your terminal to perform other functions.

You can start the SNAPREDET process on multiple nodes in a cluster environment. SNAPREDET, however, runs on only one of those nodes at a time. If the node running this process fails or the process is stopped, SNAPREDET runs on one of the other nodes in the cluster.

1.2 Where PrE Stores Data

PrE emulates the IBM printers and their controller, but does not automatically print the data received from the IBM host system. Instead, PrE sends all the data it receives to an output stream, which you must specify when you set up PrE. The output stream can be:

- A device on the OpenVMS system
- A file on the OpenVMS system
- A file on another DECnet node

Note

The use of TCP/IP to other nodes or hosts is not supported.

However, you can print the data sent to an output stream by:

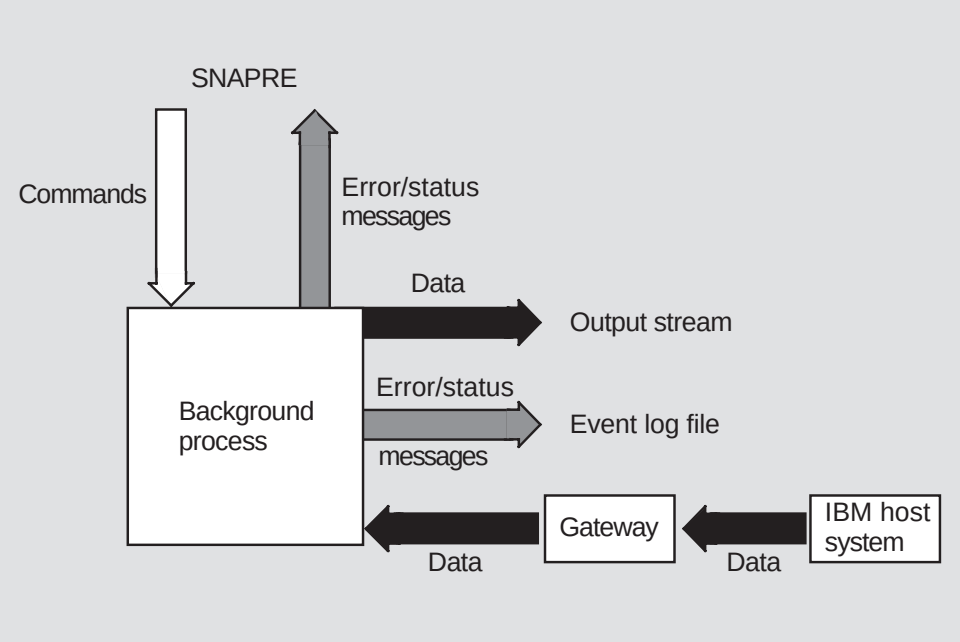
- Specifying the output stream as a file, and specifying (spooling) the file to a print queue.
- Specifying the output stream as a printer. If the printer is spooled, the data is stored in a temporary file which the system deletes as soon the data is printed.

1.3 Receiving Data from the IBM Host Using PrE

Before you can receive data from the IBM system, you must run SNAPRE, define characteristics for your connection with IBM, and then start the connection with the IBM host system (see Figure 1–2). The characteristics that you define control the connection. They establish how PrE receives data (translating and formatting it) and where it should send the data (to a printer or a file).

When you start a connection, which represents an emulated 3287 printer, you specify the name of the pre-defined characteristics. SNAPRE sends the characteristics to the background process, and the background process uses the characteristics to establish a connection with the IBM host system. These characteristics remain in effect for all sessions until you switch the characteristics or stop the connection. You must specify the characteristics name each time you enter a command. For information on how to define characteristics for PrE connections through the Digital SNA Gateway, see Appendix A.

Figure 1–2 How to Use PrE



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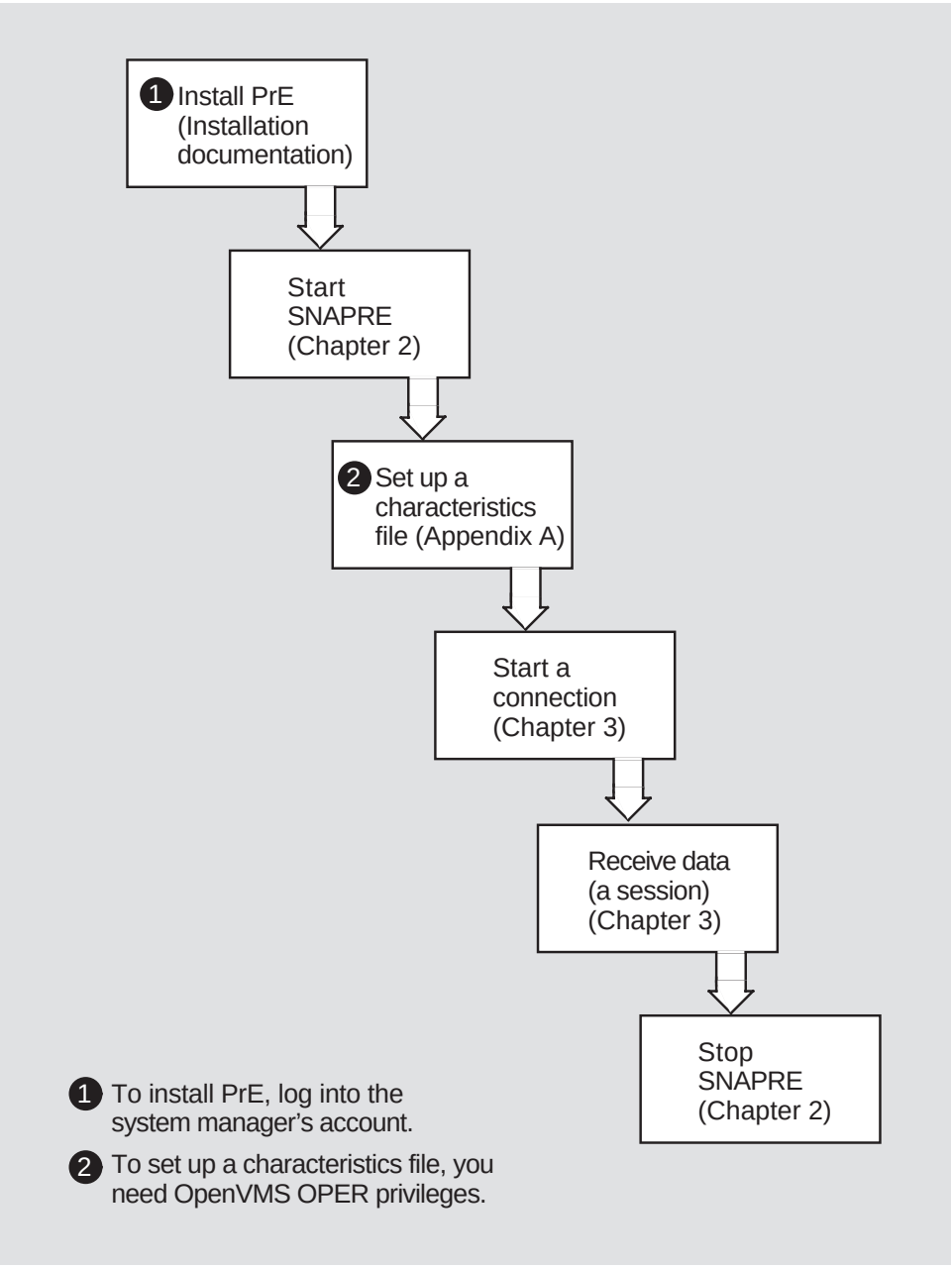
You can define as many sets of characteristics as you like, and you can use them as often as you like. You can use different characteristics for each connection. But you can have only up to 128 connections running concurrently. The exact number depends on how much other applications are using the interconnect system. The interconnect system manager will know how many connections you can have at any one time.

When PrE makes the connection, the background process is ready to receive a "start of session" message (an SNA BIND) from the IBM system. This message begins a session (which involves the transfer of data from the IBM host system to PrE). Note that a connection can have only one session running at a time. The background process sends data it receives to an output stream and logs any messages it receives to the event log file specified in the pre-defined characteristics.

When PrE receives an "end of session" message (an SNA UNBIND), the session ends. However, the connection with the IBM host computer remains until you stop that connection. Figure 1–3 shows how PrE receives data from the IBM host.

Figure 1–3 Getting Data From the IBM Host System



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1.4 PrE and the Digital SNA 3270 Terminal Emulators

One person, be it the system manager or a non-privileged user, can start one or more PrE connections to the IBM system. After PrE establishes a connection, users can send data to PrE by specifying the IBM print queue that PrE emulates. For instance, you can use one of the Digital SNA 3270 Terminal Emulator (3270 TE) for OpenVMS products to do this. The 3270 TE emulates a 3270 Information Display System (IDS) terminal connected to a 3274 cluster controller.

You can use the 3270 TE and PrE in the same way as you would use an actual 3270 IDS terminal and 3287 printer. There is an important difference, however. On an IBM system you can use the PRINT SCREEN key to print the data shown on your screen. But you cannot send data shown on the screen of your 3270 TE to PrE. Instead, this key sends the data to a file on the OpenVMS system without using PrE.

The 3270 TE and PrE can work together. For instance, IBM's Data Set Print (DSPRINT) facility lets users on TSO (Time Sharing Option) print "datasets" (the IBM term for files). If the 3270 TE, PrE, and DSPRINT have been installed and started and a PrE connection started, you can log into TSO using the 3270 TE and enter the DSPRINT command. Specify the name of the file you want to print and the name of the printer, emulated by PrE, to print it. The IBM system sends the file to PrE, just as if it were sending it to a printer.

2
Getting Started

This chapter tells you about the SNAPRE command utility. It explains:

- How to start and leave the SNAPRE command utility
- How to get help
- How to enter commands
- What messages might appear on your terminal

2.1 Starting the Command Utility

After the system manager has installed the PrE software and started the background process, you can start SNAPRE. Enter the DCL RUN command:

```
$ RUN SYS$SYSTEM:SNAPRE
```

SNAPRE will search for the detached process until it is found, in the following order:

- Search for SNAPREDET on the node defined by SNAPRE$HOST.
- Search for SNAPREDET on the current node.
- Output a waiting message and search for SNAPREDET on every other node in the cluster.

If SNAPRE is not found, the system manager must start the detached process. If SNAPREDET is found, the following prompt appears on your terminal:

```
SNAPRE>
```

You can now enter SNAPRE commands.

You can replace this command with a symbol (such as PRE) by including the following definition in your login command file:

```
$ PRE   == "$SYS$SYSTEM:SNAPRE"
```

Then, when you want to start SNAPRE, all you have to type is:

```
$ PRE
```

If you want to enter a command at the same time you start SNAPRE, you can enter it on the same line:

```
$ PRE START TEN
$
```

where

PRE	starts SNAPRE.
START	is the command.
TEN	is the characteristics name.

(See Section 2.3 and Section 2.6 for more information on characteristics names). Note that you remain in DCL; SNAPRE accepts the command and then exits.

SNAPRE supports command line recall, command line continuation up to 255 characters, and command line comments.

2.2 HELP Facilities

There are two levels of help: OpenVMS help and PrE help. You can get help from your OpenVMS system by typing:

```
$ HELP SNAPRE
```

This help gives a short introduction to PrE and tells you how to start SNAPRE. You can get more detailed help after you start SNAPRE, by typing the HELP command.

The syntax for the HELP command follows:

HELP [*topic*[*topic*]]

where

topic	is a topic in the HELP utility.

The HELP command shows you a list of topics about which help is available. For example:

```
SNAPRE> HELP
```

For help on a particular topic, type:

```
SNAPRE> HELP SET
```

2.3 Defining Characteristics

Before you can establish a connection to the IBM host, you must define the characteristics of that connection. To define characteristics, use the SET CHARACTERISTICS command and its qualifiers. This command lets you define a set of operating characteristics such as the access name or circuit name, the session address, the Gateway node name, and the output stream. You specify the name of these characteristics with the various SNAPRE commands, as when starting a connection. For example:

```
SNAPRE> SET CHARACTERISTICS EIGHT
```

To use the SET CHARACTERISTICS command, you need OpenVMS OPER privileges. For more information about the SET CHARACTERISTICS command, see Appendix A.

2.4 Showing Characteristics of a Connection

If characteristics have already been defined, but you want to make sure they are correct for the connection you want to start with the IBM host, you can check them with the SHOW CHARACTERISTICS command. For example:

```
SNAPRE> SHOW CHARACTERISTICS EIGHT
    SESSION ADDRESS:   8      PAGE LENGTH:  66          PAGE WIDTH:  132
    CASE:            MIXED    SPACING:     SINGLE       IMAGE
    COPIES:            1      FORM NUMBER: DEFAULT      NODELETE
    QUEUE:           LN03_QUEUE                         USER NAME: DEFAULT
    ACCESS NAME:     TSO                                WAIT
    GATEWAY:         NYWAY
    OUTPUT STREAM:   SYS$LOGIN:EIGHT.LIS
    LOG_FILE:        SYS$LOGIN:EIGHT.LOG
SNAPRE>
```

For more information about the SHOW CHARACTERISTICS command, see Chapter 4.

