SC31-8604-01

FFST Operations Guide
FFST/MVS
FFST/VM

FFST Operations Guide
FFST/MVS
FFST/VM

SC31-8604-01

Note

Before using this information and the product it supports, be sure to read the general information under “Notices” on page vi.

First Edition (September 1997)

This edition, SC31-8604-00, applies to:

- FFST/MVS Release 2, program number 5695-044
- FFST/VM Release 2, program number 5684-158
- OS/390* Version 2 Release 4, program number 5647-A01
- All subsequent releases, versions, and modifications until otherwise indicated in new editions

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- OS/390
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- SystemView
- Virtual Machine/Enterprise Systems Architecture
- VM/ESA
- VTAM

About This Book

First Failure Support Technology* (FFST*) is an IBM* licensed program that provides immediate notification and first failure data capture (FFDC) for software events. IBM's SystemView* strategy incorporates FFST as part of its problem management discipline. This book applies to the following FFST products running in the specified environments:

- FFST for Multiple Virtual Storage (FFST/MVS*) in a Multiple Virtual Storage/Enterprise Systems Architecture (MVS/ESA*) environment
- FFST for Virtual Machine (FFST/VM*) in a Virtual Machine/Enterprise Systems Architecture* (VM/ESA*) environment

FFST/MVS also incorporates its own technology by including software probes in its own code. FFST/MVS processes these software probes using its internal FFDC function. When one of these internal software probes is triggered, FFST/MVS issues a symptom string that describes the event. This symptom string appears in the dump and in the generic alert. The dump is a member of a partitioned data set, which is specified in the FFST/MVS startup procedure. The FFDC messages describe the member name and the data set that contain the dump; you can format the dump using the FFST dump formatting program, EPWDMPFM. For more information, see Chapter 3, “Using FFST Output” on page 3-1.

The software probes that FFST/MVS processes with its FFDC function can also be triggered for FFST/VM. However, FFST/VM does not have the FFDC function. As a result, when one of these software probes is triggered, FFST issues messages containing only the software probe's symptom string.

This book explains how to perform the following tasks:

- Use commands to control FFST operation
- Use the different types of FFST output to identify and analyze software events

Who Should Use This Book

The following people should read this book:

- System operators who need to control FFST operation
- Support personnel who use FFST output to identify and analyze software events

How to Use This Book

The FFST/MVS FFST/VM Operations Guide is divided into the following sections:

- Chapter 1, "FFST Overview"

  This chapter explains what FFST is.
- Chapter 2, "Controlling FFST Operation"

  This chapter explains how to control FFST operation using a set of FFST commands.
- Chapter 3, "Using FFST Output"

  This chapter explains how to use FFST output to identify and analyze software events.
- Appendix A, "FFST Messages"

  This appendix provides a list of the messages that can appear while you are using FFST.
- Appendix B, "FFST for MVS Transition Code Function"

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This appendix describes the transition code software probes that FFST uses to report ABENDS occurring in authorized products and dumps being issued by CICS transactions.

- Appendix C, "S/390 Channel Attached Device Support"

  This appendix describes the support provided by FFST for S/390 channel attached devices.

Highlighting Conventions Used in This Book

bold Keys you press (for example, Enter) appear in bold.

`example` Text you type or text that appears on the screen appears in example font.

italics A term appears in italics the first time it is defined.

Variables also appear in italics. Substitute specific values for these variables.

Summary of Changes

Summary of Changes
for SC31-8604-00
as Updated September, 1997,
online only

This revision changes the FFST information to unlicensed. There are no functional changes associated with this edition.

Summary of Changes
for LC33-1016-01
as Updated September, 1996
online only for LK2T-6702-01

The following changes appear only in the online version of this publication.

This revision deletes references to the FASTService service offerings. It also incorporates minor editorial changes.

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Chapter 1. FFST Overview

Advances in hardware manufacturing and technology have enabled the computer industry to vastly improve the reliability of circuitry and reduce hardware cost. Less expensive hardware has stimulated extensive use of circuitry to detect failures or deteriorating circuit performance and 'call home', pointing out what component should be replaced. The results are significant reduction in repair time and even more significant reductions in service skill and labor.

As hardware reliability improves, software problems account for a greater portion of system and application interruptions because software has not enjoyed the same degree of advancement in technology as hardware. Although great strides have been made in quality, often measured as errors per 1000 lines of code, the amount of code and system complexity have increased to make this improvement barely visible. Currently, the industry offers programs based on several different failure capture techniques requiring a variety of personnel skills and system resources to recognize and resolve failures across a system.