2.5 Starting PrE

After you are satisfied that the correct characteristics are defined, you can start a connection with the IBM host. To start a connection, use the START command and specify the characteristics name. You can get this name from your system manager. For example:

```
SNAPRE> START EIGHT
```

For more information about the START command, see Chapter 3 or Appendix A if you have privileges.

2.6 Characteristics Name

For most commands, you should specify the characteristics name after the command. If you do not specify it, PrE prompts you for it. For example:

```
SNAPRE> SHOW STATUS
Characteristics-name:
```

If you specify the USE command, you do not have to enter a characteristics name for each sequence of commands that refer to the same set of characteristics. The USE command establishes a default characteristics name. This name applies to all subsequent commands which require you to specify the characteristics name.

The effect of the USE command lasts until the next USE command, or until you exit from SNAPRE, whichever is first. For example:

```
SNAPRE> USE EIGHT
```

For more information about the USE command, see Chapter 3.

2.7 Entering Commands After Starting a Connection

After starting a connection, you can use the other SNAPRE commands. If you did not start the connection, you can use SNAPRE commands only if you have the same User Identification Code (UIC) as the person who started the connection. If you have OpenVMS OPER privileges, however, you can enter commands for any connection.

2.8 Qualifiers

Some commands have one or more qualifiers. Qualifiers let you override some of the characteristics you previously defined. A qualifier for the SHOW STATUS command, for example, is /FULL, and is entered as follows:

SNAPRE> SHOW STATUS/FULL *characteristics-name*

2.9 User Privileges

TMPMBX and NETMBX are the minimum privileges required for entering SNAPRE commands. If you are unable to define the characteristics, you need BYPASS and OpenVMS OPER privileges. Some commands (referred to as privileged commands in this manual) also require the OpenVMS OPER privileges because of their effects on other users (see Appendix A). If you do not have privileges and you try to enter a privileged command, the system displays the following message:

```
%SNAPRE-E-NOPRIV, no privilege for this operation
```

2.10 Messages from SNAPRE

SNAPRE generates three types of messages:

- Messages on your terminal.

  The messages that appear on your terminal:

  - Relate to a command you have just entered
  - Report successful operations
  - Report fatal errors

- Three messages appear on the console and on any terminals set up as operator's terminals. They come from the background process, and tell you when a connection has started and when it has stopped.
- Messages in the event log file. Each time you start a connection, PrE creates an event log file. All files received and written to the disk or sent to the printer, are logged to the event log file. It stores status messages and any error messages produced while SNAPRE is running. For more information on event log files, see Chapter 4.

For an explanation of all messages, see Section 2.10.

2.11 Leaving SNAPRE

You can leave SNAPRE at any time without disrupting PrE. All connections you have started can still receive data until you use SNAPRE to stop them. This is possible because the background process runs independently of SNAPRE. You can, therefore, use the same terminal to start PrE connections, and then access other interconnect products such as the 3270 TE.

To leave SNAPRE, you can use either the EXIT command or CTRL/Z. The syntax for these commands follow:

EXIT

CTRL/Z

For example, type the following:

```
SNAPRE> EXIT
$
```

3
Controlling PrE

This chapter tells you how to start a connection, and receive and control data coming from the IBM host system.

3.1 Overview

To control PrE, follow these steps:

1. Start a connection with the IBM system using the START command (see Section 3.2).
2. Receive data from the IBM system. You can control the way you receive this data by using the commands described in Section 3.5.
3. Stop the connection using the STOP command (see Section 3.4).

3.2 Starting a Connection

To start a connection, use the START command and specify the characteristics name. You can find out what this name is by asking your system manager.

The syntax for the START command follows:

START [*qualifiers*] [*characteristics-name*]

where

characteristics-name	is a name that refers to the pre-defined characteristics.
qualifiers	specifies the command qualifiers that let you override some of the pre-defined characteristics.

3.2.1 Qualifiers for the START Command

If you want to use a particular set of characteristics, but there are some characteristics you would like to change, you can use the qualifiers for the START command to override those characteristics for this session.

There are no default values for these qualifiers. If you do not enter a qualifier, PrE uses the value defined with the SET CHARACTERISTICS command. To find out the characteristics that have been set up, use the SHOW CHARACTERISTICS command (see Chapter 4).

You cannot override the session address and the log file specification when using the START command.

/CASE=UPPER|MIXED
Specifies whether PrE sends characters to the output stream in uppercase or mixed case during a Logical Unit (LU) type 3 session only. This is a session where the IBM host system sends data in 3270 Data Stream format. This qualifier is ignored for LU type 1 sessions.

If you specify /CASE=UPPER, PrE converts all lowercase letters to uppercase before sending them to the output stream. If you specify /CASE=MIXED, characters remain in both upper and lowercase.

/[NO]CHARACTER_SET[=*file-specification*]
Specifies the translation tables PrE uses to translate between the EBCDIC character set used by the IBM host system, and the DEC Multinational Character Set (DMCS) used by PrE.

The file you specify should contain the tables you want to use. For example, you might want to change the tables to translate to or from a different language. The system manager can tell you the file specification. If you specify /NOCHARACTER_SET, PrE uses its internal translation tables.

/COPIES=*number-of-copies*
Specifies the number of copies, from 1 to 255, that you want to print.

/[NO]DELETE
Specifies the file is to be deleted after it has successfully printed. It has no affect on files not being printed, or files not printed because of errors. Specify /NODELETE to clear this characteristic.

/[NO]FORM[=*form-number*]
Specifies a form number from 0 to 9999 for a print job. The form number can refer to the print image width and length or the type of paper. Codes for these

form types are site-dependent. If you specify /NOFORM, PrE uses the default form for the printer.

/[NO]IMAGE
Specifies the format of data PrE sends to the output stream during an LU type 3 session only.

If you specify /IMAGE, PrE formats the data for an IBM display. If you specify /NOIMAGE, PrE formats the data for an IBM printer. IBM printers compress null lines. If you do not want to compress null lines, specify /IMAGE. The difference between the two formats means that users on the IBM host system can set up the format of their displays so that certain lines of data are invisible. These invisible lines are represented by blank lines on the display, but are not shown at all when the data is printed.

/LENGTH=*number*
Specifies the number of lines on each page. The number should be in the range of 1 to 9999. It should be the same as the number set up for the IBM host application(s) you plan to use. If the value for /LENGTH is smaller than the value specified in the IBM host application, PrE uses the value specified for /LENGTH. See either your interconnect system manager or the IBM system programmer for the number you should specify.

/LUPASSWORD=*lu-password*
Specifies a password for LU access. When using an interconnect system that supports LU passwords, use this qualifier. The LU password is not stored in the pre-defined characteristics established with the SET CHARACTERISTICS command. You must specify it with the START command. The LU password is an alphanumeric string consisting of up to 32 characters from the set of A-Z, 0-9, period (.), dollar sign ($), at sign (@), and pound sign (#). Ask your interconnect system manager for the LU password, if you need to specify this qualifier.

/OUTPUT_STREAM=*stream-specification*
Specifies the output stream or device name to which IBM sends data. If you do not specify a name for the output stream, by default PrE sends data to *characteristics-name*.LIS in your login account, where *characteristics-name* is the name of the pre-defined characteristics. If you do not supply all parts of the file specification, PrE uses the default specifications.

/[NO]QUEUE[=*queue-name*]
Specifies whether PrE sends (spools) files it receives from the IBM host system to a print queue. If PrE sends a file, it is automatically deleted from the OpenVMS system. If you specify /QUEUE without a queue-name, PrE spools

files to the default queue of SYS$PRINT. Specifying /NOQUEUE means that PrE does not spool the files to a print queue. If you want to clear a queue that you previously specified with the /QUEUE qualifier, use the /NOQUEUE qualifier.

/SPACING=SINGLE|DOUBLE
Specifies the spacing (single or double) in the data PrE receives during an LU type 3 session only.

/[NO]USER[=*user-name*]
Specifies a user name for a print job. The user name can be from 1 to 12 characters long. It must be a valid OpenVMS user name. The user name is used in the OpenVMS SHOW QUEUE display and on the banner page of the printed job. Specify /NOUSER to clear the user name you entered and use the OpenVMS default.

/[NO]WAIT
Specifies establishing a session by posting a listen. /NOWAIT establishes the session be sending INIT-SELF to the IBM application.

/WIDTH=*number*
Specifies the number of characters on each line. The number should be in the range of 1 to 9999. It should be the same as the number set up for the IBM host application(s) you plan to use. If the value for /WIDTH is smaller than the value specified in the IBM host application, PrE uses the value specified for /WIDTH. See either your interconnect system manager or the IBM system programmer for the number you should specify.

3.2.2 Example of the START Command

The following example illustrates the START command:

```
SNAPRE> START/NOIMAGE/QUEUE=SYS$PRINT/USER=SMITH THREE
%SNAPRE-S-CONNECT, connection started with IBM host using characteristics
name THREE, SNAPRE V1.2
SNAPRE>
```

3.2.3 Retry Feature for START Command

Using the Retry feature, PrE automatically runs the START command if communications between PrE and IBM applications fail. If a failure occurs, data is not recovered. After a failure, Retry either establishes a session or posts a listen.

To enable the Retry feature you must define a system logical in executive mode using SNAPRE$RETRY_INTERVAL as a valid OpenVMS delta time enclosed in double quotes; for example:

```
$ DEFINE/SYSTEM/EXECUTIVE SNAPRE$RETRY_INTERVAL "0 00:15:00"
```

3.3 Sending Data to PrE

Once you start a connection, the IBM host system can send data to PrE at any time. Section 1.4 gives an example of how you can use the 3270 TE to send data to PrE.

3.4 Stopping a Connection

To stop a connection, use the STOP command and specify the characteristics name. You can stop only those connections you have started. Before you stop the connection, check the event log file (with the SHOW LOG_FILE command) for any error messages (see Section 4.2).

The syntax for the STOP command follows:

STOP [*qualifiers*] [*characteristics-name*]

where

characteristics-name	is a name that refers to the pre-defined characteristics.
qualifiers	specifies the command qualifiers that let you override some of the pre-defined characteristics.

You can specify the following qualifier with the STOP command:

/IMMEDIATE
Stops the connection immediately, rather than at the end of its current session.

The following examples illustrate how you can stop a connection at the end of the current session, or immediately.

- To stop a connection at the end of the current session, type:

  ```
  SNAPRE> STOP SIX
  %SNAPRE-S-STOPEOS, connection stopping at end of next session for
  characteristics name SIX
  SNAPRE>
  ```

  PrE sends all the data received during the session to the output stream; none is lost.

- To stop a connection immediately, use the /IMMEDIATE qualifier:

```
SNAPRE> STOP/IMMEDIATE SIX
%SNAPRE-S-STOPPING, connection is stopping for characteristics name SIX
SNAPRE>
```

  PrE sends all the data received until you entered the command to the output stream. The IBM host application determines whether the rest of the data from that session is lost.

3.5 Controlling the Data

From time to time, you might want to control the data PrE receives. You can do this with four commands:

- PA1
- PA2
- SWITCH
- CANCEL

Note

You can use these commands only when a session is in progress.

3.5.1 PA1 and PA2 Commands

PA1 and PA2 are keys on an actual 3287 printer. When pressed, they send a message to the IBM host system. The IBM host application determines what this message means. If you were using DSPRINT, for example, PA1 tells the IBM system to print the whole document again. PA2 tells the IBM system to print a specified section again.

The PA1 and PA2 commands emulate pressing the PA1 or PA2 keys on an IBM type 1 printer. To find out how these keys affect the IBM host application, ask your IBM system programmer.

You can use these commands during a Logical Unit (LU) type 1 session only. progress. In this type of session the IBM host system sends data in SNA Character String format. You cannot use these commands during Logical Unit (LU) type 3 sessions (sessions where the IBM host system sends data in 3270 data stream format).

The syntax for the PA1 and PA2 commands follow:

PA1 [*characteristics-name*]

PA2 [*characteristics-name*]

where

characteristics-name	is a name that refers to the pre-defined characteristics.

When you enter these commands, specify the characteristics name. For example:

```
SNAPRE> PA1 SIX
```

3.5.2 SWITCH Command

The SWITCH command allows you to dynamically change the characteristics of a connection. You can change characteristics such as the queue name, form appearance, number of copies printed, user name, and output stream without stopping the connection with IBM.

The syntax for the SWITCH command follows:

SWITCH [*qualifiers*] [*characteristics-name*]

where

characteristics-name	is a name that refers to the pre-defined characteristics.
qualifiers	specifies the command qualifiers that let you override some of the pre-defined characteristics.

3.5.3 Qualifiers for the SWITCH Command

If you want to use a particular set of characteristics, but there are some characteristics you would like to change, you can use the qualifiers for the SWITCH command to override those characteristics for this session. There are no default values for these qualifiers. To find out the characteristics that have been set up, use the SHOW CHARACTERISTICS command (see Chapter 4).

/COPIES=*number-of-copies*
Specifies the number of copies, from 1 to 255, that you want to print.

/[NO]DELETE
Specifies the file is to be deleted after it has successfully printed. It has no affect on files not being printed, or files not printed due to errors. Specify /NODELETE to clear this characteristic.

/[NO]FORM[=*form-number*]
Specifies a form number from 0 to 9999 for a print job. The form number can refer to the print image width and length or the type of paper. Codes for these form types are site-dependent. If you specify /NOFORM, PrE uses the default form for the printer.

/OUTPUT_STREAM=*stream-specification*
Specifies the output stream or device name to which IBM sends data. If you do not specify a name for the output stream, by default PrE sends data to *characteristics-name*.LIS in your login account, where *characteristics-name* is the name of the pre-defined characteristics. If you do not supply all parts of the file specification, PrE uses the default specifications.

/[NO]QUEUE[=*queue-name*]
Specifies whether PrE sends (spools) files it receives from the IBM host system to a print queue. If PrE sends a file, it is automatically deleted from the OpenVMS system. If you specify /QUEUE without a queue-name, PrE spools files to the default queue of SYS$PRINT. Specifying /NOQUEUE means that PrE does not spool the files to a print queue. If you want to clear a queue that you previously specified with the /QUEUE qualifier, use the /NOQUEUE qualifier.

/[NO]USER[=*user-name*]
Specifies a user name for a print job. The user name can be from 1 to 12 characters long. It must be a valid OpenVMS user name. The user name is used in the OpenVMS SHOW QUEUE display and on the banner page of the printed job. Specify /NOUSER to clear the user name you entered and use the OpenVMS default.

3.5.4 Example of the SWITCH Command

When you enter the command and its qualifier, specify the characteristics name. For example:

```
SNAPRE> SWITCH/OUTPUT_STREAM=ACCOUNTS.AT SIX
```

If you do not specify a new output stream, and the current output stream is a file, PrE sends the data to a higher version of this file.

3.5.5 CANCEL Command

CANCEL PRINT is a key on an actual 3287 printer; the IBM host application determines its effect. PrE's CANCEL command emulates pressing the CANCEL key on a an IBM type 1 printer. To find out how this key affects the IBM host application, ask your IBM system programmer. For more information on the CANCEL PRINT key, see the *IBM 3270 Information Display System and 3274 Control Unit Description and Programmer's Guide.*

You can use the CANCEL command during a Logical Unit (LU) type 1 session only. You cannot use it during a Logical Unit (LU) type 3 session.

The syntax for the CANCEL command follows:

CANCEL [*characteristics-name*]

where

characteristics-name	is a name that refers to the pre-defined characteristics.

When you enter this command, specify the characteristics name. For example:

```
SNAPRE> CANCEL SIX
```

3.6 Example

The following example shows how you use all the commands described in this chapter.

```
$ RUN SYS$SYSTEM:SNAPRE
SNAPRE> START ONE
SNAPRE> PA1 ONE
SNAPRE> SWITCH/OUTPUT_STREAM=NEW.FILE ONE
SNAPRE> PA2 ONE
SNAPRE> CANCEL ONE
SNAPRE> STOP/IMMEDIATE ONE
```

3.7 Establishing a Default Characteristics Name

The USE command establishes a default characteristics name for a sequence of commands that refer to the same set of characteristics. This name applies to all subsequent commands which require you to specify the characteristics name.

The effect of the USE command lasts until the next USE command, or until you exit from SNAPRE, whichever is first.

The syntax for the USE command follows:

USE *characteristics-name*

where

characteristics-name	is a name that refers to the pre-defined characteristics.

When you enter the USE command, specify the characteristics name:

```
SNAPRE> USE SIX
```

For example, instead of entering the characteristics name after the SHOW STATUS command, you can enter the USE command first (with a characteristics name) and then SHOW STATUS (without a characteristics name).

```
SNAPRE> USE SIX
SNAPRE> SHOW STATUS
```

Here is another example of how to use the USE command. After establishing a default characteristics name with the USE command (for example THREEHUNDRED), you can enter commands for another connection with a different characteristics name (for example FOURHUNDRED). You need not specify the characteristics name for THREEHUNDRED, but for FOURHUNDRED you must specify the name each time you enter a command. If you use the USE command for FOURHUNDRED, this becomes the new default characteristics name instead of THREEHUNDRED. For example:

```
SNAPRE> USE THREEHUNDRED
SNAPRE> START
SNAPRE> SHOW STATUS
SNAPRE> START FOURHUNDRED
SNAPRE> SHOW STATUS
SNAPRE> SHOW STATUS FOURHUNDRED
SNAPRE> USE FOURHUNDRED
SNAPRE> SHOW CHARACTERISTICS
SNAPRE> STOP
SNAPRE> STOP THREEHUNDRED
```

4

Getting Information About PrE

This chapter tells you how to get information about PrE by using the MONITOR and SHOW commands. The following information is available:

1. Interactively monitor data received from the IBM host system. For example, you might want to change the output stream after you have reached a certain point in the data.
2. An event log file containing status and error information. For example, when you stop a connection you might want to know if any errors were reported.
3. Information about a characteristics file. For example, you might want to see which characteristics have been set up in a particular file before you start a connection.
4. Information about the status of one or more connections. For example, you might want to see how much of a file has been printed, or if a session is running for a particular connection.

4.1 MONITOR Command

You can use the MONITOR command to monitor the data received from the IBM host system. The MONITOR command is for interactive use only. As PrE sends data to the output stream, it is also shown on your terminal. To stop the data appearing on your terminal, press CTRL/Z.

Note

You can use this command only when a session is in progress. Only one user at a time can monitor a session.

Under certain circumstances, especially when the IBM host system is not sending any data, using the MONITOR command can increase the load on system resources. Do not use this command frequently on heavily loaded systems.

The syntax for the MONITOR command follows:

MONITOR [*characteristics-name*]

where

characteristics-name	is a name that refers to the pre-defined characteristics.

When you enter this command, specify the characteristics name. For example:

```
SNAPRE> MONITOR SIX
.
.
.
CTRL/Z
SNAPRE>
```

The MONITOR command is useful if you want to use the PA1, PA2, SWITCH, or CANCEL commands. At the point where you want to enter one of these commands, press CTRL/Z, then enter the command.

4.2 Event Log File

When SNAPRE is running, it sends error and status messages to an event log file. Each time you enter the START command, PrE creates an event log file. The pre-defined characteristics specify the event log file specification. The syntax for the SHOW LOG_FILE command follows:

SHOW LOG_FILE [*characteristics-name*]

where

characteristics-name	is a name that refers to the pre-defined characteristics.
qualifiers	specifies the command qualifiers that let you override some of the pre-defined characteristics.

Event log file messages have the following format:

date time %SNAPRE-*ident*, *text*

where

date and *time*	tell you when the message was sent to the event log file.
ident	identifies the message.
text	is the message.

For an explanation of all the messages which might appear in the event log file, see Section 2.10.

An example of the SHOW LOG_FILE command follows:

```
SNAPRE> SHOW LOG_FILE THREE

20-APR-1989 15:11:36.13 %SNAPRE-CONNECT, connection started with IBM host using
characteristics name THREE, SNAPRE V1.2

20-APR-1989 15:14:02.49 %SNAPRE-SESACT, session now active, primary LU RSCS,
output stream DISK$:[SMITH]THREE.LIS;3

20-APR-1989 15:14:04.19 %SNAPRE-I-JOBSUB, Job THREE (queue SYS$PRINT, entry
487) started on LPB0

20-APR-1989 15:21:59.81 %SNAPRE-FILE, new output stream DISK$:[SMITH]THREE.LIS;

20-APR-1989 15:22:21.25 %SNAPRE-I-FILCOP, Print data copied to
DISK$:[SMITH]THREE.LIS;4 output stream

SNAPRE>
```

4.3 Characteristics File

The SHOW CHARACTERISTICS command shows the pre-defined characteristics for a particular connection. The syntax for the SHOW CHARACTERISTICS command follows:

SHOW CHARACTERISTICS [*characteristics-name*]

where

characteristics-name	is a name that refers to the pre-defined characteristics.

The following example shows you how you can use the SHOW CHARACTERISTICS command.

```
SNAPRE> SHOW CHARACTERISTICS THIRTYONE
    SESSION ADDRESS:  31      PAGE LENGTH:  66          PAGE WIDTH: 132
    CASE:             MIXED   SPACING:     SINGLE       NOIMAGE
    COPIES:             1     FORM NUMBER: DEFAULT      NODELETE
    QUEUE:            LN03_QUEUE                       USER NAME: DEFAULT
    ACCESS NAME:      TSO                              WAIT
    GATEWAY:          NYWAY
    OUTPUT STREAM:    SYS$LOGIN:THIRTYONE.LIS
    LOG_FILE:         SYS$LOGIN:THIRTYONE.LOG
SNAPRE>
```

4.4 Status of Connections

The SHOW STATUS command shows the status of a particular connection and its current characteristics name. The syntax for the SHOW STATUS command follows:

SHOW STATUS [*qualifiers*] [*characteristics-name*]

where

characteristics-name	is a name that refers to the pre-defined characteristics.
qualifiers	specifies the command qualifiers that let you override some of the pre-defined characteristics.

The following qualifier lets you see more status information.

/FULL
Shows full status information: session status, current characteristics name and all current characteristics.

Note that this qualifier shows the characteristics in effect when you started the connection. These characteristics might be different from those specified in the characteristics file if you overrode some of them with the START command or if you dynamically overrode some of them with the SWITCH command.

The following example shows how you can use the SHOW STATUS command and its qualifier:

```
SNAPRE> SHOW STATUS THIRTYONE
%SNAPRE-I-CONNECT, connection started with IBM host using
characteristics file THIRTYONE, SNAPRE V1.2
SNAPRE>


SNAPRE> SHOW STATUS/FULL THIRTYONE
 %SNAPRE-I-CONNECT, connection started with IBM host using
 characteristics file THIRTYONE, SNAPRE V1.2
     SESSION ADDRESS:  31      PAGE LENGTH:  66           PAGE WIDTH: 132
     CASE:             MIXED   SPACING:     SINGLE        NOIMAGE
     COPIES:             1     FORM NUMBER: DEFAULT       DELETE
     QUEUE:            LN03_QUEUE                        USER NAME: DEFAULT
     ACCESS NAME:      TSO                               WAIT
     GATEWAY:          NYWAY
     OUTPUT STREAM:    DISK$:[SMITH]THIRTYONE.LIS;
     LOG_FILE:         DISK$:[SMITH]THIRTYONE.LOG;
SNAPRE>
```

A
Managing PrE

This appendix discusses SNAPRE commands and qualifiers you can use to manage PrE if you have OpenVMS OPER privileges. Some of the commands, like START and STOP, are available to both users and managers of PrE. The qualifiers available, however, differ. The qualifiers described with these commands allow you to accomplish your management tasks.

Note

To use the commands discussed in this appendix, you need OpenVMS OPER privileges.

A.1 Setting Up and Modifying Characteristics Files

This section tells you how to define PrE's characteristics and how to modify them.

A.1.1 PrE Characteristics

When you define PrE's characteristics, you create or modify a file called a characteristics file that stores the characteristics. The characteristics name that you specify with an SNAPRE command is the characteristics file's name without the file extension. For example, if THREE.SCF is the name of the characteristics file, the characteristics name is THREE. The characteristics file contains information needed to establish a connection with IBM, transfer data to a OpenVMS print queue, store data in a OpenVMS RMS sequential file, translate the data, and format the data.

Characteristics files are located in the SNAPRE$CHARACTERISTICS directory, and their file extensions are .SCF. Section A.1.2 tells you how to set up the following characteristics for PrE:

- **Case-conversion flag**. Determines whether lowercase characters received from the IBM host system are converted into uppercase before being sent

to the output stream. This flag is used only for Logical Unit (LU) type 3 sessions (sessions in which data is sent in 3270 Data Stream format).

- **Character Set**. Specifies the translation tables PrE uses instead of the default tables. PrE uses translation tables to translate between the EBCDIC character set used by the IBM host system and the Digital Multinational Character Set (DMCS) used by PrE.

  The default tables are similar to the non-reversible ASCII to EBCDIC and EBCDIC to ASCII translation tables described in the *OpenVMS RTL Library (LIB$) Manual*. There are a few differences, however. Some EBCDIC characters are translated to different DMCS characters. These characters are shown in Table A–1:

Table A–1 Differences in EBCDIC to DMCS Translations

EBCDIC Character	DMCS Character	ASCII Character
Inverted exclamation point	Broken vertical line	Inverted exclamation point
Broken vertical line	Inverted exclamation point	|
Cent	Cent	[
Short vertical	|	!
!	!	]
Logical NOT	^	^
All EBCDIC codes that do not have a defined character	-	-

- **Event log file**. The file on your OpenVMS system to which all error and status messages are sent.
- **Gateway access-name**. A name that lets you gain access to the IBM host system. The name points to a table of values used by the interconnect system that define access characteristics. It might include the circuit name. See your interconnect system manager for the access name.
- **Gateway node-name**. The name of the interconnect system through which you want to connect. See your interconnect system manager for this name.