There are at least five major problems that exist in the software service arena today:

1. Detecting problems as early as possible before the environment changes
2. Capturing the correct data to debug the software problem- the first time the error occurs
3. Capturing only the data required to debug the error (i.e., minimize the need for full address space dumps).
4. Immediate notification of the error
5. Uniquely identifying the error in order to determine if it is a condition that was already detected and reported to the support organization.

First Failure Support Technology (FFST) for MVS and FFST for VM are program products that provides an encapsulation of software services required to service IBM program products. Using services of the operating system, FFST attempts to bring a consolidated approach for problem recognition, diagnostic data capture, and problem reporting for IBM program products.

Note: Each place throughout this document, the name FFST implies FFST for MVS and FFST for VM except where it is specifically mentioned that it is FFST for MVS or FFST for VM.

FFST provides the following services for IBM products:

- customized dump - promotes the collection of only the data required to debug a software problem
- symptom string - provides a unique problem 'label' that can be used to quickly determine if a software problem has already been detected. The symptom string is contained in each output in this list.
- symptom record - error log entry built to IBM's Symptom Record Architecture (SRA) standard and placed in LOGREC.
- messages - indication on the operator console that a problem has occurred and FFST was called to collect the data and report the problem.
- network notification - indication through an System Network Architecture (SNA) Generic Alert that a problem has occurred and FFST was called to collect the data and report the problem. Included in the Generic Alert is key information which includes the machine on which the problem occurred and the name of the dump data set if a dump was requested by the detecting product.

It should be noted that there are situations that will continue to require full address space dumps. For certain types of problems it is very difficult for a programmer to determine what data may be required to diagnose a failure. For these problems, a capture of the complete environment will be required.

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IBM programmers continue to improve their defensive programming techniques within their software in order to assure the instances of needing full address space dumps to diagnose a failure will be kept to a minimum.

FFST Components

FFST is composed of four components:

- **software probe** - call statements placed in IBM program products which are used to access FFST services. Each probe statement has a unique identifier, up to eight characters in length. This identifier can be used in controlling the operation of FFST through the MODIFY commands specified in “FFST MODIFY Command Overview” on page 2-3. The first three characters of the probe identifier indicate which product was issuing the call to FFST. For example, if FFST is called with a probe identifier that starts with 'ISTxxxxx', this call was from the VTAM program product.

  In order to protect the operating system from the excessive use of resources by FFST, FFST will automatically disable any probe statement that exceeds a using-product specified criteria. If this occurs, FFST will ignore any calls for services by that probe statement with a matching symptom string. After the problem is fixed which caused a probe statement to be executed at a high rate, FFST can be reset to start accepting calls by the probe statement through the FFST MODIFY command set. See “FFST MODIFY Command Overview” on page 2-3.
- **configuration table** - a single CSECT module built and shipped with the program product that chooses to use FFST services. It contains information that identifies the using product. Its name is passed to FFST when that program product initializes with FFST. (Each product that requires FFST services must issue an FFST initialization call to inform FFST that it may be requiring FFST services.)
- **Data Structure Table (DST)** - a single CSECT module built and shipped with the program product that chooses to use FFST service. It contains static information which FFST uses to determine what data is to be captured for each software probe used by that product and information used to build the Generic Alert. It minimizes the amount of static data that must be passed in the software probe call. A single product may choose to use more than one DST. The name of the DST which contains the information for a specific software probe is specified in the software probe call.
- **Problem source identifier (PSI)** - the main component of FFST which collects the data specified on the probe statement and generates the diagnostic data outputs specified by the calling product. It utilizes the FFST configuration table to determine the identity of the caller and uses the data structure table (DST) to determine what diagnostic data is to be captured (i.e., customized dump, Generic Alert, console messages, error log entry in LOGREC). The processing performed by the PSI is controlled by the FFST MODIFY commands. See “FFST MODIFY Command Overview” on page 2-3.

FFST Outputs

FFST provides the program product caller with the option of choosing from four diagnostic outputs. Each of these outputs is explained in the sections that follow. Each output is fully controllable through the FFST MODIFY commands which are described in “FFST MODIFY Command Overview” on page 2-3.

Customized Dump (MVS)

When a software probe is executed and the caller chooses to request a dump, FFST will dynamically allocate a data set and generate an unformatted dump. The name of the data set will be as follows:
user_name.system_name.applid.DMPxxxxx

where:

- *user_name* is the high level qualifier selected by the customer and entered through the FFST MODIFY command facility. See “FFST MODIFY Command Overview” on page 2-3 for more details. The default value FFST uses is 'FFST'.

  Note: If 'FFST' is not an acceptable value, then this name must be changed in order to avoid a dump creation failure due to a data set security violation.