- **Maximum number of characters per line**. The maximum number is 999. It must be the same as the number set up for the IBM host application(s) you are going to use. See either your interconnect system manager or the IBM system programmer for the number you should specify.
- **Maximum number of lines per page**. The maximum number is 999. It must be the same as the number set up for the IBM host application(s) you are going to use. See either your interconnect system manager or the IBM system programmer for the number you should specify.
- **Output stream**. A file or device where data from the IBM host system is stored.
- **Queuing flag and queue name**. The flag indicates whether data sent to the output stream is spooled to an OpenVMS print queue. If so, the queue name specifies which queue it is spooled to.
- **Screen image flag**. Determines whether PrE sends LU type 3 data to the output stream in IBM display format, or in IBM printer format. The difference between the two formats is that users on the IBM host system can set up the format of their displays so that certain lines of data are invisible. These invisible lines are represented by blank lines on the display. If this data is printed, however, the invisible lines are not shown at all.
- **Session address**, or **Secondary Logical Unit (SLU) number**. The value is given to the interconnect system manager by the IBM system programmer and is defined by the LOCADDR operand on either the ACF/NCP LU macro or the VTAM LU macro.
- **SNA circuit-name**. The name of the circuit or PU to the IBM host system from the interconnect system. The access name might include in the circuit name. See your interconnect system manager for the circuit name.
- **Spacing flag**. Determines whether lines of data sent to the output stream are single spaced or double spaced. This flag is used only for LU type 3 sessions.
- **Logical Unit name**. The name of the LU defined in the SNA Domain Gateway or SNA Peer Server. This characteristic supersedes the Session address and SNA circuit-name. This should be used when utilizing the SNA Domain Gateway or SNA Peer Server to communicate with the IBM host system.

A.1.2 Creating a Characteristics File

To create a characteristics file, use the SET CHARACTERISTICS command and its qualifiers. This command lets you define a set of operating characteristics. The name of these characteristics is used when starting a connection.

There are four characteristics which you must specify each time you create a characteristics file. If you do not specify these characteristics, PrE prompts you for the following:

- The access name or PU-name
- The session address
- The Gateway node name
- The output stream

Ask the interconnect system manager for these values. As far as the other characteristics are concerned, you can either specify your own values, or use the default values. Do not enter a qualifier if you want to use the default value for a particular characteristic. If you have not specified the disk and directory for the output stream or event log file, the defaults are SYS$LOGIN:*characteristics-name*.LIS and SYS$LOGIN:*characteristics-name*.LOG respectively.

The syntax for the SET CHARACTERISTICS command follows:

SET CHARACTERISTICS [*qualifiers*] [*characteristics-name*]

where

characteristics-name	is a name that refers to the characteristics file.
qualifiers	specifies the command qualifiers that let you override some of the characteristics specified in the characteristics file.

A.1.3 Qualifiers for the SET CHARACTERISTICS Command

If you want to use a particular characteristics file, but there are some characteristics you would like to change, you can use the qualifiers for the SET CHARACTERISTICS command to override those characteristics. Table A–2 lists the qualifiers, and their defaults, for the SET CHARACTERISTICS command.

Table A–2 Qualifiers for the SET CHARACTERISTICS command

Qualifier	Default
/ACCESS_NAME=*access-name*	None
/CASE=UPPER | MIXED	/CASE=MIXED
/[NO]CHARACTER_SET[=*file-specification*]	Internal translation table
/[NO]CIRCUIT[=*circuit-name*]	The value included in the access name
/[NO]PU[=*PU-name*]	The value included in the access name
/[NO]LU[=*LU-name*]	The value included in the access name
/COPIES=*number-of-copies*	/COPIES=1
/[NO]DELETE	/NODELETE
/[NO]FORM[=*numeric-value*]	None
/GATEWAY=*node-name*	None
/[NO]IMAGE	/NOIMAGE
/LENGTH=*number*	/LENGTH=66
/LOG_FILE=*file-specification*	/LOG_FILE=SYS$LOGIN: *characteristics-name*.LOG where *characteristics-name* is the name used for that connection.
/OUTPUT_STREAM=*stream-specification*	/OUTPUT_STREAM=SYS$LOGIN: *characteristics-name*.LIS where *characteristics-name* is the name used for that connection.
/[NO]QUEUE[=*queue-name*]	/NOQUEUE
/QUEUE[=*queue-name*]	/QUEUE=SYS$PRINT
/SESSION_ADDRESS=*address*	None
/SPACING=SINGLE | DOUBLE	/SPACING=SINGLE
/[NO]USER[=*user-name*]	Default user name of the detached process.
/[NO]WAIT	/WAIT
/WIDTH=*number*	/WIDTH=132

/ACCESS_NAME=*access-name*
Defines the interconnect system access name. The interconnect system access name lets you gain access to the IBM host system. It points to a table of values used by the interconnect system that define access characteristics. It might include the circuit name. You do not need to specify the access name if you specify the circuit name. See your interconnect system manager for the access name.

/CASE=UPPER|MIXED
Specifies whether PrE sends characters to the output stream in uppercase or mixed case.

If you specify /CASE=UPPER, PrE converts all lowercase letters to uppercase before sending them to the output stream during an LU type 3 session (sessions in which data is sent in 3270 Data Stream format). If you specify /CASE=MIXED, characters remain in both upper and lowercase. This qualifier is ignored during LU type 1 sessions.

/[NO]CHARACTER_SET[=*file-specification*]
Specifies the translation tables PrE uses instead of the default tables. PrE uses translation tables to translate between the EBCDIC character set used by the IBM host system and the Digital Multinational Character Set (DMCS) used by PrE. See Appendix C for information about EBCDIC to Digital Multinational Character Set (DMCS) translations.

The file you specify with /CHARACTER_SET should hold the translation tables you want to use. If you want to change the tables, to translate to or from a different language for example, you must edit the file in which the tables are held before specifying the file. The management guide for your interconnect system tells you how to do this.

If you do not use this qualifier, or if you do not specify a file specification, PrE uses the default translation table. PrE also uses the default translation table if you specify /NOCHARACTER_SET when you are modifying a characteristics file.

/[NO]PU[=*PU-name*]
Specifies the PU (circuit) to the IBM host. For the format of the PU name, see the management guide for your interconnect system. You do not need to specify the PU name if the access name includes it. The /NOPU qualifier clears a previously specified PU. This qualifier replaces the /CIRCUIT qualifier used in previous versions.

This qualifier is superseded by the /LU qualifier when connecting to a SNA Domain Gateway or SNA Peer Server. If this qualifier is specified when connecting to a SNA Domain Gateway or SNA Peer Server, it will be interpreted as if it were the /LU qualifier. This qualifier cannot be specified with the /LU qualifier.

/COPIES=*number-of-copies*
Specifies the number of copies, from 1 to 255, that you want to print.

/[NO]DELETE
Specifies the file is to be deleted after it has successfully printed. It has no affect on files not being printed, or files not printed because of errors. Specify /NODELETE to clear this characteristic.

/[NO]FORM[=*form-number*]
Specifies a form number from 0 to 9999 for a print job. The form number can refer to the print image width and length or the type of paper. Codes for these form types are site-dependent. If you specify /NOFORM, PrE uses the default form for the printer.

/GATEWAY=*node-name*
Specifies the Gateway DECnet node name, 0 for VMS/SNA, or TCP/IP host name you want to connect to.

/[NO]IMAGE
Specifies the format of data PrE sends to the output stream during LU type 3 sessions only.

If you specify /IMAGE, PrE formats the data for an IBM display. If you specify /NOIMAGE, PrE formats the data for an IBM printer. IBM printers compress null lines. If you do not want to compress null lines, specify /IMAGE. This qualifier is ignored during LU type 1 sessions.

/LENGTH=*number*
Specifies the number of lines on each page. The number should be in the range of 1 to 9999. It should be the same as the number set up for the IBM host application(s) you are going to use. If the value for /LENGTH is smaller than the value specified in the IBM host application, PrE uses the value specified for /LENGTH. See either your interconnect system manager or the IBM system programmer for the number you should specify.

/LOG_FILE=*file-specification*
Specifies the OpenVMS file to receive event log messages. If you do not specify a name for the output stream, by default PrE sends data to *characteristics-name*.LOG in your login account, where *characteristics-name* is the name of the characteristics file. If you do not supply all parts of the file specification, PrE uses the default specifications.

/LU=*lu-name*
Specifies the name of a logical unit defined in a Digital SNA Domain Gateway or Digital SNA Peer Server. This qualifier supersedes the /PU and /SESSION_ADDRESS qualifiers for these types of gateways. If this qualifier is used when connecting through a Digital SNA Gateway (the PU Type 2 gateways), this qualifier is interpreted as if it were the /PU qualifier.

Note

This qualifier cannot be specified with either the /PU or /SESSION_ADDRESS qualifiers.

/OUTPUT_STREAM=*stream-specification*
Specifies the output stream or device to which IBM sends data. If you do not specify a name for the output stream, by default PrE sends data to *characteristics-name*.LIS in your login account, where *characteristics-name* is the name of the pre-defined characteristics. If you do not supply all parts of the file specification, PrE uses the default specifications.

/[NO]QUEUE[=*queue-name*]
Specifies whether PrE sends (spools) files it receives from the IBM host system to a print queue. If PrE sends a file, it is automatically deleted from the OpenVMS system. If you specify /QUEUE without a queue-name, PrE spools files to the default queue of SYS$PRINT. Specifying /NOQUEUE means that PrE does not spool the files to a print queue. If you want to clear a queue that you previously specified with the /QUEUE qualifier, use the /NOQUEUE qualifier.

/SESSION_ADDRESS=*address*
Defines the secondary logical unit. The number should be in the range of 1 to 255. If a session address is included in the access name, it is overridden by the value you specify with this qualifier. The IBM system programmer can supply you with this value. The value is defined by the LOCADDR operand on either the ACF/NCP LU macro or the VTAM LU macro. This qualifier cannot

be specified with the /LU qualifier. This qualifier is superseded by the /LU qualifier when connecting to a SNA Domain Gateway or SNA Peer Server.

/SPACING=SINGLE|DOUBLE
Specifies single or double spacing between lines in the data PrE receives from the IBM host system during an LU type 3 session. This qualifier is ignored during LU type 1 sessions.

/[NO]USER[=*user-name*]
Specifies a user name for a print job. The user name can be from 1 to 12 characters long. It must be a valid OpenVMS user name. The user name is used in the OpenVMS SHOW QUEUE display and on the banner page of the printed job. Specify /NOUSER to clear the user name you entered and use the OpenVMS default.

/[NO]WAIT
Specifies how PrE establishes a session. /WAIT establishes the session by posting a listen. /NOWAIT establishes the session by sending INIT-SELF to the IBM application.

/WIDTH=*number*
Specifies the number of characters on each line. The number should be in the range of 1 to 9999. It should be the same as the number set up for the IBM host application(s) you are using. If the value for /WIDTH is smaller than the value specified in the IBM host application, PrE uses the value specified for /WIDTH. See either your interconnect system manager or the IBM system programmer for the number you should specify.

A.1.4 Examples of Setting Up a Characteristics File

The following examples illustrate how you can use the SET CHARACTERISTICS command by specifying the qualifiers, or responding to the prompts.

- If you want to set up your own values for some of the characteristics, use the qualifiers:

```
SNAPRE> SET CHARACTERISTICS/ACCESS_NAME=LONDON/PU=SNA-0 -
_SNAPRE>/GATEWAY=WOKING/SESSION_ADDRESS=10/OUTPUT_STREAM=EUSTON.DAT -
_SNAPRE>/SPACING=DOUBLE/LENGTH=75 EIGHT
SNAPRE>
```

- If you do not use qualifiers or only some of the qualifiers, PrE prompts you for the remaining characteristics listed in Section A.1.2. To accept the default, press the RET key after the prompt. You must specify these characteristics each time you set up a new characteristics file.

```
SNAPRE> SET CHARACTERISTICS LASER /QUEUE=LN03_QUEUE
%SNAPRE-I-NEWCHAR, creating new characteristics file LASER
Access_name []: CICS
Gateway []: "NYWAY::"
LU []:
PU []: SNA-0
Output_stream [SYS$LOGIN:LASER.LIS]:
SNAPRE>

SNAPRE> SET CHARACTERISTICS NETQUE
%SNAPRE-I-NEWCHAR, creating new characteristics file NETQUE
Access_name []: VPS
Gateway []: "PEER1.MMM.DEC.COM:"
LU []: T21E1201
Output_stream [SYS$LOGIN:NETQUE.LIS]:
SNAPRE>
```

A.1.5 Modifying an Existing Characteristics File

You can also use the SET CHARACTERISTICS command and qualifiers to modify one or more characteristics in an existing characteristics file. These changes will not take affect until the next time the characteristics file is used. If you do not know what characteristics have been defined, you can use the SHOW CHARACTERISTICS command to find out (see Section A.2). The following example shows the characteristics of LASER, then uses the SET CHARACTERISTICS command to modify some of those characteristics, and finally displays the new characteristics. Note that the user name is displayed only if you specify it in the SET CHARACTERISTICS command.

```
SNAPRE> SHOW CHARACTERISTICS LASER
     SESSION ADDRESS:  29      PAGE LENGTH:  66          PAGE WIDTH: 132
     CASE:             MIXED   SPACING:     SINGLE       NOIMAGE
     COPIES:             1     FORM NUMBER: DEFAULT      NODELETE
     QUEUE:            LN03_QUEUE                       USER NAME: DEFAULT
     ACCESS NAME:      CICS                             WAIT
     GATEWAY:          NYWAY::
     OUTPUT STREAM:    SYS$LOGIN:LASER.LIS
     LOG_FILE:         SYS$LOGIN:LASER.LOG
SNAPRE> SET CHARACTERISTICS LASER/LOG_FILE=SYS$LOGIN:NEWLOG.LOG/COPIES=2-
_SNAPRE> /FORM=31/USER=SMITH/DELETE/NOWAIT
 %SNAPRE-I-UPDCHAR, updating existing characteristics file LASER
SNAPRE>
SNAPRE> SHOW CHARACTERISTICS LASER
     SESSION ADDRESS:  29      PAGE LENGTH:  66          PAGE WIDTH: 132
     CASE:             MIXED   SPACING:     SINGLE       NOIMAGE
     COPIES:             2     FORM NUMBER:  31          DELETE
     QUEUE:            LN03_QUEUE                       USER NAME: SMITH
     ACCESS NAME:      CICS                             NOWAIT
     GATEWAY:          NYWAY::
     OUTPUT STREAM:    SYS$LOGIN:LASER.LIS
     LOG_FILE:         SYS$LOGIN:NEWLOG.LOG
SNAPRE>
```

A.2 Showing a Characteristics File

The SHOW CHARACTERISTICS command shows the characteristics in the characteristics file for a particular connection. The syntax for the SHOW CHARACTERISTICS command follows:

SHOW CHARACTERISTICS [*qualifiers*] [*characteristics-name*]

where

characteristics-name	is a name that refers to the characteristics file.
qualifiers	specifies the command qualifiers that let you override some of the characteristics specified in the characteristics file.

This command has one qualifier:

/ALL
Shows the characteristics in all characteristics files. Do not specify a characteristics name.

The following examples show you how you can use the SHOW CHARACTERISTICS command. If the characteristics file does not specify a print queue, the copies, delete, form, and user name characteristics do not appear in the SHOW CHARACTERISTICS display.

```
SNAPRE> SHOW CHARACTERISTICS/ALL

   CHARACTERISTICS NAME: LASER
     SESSION ADDRESS:  29      PAGE LENGTH:  66          PAGE WIDTH: 132
     CASE:             MIXED   SPACING:     SINGLE       NOIMAGE
     COPIES:             2     FORM NUMBER:  31          DELETE
     QUEUE:            LN03_QUEUE                      USER NAME: REAGAN
     ACCESS NAME:      CICS                            WAIT
     GATEWAY:          NYWAY
     OUTPUT STREAM:    SYS$LOGIN:LASER.LIS
     LOG_FILE:         SYS$LOGIN:NEWLOG.LOG

   CHARACTERISTICS NAME: SIX
     SESSION ADDRESS:  33      PAGE LENGTH:  66          PAGE WIDTH: 132
     CASE:             MIXED   SPACING:     SINGLE       NOIMAGE
     ACCESS NAME:      CICS                            WAIT
     GATEWAY:          NYWAY
     OUTPUT STREAM:    SYS$LOGIN:SIX.LIS
     LOG_FILE:         SYS$LOGIN:SIX.LOG

   CHARACTERISTICS NAME: THIRTYONE
     SESSION ADDRESS:  31      PAGE LENGTH:  66          PAGE WIDTH: 132
     CASE:             MIXED   SPACING:     SINGLE       NOIMAGE
     COPIES:             1     FORM NUMBER: DEFAULT      DELETE
     QUEUE:            LN03_QUEUE                      USER NAME: JACKSON
     ACCESS NAME:      TSO                             WAIT
     GATEWAY:          NYWAY
     OUTPUT STREAM:    SYS$LOGIN:THIRTYONE.LIS
     LOG_FILE:         SYS$LOGIN:THIRTYONE.LOG

SNAPRE>
```

A.3 Deleting a Characteristics File

The REMOVE command deletes a characteristics file. The syntax for the REMOVE command follows:

REMOVE [*characteristics-name*]

where

characteristics-name is a name that refers to the characteristics file.

For example, to remove the characteristics name LASER:

```
SNAPRE> REMOVE LASER
```

A.4 Starting a Connection (with OPER Privileges)

To start a connection, use the START command and specify the characteristics name.

The syntax for the START command follows:

START [*qualifiers*] [*characteristics-name*]

where

characteristics-name	is a name that refers to the characteristics file.
qualifiers	specifies the command qualifiers that let you override some of the characteristics specified in the characteristics file.

If you want to use a particular characteristics file, but there are some characteristics you would like to change, you can specify the following qualifiers with the START command. There are no default values for these qualifiers. For additional non-privileged qualifiers for the START command, see Chapter 3. If you do not enter a qualifier, PrE uses the value defined with the SET CHARACTERISTICS command. You cannot override the session address and the log file specification.

/ACCESS_NAME=*access-name*
Defines the interconnect system access name that lets you gain access to the IBM host system. It points to a table of values that define access characteristics. You do not need to specify the access name if it is included in the circuit-name. See your interconnect system manager for the access name.

/[NO]PU[=*pu-name*]
Specifies the pu to the IBM host. For the format of the pu-name, see the management guide for your interconnect system. You do not need to specify the pu-name if it is included in the access name. The /NOPU qualifier clears a previously specified pu.

/[NO]LU=*lu-name*
Identifies the name of a logical unit defined in a Digital SNA Domain Gateway or Digital SNA Peer Server. This qualifier supersedes the /PU and /SESSION_ADDRESS qualifiers for these types of gateways. If this qualifier is used when connecting through a Digital SNA Gateway (the PU Type 2 gateways), this qualifier is interpreted as if it were the /PU qualifier.

This qualifier cannot be specified with either the /PU or /SESSION_ADDRESS qualifiers. It is also only defined on the SNATERM command.

/GATEWAY=*node-name*
Specifies the interconnect system you want to connect to. See your interconnect system manager for this name.

The following example shows how to use the START command to specify a different interconnect system than is specified in the characteristics file:

```
SNAPRE> START/GATEWAY=ALACK THREE
%SNAPRE-S-CONNECT, connection started with IBM host using characteristics
name THREE, SNAPRE V1.2
SNAPRE>
```

A.5 Stopping a Connection (with OPER Privileges)

To stop one or more connections, use the STOP command and specify the characteristics name. You can also stop all connections by using the /ALL qualifier.

Before you stop the connection, check the event log file (with the SHOW LOG_FILE command) for any error messages.

The syntax for the STOP command follows:

STOP [*qualifiers*] [*characteristics-name*]

where

characteristics-name	is a name that refers to the characteristics file.
qualifiers	specifies the command qualifiers that let you override some of the characteristics specified in the characteristics file.

You can specify the following qualifiers with the STOP command:

/IMMEDIATE
Stops the connection immediately, rather than at the end of its current session.

/ALL
Allows you to stop all connections. If you use the /IMMEDIATE qualifier too, you can stop all connections immediately. Otherwise, each connection stops when its session has finished. Do not specify a characteristics name when you use this qualifier.

The following examples illustrate how you can stop a connection at the end of the current session, or immediately.

- To stop all connections at the end of the current session, type:

```
SNAPRE> STOP/ALL
%SNAPRE-S-STOPEOS, connection stopping at end of next session for
characteristics name THIRTYONE
%SNAPRE-S-STOPEOS, connection stopping at end of next session for
characteristics name LASER
SNAPRE>
```

PrE sends all the data received during the session to the output stream; none is lost.

- To stop all connections immediately, use the /ALL and /IMMEDIATE qualifiers:

```
SNAPRE> STOP/ALL/IMMEDIATE
%SNAPRE-S-STOPPING, connection is stopping for characteristics name THIRTYONE
%SNAPRE-S-STOPPING, connection is stopping for characteristics name LASER
SNAPRE>
```

PrE sends all the data received until you entered the command to the output stream. The IBM host application determines whether the rest of the data from that session is lost.

The STOP/ALL command stops PrE's connections only; it does not stop PrE, or exit from SNAPRE.

A.6 Showing the Status of Connections

The SHOW STATUS command shows the status of a particular connection and its current characteristics name. The syntax for the SHOW STATUS command follows:

SHOW STATUS [*qualifiers*] [*characteristics-name*]

where

characteristics-name	is a name that refers to the characteristics file.
qualifiers	specifies the command qualifiers that let you override some of the characteristics specified in the characteristics file.

This command has two qualifiers that let you see more status information.

/FULL
Shows full status information: session status, current characteristics name and all current characteristics.

/ALL
Shows the status and current characteristics name for all connections. Do not specify a characteristics name. If you want to see full status information for all connections, use both the /FULL and /ALL qualifiers.

Note that these qualifiers show the characteristics in effect when you started the connection. These characteristics might be different from those specified in the characteristics file if you overrode some of them with the START or SWITCH command.

The following examples show how you can use the SHOW STATUS command and its qualifiers:

```
SNAPRE> SHOW STATUS/ALL
%SNAPRE-S-LU1, type 1 (SCS)  session in progress for characteristics
name LASER
%SNAPRE-E-NOTACT, connection has not been activated by IBM host for
characteristics name THIRTYONE
SNAPRE>


SNAPRE> SHOW STATUS/FULL THIRTYONE
 %SNAPRE-S-LU1, type 1 (SCS)  session in progress for characteristics
 name THIRTYONE
     SESSION ADDRESS:  31      PAGE LENGTH:  66           PAGE WIDTH: 132
     CASE:             MIXED   SPACING:     SINGLE        NOIMAGE
     COPIES:             1     FORM NUMBER: DEFAULT       NODELETE
     QUEUE:            LN03_QUEUE                        USER NAME: REAGAN
     ACCESS NAME:      TSO                               WAIT
     GATEWAY:          NYWAY
     OUTPUT STREAM:    DISK$:[REAGAN]THIRTYONE.LIS;
     LOG_FILE:         DISK$:[REAGAN]THIRTYONE.LOG;
SNAPRE>
```

B

SNAPRE Messages

This appendix explains the messages which you could see at the console, on your terminal, or in the event log file. For more information on fixing problems, see the problem determination guide for your interconnect system.

B.1 Message Format

Message formats vary according to where they appear.

B.1.1 Console Messages

PrE sends three messages to the console to tell you when a connection started, and when it has stopped. If you want these messages to appear at your terminal, use the DCL REPLY/ENABLE command. The messages are:

```
%%%%%%%%%% OPCOM date time
Message from user SYSTEM
Digital SNA PrE: Connection initiated using characteristics name
characteristics-name
```

```
%%%%%%%%%% OPCOM date time
Message from user SYSTEM
Digital SNA PrE: Background process exiting, check its error stream
```

```
%%%%%%%%%% OPCOM date time
Message from SYSTEM
Digital SNA PrE: Connection terminated using characteristics name
characteristics-name
```

B.1.2 Terminal Messages

The format of SNAPRE terminal messages follows the standard OpenVMS error message format:

facility-l-ident, text

where

facility is the name of the facility or program that generates the message

l indicates the severity level of the following values:

Code	Meaning
S	Success
I	Information
W	Warning
E	Error
F	Fatal, or severe error

ident identifies the message.

text explains the message.

Secondary messages might follow the main message. Secondary messages give more detailed information about the problem.

B.1.3 Event Log Messages

Event log messages have the following format:

date time %SNAPRE-*ident, text*

where

date and *time* tell you when the message was sent to the event log file.

ident identifies the message.

text is the message.

To look at the messages in an event log file, use the SHOW LOG_FILE command:

```
SNAPRE> SHOW LOG_FILE [characteristics-name]
```

B.2 Messages

Following is an alphabetic list of the message text with a brief description of the error and the correct user action for each message. Facility codes and severity levels are omitted. Section B.3 lists fatal internal messages.

When a message refers to the Gateway, it is applies to whatever interconnect system you are using.

ABNSESTER, session terminated abnormally

Explanation: Either the link between the interconnect system and the IBM host system, or between the interconnect system and the OpenVMS system was lost, or the IBM host system deactivated the physical unit (PU) or the line leading to the interconnect system.

User Action: Determine why the link was lost. Retry when the connection to IBM is reestablished.