- *system_name* is the name of the MVS system, taken from SYS1.PARMLIB

  Note: If the name begins with a numeric, an 'S' is appended to the beginning of the system name.

- *applid* is a short name of the using product (e.g., VTAM, NETVIEW) which the using product specifies.
- *xxxxx* is a sequence number which makes the dump data set name unique

In order to read the dump, the FFST dump formatter EPWDMPFM has to be used. See “Formatting a Customized Dump for FFST/MVS” on page 3-1 which describes the use of this tool.

Customized Dump (VM)

When a software probe is executed and the caller chooses to request a dump, FFST will create a dump using SDUMP or VMDUMP. For GCS, the dump is sent to the user id set up to receive dumps at GCS Group build. For CMS, the dump destination is customizable. The default is where the user id setup as the destination for system dumps.

In order to read the dump, the FFST dump formatter EPWDMPFV has to be used. See “Formatting a Customized Dump for FFST/VM” on page 3-8 whichdescribes the use of this tool.

Error Log Entry

When a software probe is executed and the caller chooses to request an error log entry, FFST generates an error log entry and place sit in the LOGREC data set. This entry, built using the Symptom Record Architecture format, can be formatted and printed using the Environmental Record Editing and Printing (EREP) program. See “Using the Symptom String” on page 3-18.

This entry contains a summation of the problem detected by the caller and includes key information such as the primary symptom string which uniquely identifies the problem and the name of the dump data set (MVS only) into which the dump was placed, if a dump was requested.

Messages

When a software probe is executed and the caller chooses to present problem information through the operator console, FFST generates a series of messages which include the primary symptom string for the problem, the name of the dump data set, if a dump was requested, and the volume serial number on which the dump data set resides. See “Using the Console Message” on page 3-27 for details of these messages.

Generic Alert

When a software probe is executed and the caller chooses to notify a network operator of the problem, FFST generates an SNA Generic Alert summarizing the problem and passes the alert to the IBM NetView* program product for processing. The alert contains information key to the problem and includes the identity of the machine on which the problem occurred, the name of the program product that detected the problem, the date and time of the problem, the name of the dump data set into which the dump was placed, and the primary symptom string. See “Using the Generic Alert” on page 3-28 for details of the alert and how it is processed by the NetView program product.

Probe Message Log

In addition to the diagnostic outputs described above, FFST generates a probe execution entry and places it in the FFST probe message log each time a probe is executed. This log can be used to keep a history of all the products that requested FFST services. Through the FFST start up procedure, two logs may be specified: primary and secondary. When the primary is filled, FFST must be switched over to use the secondary log. See “Using the Probe Message Log Entry” on page 3-27for details of the probe message log and how to use its contents.

FFST Usage

When a product calls FFST for data capture services, FFST indicates this event through the following message:

```
EPW0401I procname: EVENT DETECTION INVOKED BY applname
```

where *procname* is the name of the procedure that started FFST and *applname* is the name of the calling program product (e.g., VTA M, NetView). This message is a clear indication that FFST was called by a product and there could be a software problem. FFST messages to follow will provide information about the error. Using the information in the following chapters, the FFST outputs can be collected and used when working with the IBM Support Center to determine the cause of the problem. Whenever the FFST MODIFY command facility is being utilized to control FFST support for a specific application, the *applname* value in the EPW0401I message is the value to be used on the APPLID operand.

In addition to program products that use FFST services through software probes, FFST for MVS provides a system monitor capability that watches the programming environment for problems that may occur where FFST is not called to process the data from the situation. This function is provided by watching for dump requests from authorized program products through the MVS Post Dump Exit (IEAVTSEL) facility (PN40734) and watching for dump requests from CICS transactions through the CICS dump user exit (PN45724). This monitoring capability is known as the FFST Transition Code function and is described in detail in Appendix B, “FFST for MVS Transition Code Function” on page B-1.

FFDC Function

FFST utilizes its own technology to detect internal problems. This function is called FFDC. EPW00xxI messages are issued by FFST which pertain to the FFDC function. When an FFDC probe trips, messages are issued containing the symptom string and a dump is also taken. This dump is a member of a pre-allocated partitioned dump data set, which can also be formatted using the FFST dump formatter.

Chapter 2. Controlling FFST Operation

FFST provides START, MODIFY, and STOP commands that let you control its operation. You can use these commands two different ways:

- Through the FFST operator's console
- Through a startup command list that establishes the FFST operating environment at FFST initialization

The format for FFST commands depends on whether you are using them in an MVS or VM operating environment. This chapter uses the following conventions to explain the different command formats:

UPPERCASE BOLDFACE
Indicates actual command names, keywords, or operands. These values must be spelled as shown but can be typed in either uppercase or lowercase.

lowercase italic
Indicates variables that show the type of information required, rather than a specific value. When you type the command, substitute an actual value (usually the name of a resource) for the lowercase italic characters.