ACCROUFAI, error from Gateway access routine, gateway unknown or unreachable

Explanation: SNA Gateway is unknown or unreachable; Transport list (defined by SNA_TRANSPORT_ORDER logical) is defined incorrectly or Gateway/Host Name specified does not support transport selected; or TCP/IP Port (defined by SNA_TCP_PORT logical) does not match the remote connection TCP/IP Port.

User Action: Check the SNA Gateway, the SNA_TRANSPORT_ORDER logical, or the SNA_TCP_PORT logical.

ACCTOOLON, access name is too long

Explanation: The access name must be no longer than 8 characters.

User Action: Try again.

ALTSIZEXC, alternate 3270 buffer size *number* x *number* is too big

Explanation: The alternate buffer size for storing LU type 3 data (specified in the SNA BIND) is too big.

User Action: Ask the IBM system programmer to check the parameters set up in the VTAM LOGON mode table. The guide to IBM parameters for your interconnect system documents the correct parameters.

AMBCOM, command abbreviation corresponds to more than 1 command abbreviation

Explanation: Self-explanatory.

User Action: Reenter the command with more letters.

AMBPARAM, parameter abbreviation corresponds to more than 1 parameter abbreviation

Explanation: Self-explanatory.

User Action: Reenter the parameter with more letters.

AMBQUAL, qualifier abbreviation corresponds to more than 1 qualifier abbreviation

Explanation: Self-explanatory.

User Action: Reenter the qualifier with more letters.

ATTSENEBI, attempt to send End Bracket Indicator

Explanation: Indicates an SNA protocol error.

User Action: See your interconnect system manager or IBM system programmer.

BADNET, error status returned by DECnet or TCP/IP

Explanation: DECnet or TCP/IP has sent an error status to PrE.

User Action: See your interconnect system manager.

BINSPEUNA, the BIND image specified unacceptable values

Explanation: The interconnect system rejected the BIND image.

User Action: Run a trace to find out why. The IBM application could be specifying too large an outbound RU, an illegal FM or TS profile, or more probably it sent a pacing value that was out of bounds (see the guide to IBM parameters for your interconnect system).

CANACC, cancel accepted

Explanation: PrE has accepted the CANCEL command.

User Action: No response.

CANCMPL, cancel completed

Explanation: The CANCEL command completed successfully.

User Action: No response.

CHARFNF, characteristics file *characteristics-name* does not exist

Explanation: Self-explanatory.

User Action: See your interconnect system manager.

CHARRMS, error in accessing characteristics file *characteristics-name*

Explanation: PrE cannot access the characteristics file you have specified. You might receive the following secondary message:

RMS-E-PRV, insufficient privilege or file protection violation

If you get this message, PrE might not be able to read the directory, or to write an updated file to the directory. Ask your interconnect system manager to check the access rights on the directory or directories defined by SNAPRE$CHARACTERISTICS, and on any higher level directories required to access them. You need both read and write access to use the SET CHARACTERISTICS command.

User Action: Depends on the secondary message.

CHARUPD, PrE session characteristics updated

Explanation: You receive this message when you have used the SWITCH command to change the characteristics.

User Action: No response.

CHECK, cannot access SNAPRE$CHARACTERISTICS

Explanation: PrE cannot open the characteristics file you specified. The secondary message tells you why.

User Action: Check that the definition of SNAPRE$CHARACTERISTICS is valid. Further action depends on the secondary message.

COMPAR, either access name or PU (circuit) name must be specified

Explanation: You have not specified the access name and PU name when you set up a characteristics file.

User Action: Enter the access name and PU name with the /ACCESS_NAME and /PU qualifiers for the SET CHARACTERISTICS command. You need only specify the access name if this name already includes the PU name.

CONNECT, connection started with IBM host using characteristics name *characteristics-name*, SNAPRE V*n*

Explanation: Self-explanatory. This message also tells you the current version number, (V*n*), of PrE.

User Action: No response.

CONREQREJ, connect request rejected by IBM host, sense code *IBM-sense-code*

Explanation: The IBM host rejected the connect request, with a sense code.

User Action: Find out the meaning of the sense code from the *Advanced Communications Function for VTAM Version 2, Messages and Codes* manual and take appropriate action.

DATTOOLON, too much user data specified

Explanation: The user data you can specify is limited to less than 128 bytes.

User Action: Try again.

DOUBLE, the PrE background process is already running

Explanation: You can run only one copy of the background process at a time.

User Action: Use the copy of the background process that is already running. If you want to stop this copy:

1. Find out the process identity (*pid*) of the background process (SNAPREDET) using the OpenVMS SHOW SYSTEM command.
2. Set your privilege to WORLD.
3. Stop SNAPREDET using the STOP/IDENTIFICATION=*pid* command.

ERRCOND, internal error in error handler

Explanation: PrE detected an error when reporting another error. The secondary message tells you why.

User Action: Depends on the secondary message.

ERRNET, error on DECnet or TCP/IP link with user interface

Explanation: DECnet or TCP/IP has sent an unexpected error message. The secondary message gives you more information.

User Action: Depends on the secondary message.

ERROPN, RMS error opening event log file

Explanation: PrE cannot open the event log file you specified. The secondary message gives you more information.

User Action: Depends on the secondary message.

ERRSUB, error submitting to job controller

Explanation: PrE could not submit the file to the job controller. The secondary message gives you more information.

User Action: Depends on the secondary message.

EXIT, gateway server task terminated

Explanation: The exact meaning of this message depends on the secondary message. It could be either an internal error or a system limitation.

User Action: See your interconnect system manager.

EXPCHAERR, chaining error on outbound expedited flow

Explanation: Indicates an SNA protocol error.

User Action: See your interconnect system manager or IBM system programmer.

EXPFMDREC, FMD RU received on expedited flow

Explanation: Indicates an SNA protocol error.

User Action: See your interconnect system manager or IBM system programmer.

EXPNC_REC, network control (NC) RU received on the expedited flow

Explanation: Indicates an SNA protocol error.

User Action: See your interconnect system manager or IBM system programmer.

FAIALLEVF, failed to allocate an event flag

Explanation: The exact meaning of this message depends on the secondary message. It could be either an internal error or an error caused by an overloaded system.

User Action: See your interconnect system manager.

FAIASSCHA, failed to assign a DECnet or TCP/IP channel

Explanation: This error indicates an abnormal internal condition.

User Action: Examine the subsequent DECnet or TCP/IP error messages and report the problem to your system manager.

FAICREMBX, failed to create a mailbox

Explanation: PrE could not create a mailbox for communication with the interconnect system. You probably do not have a sufficient quota for creating a mailbox (BYTLM), or you do not have sufficient privileges for what you are trying to do.

User Action: Examine the subsequent error messages to determine the reason. If you do not have sufficient privileges, have your system manager give you the TMPMBX privilege.

FAIESTLIN, failed to establish a DECnet or TCP/IP link to the Gateway

Explanation: PrE cannot connect to the interconnect system.

User Action: Examine the subsequent DECnet or TCP/IP error messages and take appropriate action.

FAIESTSES, failed to establish session

Explanation: The IBM host system could not establish a session with PrE. The secondary message tells you why not.

User Action: Depends on the secondary message.

FATNET, error on DECnet or TCP/IP link with user interface

Explanation: DECnet or TCP/IP sent a fatal error message. The secondary message gives you more information.

User Action: Depends on the secondary message.

FILCOP, print data copied to *name* output stream

Explanation: Indicates file received and copied to disk.

User Action: No response.

FILE, new output stream *name*

Explanation: You receive this message when you have used the SWITCH command to change the output stream to a different file or device.

User Action: No response.

FMTFMDREC, formatted FMD received

Explanation: Indicates an SNA protocol error. PrE cannot receive formatted FMD (Function Management Data).

User Action: See your interconnect system manager or IBM system programmer.

GATCOMERR, error communicating with Gateway node

Explanation: There was a DECnet or TCP/IP communication error with the interconnect system. The secondary message gives you more information.

User Action: Depends on the secondary message.

GATEWAY, gateway must be specified

Explanation: You have not specified the interconnect system name when you set up a characteristics file.

User Action: Enter the interconnect system node-name with the /GATEWAY qualifier for the SET CHARACTERISTICS command.

INCVERNUM, Gateway access routines are incompatible with the Gateway

Explanation: The software on the interconnect system is incompatible with the PrE software on the local DECnet node or TCP/IP host.

User Action: Make sure that the correct versions of the software are installed on both the interconnect system and the DECnet node or TCP/IP host.

INSGATRES, insufficient Gateway resources for session establishment

Explanation: The interconnect system has insufficient resources to establish a session. The active sessions currently in the interconnect system are using the total resources available.

User Action: Wait until some of the sessions have finished; then retry.

INVDFCREC, invalid Data Flow Control (DFC) RU received

Explanation: Indicates an SNA protocol error.

User Action: See your interconnect system manager or IBM system programmer.

INVINACC, invalid item in /ACCESS_NAME qualifier

Explanation: Self-explanatory.

User Action: Reenter the SET CHARACTERISTICS or START command with a corrected qualifier.

INVINCASE, invalid item in /CASE qualifier

Explanation: Self-explanatory.

User Action: Reenter the SET CHARACTERISTICS, START, or SWITCH command with a corrected qualifier.

INVINCIRC, invalid item in /PU (/CIRCUIT) qualifier

Explanation: Self-explanatory.

User Action: Reenter the SET CHARACTERISTICS or START command with a corrected qualifier.

INVINCOPY, invalid item in /COPIES qualifier

Explanation: Self-explanatory.

User Action: Reenter the SET CHARACTERISTICS, START, or SWITCH command with a corrected qualifier.

INVINFORM, invalid item in /FORM qualifier

Explanation: Self-explanatory.

User Action: Reenter the SET CHARACTERISTICS, START, or SWITCH command with a corrected qualifier.

INVINGATE, invalid item in /GATEWAY qualifier

Explanation: Self-explanatory.

User Action: Reenter the SET CHARACTERISTICS or START command with a corrected qualifier.

INVINLEN, invalid item in /LENGTH qualifier

Explanation: Self-explanatory.

User Action: Reenter the SET CHARACTERISTICS, START, or SWITCH command with a corrected qualifier.

INVINLU, invalid item in /LU (/CIRCUIT) qualifier

Explanation: Self-explanatory.

User Action: Reenter the SET CHARACTERISTICS or START command with a corrected qualifier.

INVINQUE, invalid item in /QUEUE qualifier

Explanation: Self-explanatory.

User Action: Reenter the SET CHARACTERISTICS, START, or SWITCH command with a corrected qualifier.

INVINSES, invalid item in /SESSION_ADDRESS qualifier

Explanation: Self-explanatory.

User Action: Reenter the SET CHARACTERISTICS command with a corrected qualifier.

INVINSPAC, invalid item in /SPACING qualifier

Explanation: Self-explanatory.

User Action: Reenter the SET CHARACTERISTICS, START, or SWITCH command with a corrected qualifier.

INVINWID, invalid item in /WIDTH qualifier

Explanation: Self-explanatory.

User Action: Reenter the SET CHARACTERISTICS, START, or SWITCH command with a corrected qualifier.

INVLOGSTR, invalid event log file specification

Explanation: Self-explanatory. The secondary message gives you more information.

User Action: Depends on the secondary message.

INVLU, the gateway LU name specified (DESTMOD) is invalid

Explanation: The information supplied on the command line, the /PU (/CIRCUIT) or the /session_address, was used to attempt to select an LU in the gateway using the old style of LU name (for example, /session_ address=2/PU/(/CIRCUIT)=SNA-1 for LU specified by SNA-1.2). The Digital SNA Domain Gateway and the Digital SNA Peer Server Gateway do not support the old style of LU names. Refer to the section describing the /LU qualifier in the Use Guide for more information.

User Action: Use the /LU qualifier (or /PU(/CIRCUIT) qualifier as described in the documentation) to specify the new sytle LU name used by the Digital SNA Domain Gateway and the Digital SNA Peer Server Gateway.

INVOUTSTR, invalid output stream specification

Explanation: Self-explanatory.

User Action: Enter the correct output stream specification, either as a file specification or a device name.

INVRECLOG, SNA$DEFNUMREC is incorrectly defined

Explanation: This internal logical name is improperly set up.

User Action: Report the problem to your system manager.

INVSC_REC, invalid session control (SC) RU received on the expedited flow

Explanation: Indicates an SNA protocol error.

User Action: See your interconnect system manager or IBM system programmer.

INVSEQNUM, RU received with invalid sequence number, rejected with sense code *hex-number*

Explanation: Indicates an SNA protocol error. The sense code is a hexadecimal number of four digits.

User Action: See your interconnect system manager or IBM system programmer. For the meaning of the sense code, see the *Advanced Communications Function for VTAM Version 2, Messages and Codes* manual.

INVTRANSTR, invalid character_set file specification

Explanation: Self-explanatory.

User Action: Enter the correct file specification. The file must hold the new translation tables.

ISSTART, connection has already been started

Explanation: You might have tried to start a connection that has already been started.

User Action: You can already receive data and enter commands for that connection.

JOBSUB, job *name* (queue *name*, entry *number*)

Explanation: file was received and submitted to the job controller. Supplementary information is provided which states if the job is holding, pending, or started.

User Action: None required if started. If the job is holding or pending, examine the queue to see that it is started.

LIBROUFAI, system library routine failed

Explanation: The exact meaning of this message depends on the secondary message. It could either be an internal error or an error caused by the system being overloaded.

User Action: See your interconnect system manager.

LOGRMS, error in accessing event log file

Explanation: Self-explanatory. The secondary message tells you why PrE cannot access the event log file.

User Action: Depends on the secondary message.

LOGUNIDEA, SSCP has deactivated the session

Explanation: The IBM SSCP has deactivated the session by sending a DACTLU command. Some applications deactivate sessions by deactivating the logical unit rather than sending an UNBIND command.

User Action: If this is normal for the IBM application you are using, ignore the message and exit from PrE. Otherwise, report the problem to your system manager.

LONG, parameter *parameter* is too long, maximum length is *length*

Explanation: The parameter you entered (for example, a characteristics name, PU name, access name, queue name, or file specification) has too many letters.

User Action: Reenter the name with fewer letters. The message tells you the maximum number you can use.

LU1, type 1 (SCS) session in progress for *characteristics-name*

Explanation: A Logical Unit type 1 session (a session in which data is sent in SNA Character String format) is in progress.

User Action: No response.

LU3, type 3 (3270) session in progress for *characteristics-name*

Explanation: A Logical Unit type 3 session (a session in which data is sent in 3270 Data Stream format) is in progress. (Remember you cannot use the PA1, PA2, and CANCEL commands during LU type 3 sessions.)

User Action: No response.

MAISIZEXC, default 3270 buffer size *number* x *number* is too big

Explanation: The default buffer size for storing LU type 3 data (specified in the SNA BIND) is too big.

User Action: Ask the IBM system programmer to check the IBM parameters set up in the VTAM LOGON mode table. The guide to IBM parameters for your interconnect system documents the correct parameters.

NCSCREC, network control/session control (NC/SC) RU received on normal flow

Explanation: Indicates an SNA protocol error.

User Action: See your interconnect system manager or IBM system programmer.

NETSHUT, network node is not accepting connects

DECnet or TCP/IP is being shut down, so you cannot connect to the interconnect system.

User Action: See your interconnect system manager.

NEWCHAR, creating new characteristics file *file-spec*

Explanation: You receive this message when you use the SET CHARACTERISTICS command to create a characteristics file.

User Action: No response.

NOALL, you cannot specify /ALL and a characteristics name

Explanation: Do not specify a characteristics name when you enter the STOP/ALL command, because this stops all connections, not one in particular.

User Action: Reenter the command, leaving out the characteristics name.

NOBACK, the PrE background process is not running

Explanation: Self-explanatory.

User Action: Ask your system manager to run the command file (called SNAPRE$STARTUP.COM) which starts the background process. The *Digital SNA Printer Emulator for OpenVMS Installation* book tells you how to run this command file.

NODECNET, DECnet or TCP/IP is not available

Explanation: DECnet or TCP/IP is not running, so you cannot communicate with the IBM host system.

User Action: Ask your interconnect system manager to run DECnet or TCP/IP.

NOCHAR, reenter this command with a characteristics-name

Explanation: You have not specified a characteristics name with a command.

User Action: Enter the command again with the characteristics name.

NODATA, no data transfer in progress

Explanation: PrE has started a connection, but the IBM host system is not sending data to PrE.

User Action: No response.

NOPRIV, no privilege for this operation

Explanation: You do not have the OpenVMS OPER privilege required to enter this command.

User Action: Ask a privileged user to enter the command for you.

NOSUCACC, access name not recognized by Gateway node

Explanation: You specified a nonexistent access name.

User Action: Check with your system manager to determine which access name you need.

NO_SUCPU, PU name not recognized by Gateway node

Explanation: Either you or the access name you used specified a non-existent PU.

User Action: Check with your system manager to determine which PU name or access name you need.

NOSUCSES, session address not recognized by Gateway node

Explanation: Either you or the access name you used specified a non-existent session address.

User Action: Check with your system manager to determine which session address or access name you need.

NOTACT, connection has not been activated by IBM host for characteristics name *characteristics-name*

Explanation: PrE has started a connection, but the IBM host system has not yet started a session.

User Action: Wait for a session to start.

NOTLU1, session is not type 1 (SCS)

Explanation: You can use the PA1, PA2, and CANCEL commands only during LU type 1 sessions (sessions in which data is sent in SNA Character String format).

User Action: Do not use these commands until the next LU type 1 session.

NOTLU2, PrE does not support LU type 2, which is for a screen

Explanation: PrE does not support LU type 2 sessions.

User Action: See the IBM system programmer. You might have set up a wrong value for the session address, or the session might not have been set up for a printer.

NOTSTART, connection has not been started

Explanation: Self-explanatory.

User Action: You must start a connection before you enter commands or receive data from the IBM host system.

NOVAL1, value missing in CASE qualifier

Explanation: You have not supplied a value with the /CASE qualifier for either the SET CHARACTERISTICS, START, or SWITCH commands.

User Action: Specify one of two values with the /CASE qualifier: /CASE=UPPER, which causes data to be sent to the output stream in uppercase, or /CASE=MIXED, which causes data to be sent in mixed case.

NOVAL2, value missing in PU (CIRCUIT) qualifier

Explanation: You have not supplied a value with the /PU qualifier for either the START or SET CHARACTERISTICS commands.

User Action: Specify the pu-id with the /PU qualifier. See the management guide for your interconnect system for the format of the PU name.

NOVAL3, value missing in SPACING qualifier

Explanation: You have not supplied a value with the /SPACING qualifier for either the SET CHARACTERISTICS, START, or SWITCH commands.

User Action: Specify one of two values with the /SPACING qualifier: /SPACING=SINGLE, which causes data to be sent to the output stream with single spaces between lines, or /SPACING=DOUBLE, which causes data to be sent with double spaces between lines.

NOVAL4, value missing in LENGTH qualifier

Explanation: You have not supplied a value with the /LENGTH qualifier for either the SET CHARACTERISTICS, START, or SWITCH commands.

User Action: Specify the number of lines on each page. The number should be in the range of 1 to 999.

NOVAL5, value missing in WIDTH qualifier

Explanation: You have not supplied a value with the /WIDTH qualifier for either the SET CHARACTERISTICS, START, or SWITCH commands.

User Action: Specify the number of characters on each line. The number should be in the range of 1 to 999.

NOVAL6, value missing in SESSION_ADDRESS qualifier

Explanation: You have not supplied a value with the /SESSION_ ADDRESS qualifier for the SET CHARACTERISTICS command.

User Action: Specify the session address (Secondary Logical Unit number) as a number between 1 and 255.

NOVAL7, value missing in GATEWAY qualifier

Explanation: You have not supplied a value with the /GATEWAY qualifier for either the START or SET CHARACTERISTICS commands.

User Action: Specify the interconnect system name with the /GATEWAY qualifier.

NOVAL8, value missing in OUTPUT_STREAM qualifier

Explanation: You have not supplied a value with the /OUTPUT_STREAM qualifier for the START, SET CHARACTERISTICS or SWITCH commands.

User Action: Specify the file specification or device name for the output stream with this qualifier.

NOVAL9, value missing in ACCESS_NAME qualifier

Explanation: You have not supplied a value with the /ACCESS_NAME qualifier for either the START or SET CHARACTERISTICS commands.

User Action: Specify the interconnect system access name with this qualifier.

NOVAL10, value missing in COPIES qualifier

Explanation: You have not supplied a value with the /COPIES qualifier for either the SET CHARACTERISTICS, START, or SWITCH commands.

User Action: Specify the number of copies you want to print with this qualifier. The number should be in the range of 1 to 255.

NOVAL11, value missing in FORM qualifier

Explanation: You have not supplied a value with the /FORM qualifier for either the SET CHARACTERISTICS, START, or SWITCH commands.

User Action: Specify the form number with this qualifier. The number should be in the range of 0 to 9999.

NULFSP, file specification is required

Explanation: You have not entered a file specification.

User Action: Reenter the command with the correct file specification.

PA1ACC, PA1 accepted

Explanation: Self-explanatory.

User Action: No response.

PA1CMPL, PA1 completed

Explanation: The PA1 command completed successfully.

User Action: No response.

PA2ACC, PA2 accepted

Explanation: Self-explanatory.

User Action: No response.

PA2CMPL, PA2 completed

Explanation: The PA2 command completed successfully.

User Action: No response.

PROUNBREC, IBM application detected a protocol error, sense code *IBM-sense-code*

Explanation: The IBM application sent an UNBIND request with a sense code. It did this because the application detected the protocol error that the sense code indicates.

User Action: Find out the meaning of the sense code from the *Advanced Communications Function for VTAM Version 2, Messages and Codes* manual, and take appropriate action.

PUNOTAVA, PU (circuit) has not been activated

Explanation: IBM has not activated the PU on the interconnect system.

User Action: Ask the VTAM operator to check the line and physical unit from the IBM host and activate them if necessary. If they are activated, there might be a hardware problem between the interconnect system and the IBM host.

PUNOTSPE, PU (circuit) name was not specified

Explanation: You did not name the PU from the interconnect system to IBM that you want to use. A value is required for the /PU qualifier for either the START or SET CHARACTERISTICS commands.

User Action: Reenter the command and specify a value for the /PU qualifier.

PUTOOLON, PU (circuit) name is too long

Explanation: Self-explanatory.

User Action: Try again.

RANCOPY, number of copies *copies* out of range, valid range is 1 to 255

Explanation: Self-explanatory.

User Action: Enter the number of copies between 1 and 255 with the /COPY qualifier for either the SET CHARACTERISTICS, START, or SWITCH commands.

RANFORM, form number *form* out of range, valid range is 0 to 9999

Explanation: Self-explanatory.

User Action: Enter a form number between 0 and 9999 with the /FORM qualifier for either the SET CHARACTERISTICS, START, or SWITCH commands.

RANLENGTH, page length *length* out of range, valid range is 1 to 999

Explanation: Self-explanatory.

User Action: Enter a length between 1 and 999 with the /LENGTH qualifier for either the SET CHARACTERISTICS, START, or SWITCH commands.

RANSLU, session address *address* is out of range, valid range is 1 to 255

Explanation: Self-explanatory.

User Action: Enter a session address between 1 and 255 with the /SESSION_ADDRESS qualifier for the SET CHARACTERISTICS command.

RANWIDTH, page width *width* out of range, valid range is 1 to 999

Explanation: Self-explanatory.

User Action: Enter a width number between 1 and 999 with the /WIDTH qualifier for either the SET CHARACTERISTICS, START, or SWITCH commands.

REQREJECT, invalid data received, rejected with sense code *hex-number*

Explanation: Indicates an SNA protocol error. The sense code is a hexadecimal number of four digits.

User Action: See your interconnect system manager or IBM system programmer. For the meaning of the sense code, see the *Advanced Communications Function for VTAM Version 2, Messages and Codes* manual.

RMSOPN, RMS error opening output stream

Explanation: PrE cannot open the output stream. The secondary message tells you why.

User Action: Depends on the secondary message.

RMSWRT, RMS error writing to output stream

Explanation: PrE cannot send data to the output stream. The secondary message tells you why.

User Action: Depends on the secondary message.

SEARCH, searching the cluster for the detached process; please wait

Explanation: The detached process was not found on the current system. PrE looks for the detached process on the other systems on the cluster.

User Action: None. You should get either the "detached process not running" message, in which case the system manager must start the detached process, or you will get the SNAPRE> prompt.

SERV, systems services error

Explanation: If the MONITOR command fails and you receive this message and the following secondary message:

SYSTEM-F-EXQUOTA, exceeded quota,

you have exceeded the buffered I/O transfer quota (BYTLM).

User Action: Check that both the byte limit quota and the sysgen parameter MAXBUF have values of at least 1024.

SESACT, session now active, primary LU *PLU-name*, output stream *spec*

Explanation: A session has started. The message tells you the primary Logical Unit name and the output stream where PrE sends data.

User Action: No response.

SESINUSE, session address is already in use

Explanation: Someone else is using this session address.

User Action: Retry using a different session address. If you are unsure of a valid choice, ask your system manager.

SESINUNAC, session address already in use or not activated

Explanation: All session addresses in the range specified by the access name are in use or are not activated.

User Action: Ask the IBM VTAM operator to activate more SLUs or wait for an active one to become available.

SESNOTAVA, session address has not been activated

Explanation: The IBM side has not activated the secondary logical unit (SLU).

User Action: Ask the VTAM operator to check the logical unit from the IBM host and activate it if necessary.

SESNOLACT, session no longer active

Explanation: The current session has stopped.

User Action: Check the event log file to see if any errors occurred during the session.

SLU, session address must be specified

Explanation: You did not specify the session address when you created a characteristics file.

User Action: Enter the session address, using the /SESSION_ADDRESS qualifier for the SET CHARACTERISTICS command.

SPOOL, unable to queue output file for printing

Explanation: A secondary message tells you exactly what the problem is.

User Action: Depends on the secondary message.

SPOOLMBX, error in assigning mailbox

Explanation: PrE could not assign an OpenVMS mailbox. The secondary message gives you more information.

User Action: Depends on the secondary message.

STOPEOS, connection stopping at end of next session for *characteristics-name*

Explanation: Self-explanatory. You receive this message when you enter the STOP command.

User Action: No response.

STOPPING, connection is stopping for characteristics name *name*

Explanation: Self-explanatory. You receive this message when you enter the STOP/ALL command.

User Action: No response.

TRANBAD, file does not contain valid character-set

Explanation: Self-explanatory. This message is a secondary message to the following SNAPRE message:

TRANERR, error in accessing character-set

See TRANERR below.

TRANERR, error in accessing character-set

Explanation: PrE cannot use the character set you have specified. The secondary message tells you why.

User Action: Specify a file which contains a valid character set. See your system manager for the file specification.

TWOMON, this connection is being monitored by another user

Explanation: Another user is monitoring the connection you have specified. Only one user at a time can monitor (with the MONITOR command) a connection.

User Action: Wait until the user has finished monitoring the connection.

UNABINIMA, unacceptable BIND image, bit/byte *numbers*

Explanation: Indicates an error in the "start of session" message (SNA BIND) from the IBM host system. For example, one or more of the IBM parameters might be invalid.

User Action: See your interconnect system manager or IBM system programmer.

UNARANGE, needed a value in range *hex-number* to *hex-number*, received *hex-number*

Explanation: This is a secondary message to the following SNAPRE message:

UNABINIMA, unacceptable BIND image, bit/byte *numbers*

See UNABINIMA above.

UNAVALUE, expected *hex-number*, received *number*

Explanation: This is a secondary message to the following SNAPRE message:

UNABINIMA, unacceptable BIND image, bit/byte *numbers*

See UNABINIMA above.

UNKCOM, command is not an SNAPRE command *command*

Explanation: Self-explanatory.

User Action: Enter an SNAPRE command.

UNKENT, invalid or unknown entity in prompt *entity*

Explanation: You entered the wrong entity name in response to the prompt.

User Action: Reenter the response to the prompt correctly.

UNKEOL, line ended unexpectedly - a mandatory item was not present

Explanation: You did not enter a command or a line of text in the correct format.

User Action: Reenter the line and make sure you have entered the file specification, command, qualifiers, and the characteristics name in the correct format.

UNKLUT, unsupported LU type *hex-number*

Explanation: PrE does not support this LU session. The LU type is a hexadecimal number of two digits.

User Action: See the IBM system programmer. You might have set up a wrong value for the session address.

UNKPARAM, parameter is not valid for this qualifier or command *parameter*

Explanation: The characteristics name is the only parameter you need to specify with a command or qualifier.

User Action: Reenter the command, specifying the characteristics name as the only parameter.

UNKQUAL, qualifier is not valid for this command *qualifier*

Explanation: Self-explanatory.

User Action: Enter the correct qualifier.

UNKRSPREC, response received to a request that wasn't sent

Explanation: Indicates an SNA protocol error.

User Action: See your interconnect system manager or IBM system programmer.

UNKUNIT, DECnet or TCP/IP unit number *number* is unknown

Explanation: Self-explanatory.

User Action: See your interconnect system manager.

UNUUNBREC, UNBIND of type *unbind-type* received from IBM application

Explanation: The IBM application sent this type of UNBIND command.

User Action: Determine the meaning of the command from the IBM documentation and take appropriate action.

UPDCHAR, updating existing characteristics file *file-spec*

Explanation: You receive this message when you use the SET CHARACTERISTICS command to modify a characteristics file.

User Action: No response.

B.3 Fatal Internal Messages

The following error messages appear only when a fatal internal error occurs in PrE.

IMPORTANT

The appearance of any of the following error messages indicates that the PrE software is operating abnormally. Repeat the error, copy all the error messages that appear on your screen, and print a copy of the event log file when one from this group appears. Take your list of error messages to your system manager who can decide what

corrective action to take. Consult the problem solving manual for your interconnect system if you are the system manager.

ABOCTXPRE, abort context block present at port deletion time

ABOWAIACC, abort attempt while still waiting for IO$ACCESS

ACCINTERR, Gateway detected an error in the Gateway Access Routines

AEFOUTRAN, asynchronous event flag number is out of range

ASTBLKZER, ASTBLK to SNA$$IOEVENT is 0

BINDATREC, BIND data received in wrong state

BUFIN_USE, *number* bytes of buffer still in use

BUFTOOSHO, transmit buffer is too short

CORTABCOR, *number* entries still in the correlation table

CTXBLKINU, no active ports, but context blocks still in use

DCLASTFAI, $DCLAST failed

EVFOUTRAN, event flag number is out of range

EVTIN_USE, *number* event blocks still in use

EXIT, gateway server task terminated

FAIALLBUF, failed to allocate memory for a buffer

FAIALLEVF, failed to allocate an event flag

FAIASSCHA, failed to assign a DECnet or TCP/IP channel

FAIALLCTX, failed to allocate memory for a context block

FAIBLDNCB, failed to build DECnet or TCP/IP Network Connect Block

FAICONMBX, failed to convert mailbox name

FAICOPBIN, failed to copy BIND image into caller's buffer

FAICOPBUF, failed to copy data into caller's buffer

FAICOPMBX, failed to copy mailbox message to context block

FAIDEAMBX, failed to deassign mailbox channel

FAIFREBUF, failed to free data buffer

FAIFREEF, LIB$FREEEF failed

FAIFRENCB, failed to free NCB buffer

FAIGETCHA, failed to get mailbox characteristics

FAIGETMBX, failed to get context block for mailbox message

FAITRIBLA, failed to trim blanks off end of nodename

FATINTERR, internal error in Gateway access routines

FLUBUFREC, Flush Buf message received while not flushing

FUNCABORT, access routine function aborted

FUNNOTVAL, function not valid with port in current state

GATINTERR, internal error in Gateway node, code *number*, subcode *number*

GATTRAFAI, Gateway logical name translation failed

GETDVIFAI, failed to get NET device characteristics

ILLASTSTA, ASTs are disabled or an AST routine is currently in progress

ILLMBXMSG, illegal or unexpected mailbox message type

INSRESOUR, insufficient resources to establish session

INVACCPAR, parameter ACCNAME is invalid

INVAEFPAR, parameter ASYNC-EFN is invalid

INVAPPPAR, parameter APPLIC is invalid

INVARGLEN, invalid argument block length in SNA$$DOWAIT

INVASTADR, parameter ASTADR is invalid

INVASTPAR, parameter ASTPAR is invalid

INVASYEVT, invalid asynchronous event occurred, code *code*

INVBINBUF, parameter BINDBUF is invalid

INVBINLEN, parameter BINDLEN is invalid

INVBUFPAR, parameter BUFFER is invalid

INVPUPAR, parameter PU is invalid

INVDATPAR, parameter DATA is invalid

INVEVFNUM, parameter EFN is invalid

INVEVTCOD, parameter EVTCODE is invalid

INVEVTNUM, event number *number* is an invalid event number

INVGWYNOD, parameter GWY-NODE is invalid

INVIOSB, parameter IOSB is invalid

INVLENADR, parameter DATALEN is invalid

INVLMTPAR, parameter LOGON is invalid

INVNOTADR, parameter NOTIFY is invalid

INVNOTPAR, parameter NOTIFYPAR is invalid

INVPASPAR, parameter PASSWORD is invalid

INVPORTID, parameter PORTID is invalid

INVRECCHK, invalid port state for receive check

INVRECCOU, parameter NUMREC is invalid

INVRHPAR, parameter RHPAR is invalid

INVSENCOD, parameter SENSE is invalid

INVSEQNUM, parameter SEQNUM is invalid

INVSESPAR, parameter SESADDR is invalid

INVSNDDAT, failed to send data to IBM

INVTRAFLG, parameter TRAFLG is invalid

INVUSEPAR, parameter USER is invalid

LENTOOLON, transmit byte count exceeds buffer length

LIBFREFAI, LIB$FREE-VM failed

LIBGETFAI, LIB$GET-VM failed

LIBROUFAI, system library routine failed

MAXSESACT, maximum number of sessions already active

MBXIOSERR, mailbox read failed with an IOSB error

MBXREAFAI, mailbox read returned an error

NO_GWYNOD, SNA$DEFGATEWAY in undefined and GWY-NODE was not specified

NOEVEPEN, no event pending

NOTNORDAT, non-normal data message received from Gateway

OBJTRAFAI, failed to translate object name logical

PORREFNON, port database reference count is not zero

PORREFOUT, port database reference count is out of range

PORUNKSTA, port is in an unknown state

PROERRBIN, protocol error in BIND data message from Gateway

RECBUFINU, no active ports, but receive buffers still in use

RECFREFAI, failed to free receive buffer

RECPENMSG, RECONPEND message received, state not RUNNING

RECTOOLAR, receive count is too large

SCRINIERR, $SCRINIT returned an unknown status code

SERV, system services error

STANOTRUN, normal message received, state not RUNNING

TERMPEND, SNA$TERMINATE has already been issued

TOOFEWPAR, not enough parameters specified

TOOMANPAR, too many parameters specified

UNINUMUNK, unit number in mailbox message is unknown

UNKDATMSG, unknown data message type received

UNKEVTNUM, event number *number* is unknown

UNKMBXMSG, unrecognized mailbox message, *message*

UNKMSGREC, unknown message code received from Gateway

UNKPMRMSG, unknown message received from PSTHRU

UNKSLU, unknown AI port id *hex-number*

UNKSNSCOD, unrecognized sense code *hex-number*

UNKUNBREC, unknown UNBIND type received from Gateway

UNSUSEREC, unsatisfied user receives at port deletion time

C

Differences in EBCDIC to DMCS Translations

This appendix provides information about EBCDIC to Digital Multinational Character Set (DMCS) translations. PrE's default tables are similar to the non-reversible ASCII to EBCDIC and EBCDIC to ASCII translation tables described in the *OpenVMS RTL Library (LIB$) Manual*. There are a few differences, however. Some EBCDIC characters are translated to different DMCS characters. These characters are shown in Table C–1:

Table C–1 Differences in EBCDIC to DMCS Translations

EBCDIC Character	DMCS Character	ASCII Character
¡	Broken vertical line	¡
Broken vertical line	¡	|
¢	¢	[
Short vertical	|	!
!	!	]
Logical NOT	^	^
All EBCDIC codes that do not have a defined character	-	-

D

Troubleshooting PrE

This appendix provides information about solving problems that may arise when using PrE.

Table D–1

Problem Number	Symptom
1	The interconnect system rejects the BIND request for PrE.
2	You expected data but did not receive it.
3	You received data but not in the expected format.
4	You cannot start PrE's background process, or start SNAPRE.
5	The START command fails.

PrE Problem 1

The interconnect system rejects the BIND request for PrE.

Solutions:

When the interconnect system rejects a BIND request for PrE, it sends an error message to the event log file indicating which field (such as RUSIZE or LU type) in the BIND request is causing the problem.

Refer to the VTAM LOGON mode table entry in your guide to IBM parameters for information about communicating with PrE.

PrE Problem 2

You expected data but did not receive it.

Solutions:

Look in the event log file, and do the following:

1. Make sure that you have started a connection. Chapter 3 tells you how to do this.
2. Check to see if you have a DECnet or TCP/IP error on the DECnet or TCP/IP link between PrE and the interconnect system, or between the interconnect system and the IBM host. The problem solving manual for your interconnect system tells you how to do this.
3. Check to see if the IBM host system has started a session. If so, use the SNATRACE utility, described in the *Digital SNA Gateway Management Guide* and in *OpenVMS Problem Solving*, which shows if there are problems in either the PrE software or the interconnect system software.

PrE Problem 3

You received data but not in the expected format.

Possible causes of this problem follow:

- Line breaks occur at the end of one line and before the end of the next line.
- Page breaks occur in the middle of a page.
- When you print data, printing continues over the paper perforations.

Solutions:

Unexpected line breaks occur because the IBM line length is longer than the PrE line length. Page breaks in the middle of the page usually mean the IBM page length is longer than the PrE page length. If printing continues over the perforations, the PrE page length is probably longer than the IBM page length.

In all cases, make sure the values for page length and page width in the characteristics file are the same as those set in the IBM parameters for this secondary logical unit. Also make sure the paper is mounted in the printer correctly.

PrE Problem 4

You cannot start PrE's background process, or start SNAPRE.

Solutions:

Make sure that the Digital SNA Printer Emulator for OpenVMS software is installed on your system. If you are trying to start the background process, make sure you have sufficient privileges.

PrE Problem 5

The START command fails.

Solutions:

An error occurred when you tried to connect to the interconnect system. Check the event log file; the messages tell you what the problem is. See Section 2.10 for a description of all the error messages which could appear in the event log file. If you receive the privilege error message, another user has already started that connection.

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