Underscore Indicates the default value that FFST uses if you do not specify another value.

Brackets [ ] Indicate an optional specification. Any commas, equal signs, parentheses, or other symbols between the brackets are also optional. Do not include the brackets when typing the command.

Vertical bar |
Separates the possible options for a single keyword. If a group of options separated by vertical bars appears between brackets, you do not have to choose any of the options in that group; FFST uses the default value.

Equal sign, comma, parentheses, and asterisk = , ( )*

Enter these symbols as shown, unless they appear between brackets. When they appear between brackets, you do not have to include them unless you choose to include the associated optional operand.

The sections in this chapter provide the following information:

- General information about how to use FFST commands, including command syntax and definitions of command parameters
- Instructions for using FFST commands from a command console, including specific examples of FFST commands
- Instructions for using FFST commands in a startup command list

Understanding FFST Commands

This section provides the following information for the FFST START, MODIFY, and STOP commands:

- The command syntax
- A list of available operands
- An explanation of each of the command parameters

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FFST START Command Overview

When used to control FFST operation, the START command has the following format:

Platform	Command Syntax
MVS	**START|S** *procname,operands*
VM	**FFST START|S** *operands*

The FFST START command has the following operands:

[**LANG**=*lang*|**ENU**]
[**FMODE**=**NORMAL|DEBUG**]
[**PAGE**=*pagenum*|**200**]
[**START**=*stmemnam*|**START00**]

Note: The EPWFFST sample start-up procedure can be changed to include an additional parameter called START. The value for this parameter should be included as the fourth parameter on the EXEC statement in the JCL.

If you include more than one operand, you must separate the operands with commas. For example:

operand1=option,operand2=option

The following list explains each of the FFST START command parameters:

START|S
The command used to initialize FFST. For FFST/MVS, the FFST subsystem is initialized in its own address space. For FFST/VM, FFST is initialized in its own virtual machine. Once FFST is initialized, it can process triggered software probes which can be controlled by a set of MODIFY commands.

For the first start after initial program load (IPL), the procedure reads the checkpoint data set if the following conditions are true:

MVS The FFSTCKPT DD name appears in the startup job control language (JCL).

VM The FFSTCKPT file exists and the file definition is specified as it is in the FFST STARTUP EXEC file.

The checkpoint data set restores the environment from the last time FFST was active. In addition, whenever FFST is started, the system reads and processes a startup command list, if one exists. For more information, see “Using a Startup Command List” on page 2-29.

procname
The procedure name for the operation. (This parameter applies to MVS only.) The recommended value is EPWFFST.FFST. If you use EPWFFST.FFST as the procedure name in the START command, you can use FFST as the procedure name in the MODIFY commands. For more information about the procedure name used in MODIFY commands, see “FFST MODIFY Command Overview” on page 2-3.

You can find sample JCL for this procedure in the install library on the install tape, along with the other install jobs.

FFST
The parameter that indicates the command applies to FFST. (This parameter applies to VM only.) The recommended value is FFST.

LANG=
The keyword used to specify the National Language Support (NLS) abbreviation for the language in which the FFST messages are to appear. The default (and the only value currently allowed for the LANG parameter) is ENU.

FMODE=
The keyword used to indicate the type of messages you want FFST to issue. This keyword can have the following values:

NORMAL
FFST issues only its standard messages. NORMAL is the default value.

DEBUG
FFST issues flow messages in addition to its standard messages. Use this option only when necessary.

PAGE=
A keyword, used only for FFST/MVS, that indicates the number of fixed pages of storage to be preallocated for any software probe triggered while running disabled. A value that is too low can result in a software probe not having enough pages available to take an FFST dump. A value that is too high can adversely affect system performance. The default value for the PAGE parameter is 200.

START=
A keyword that indicates the FFSTPARM start list member name to be used. The default valud is START00.

FFST MODIFY Command Overview

When used to control FFST operation, the MODIFY command has the following format:

Platform	Command Syntax
MVS	**MODIFY|F** *procname,operands*
VM	**FFST[MODIFY|M]***operands*

The FFST MODIFY command has the following operands:

[ACTION|A=
DISABLE|DIS|
ENABLE|EN|
CLEAR|CL|
DISPLAY|D|

CHANGE|CH|
RESET|R|
HALT]
[QUICK]
[APPLID|AP=*applname***|FFST]**
[VENDOR|V=*vendorname***|IBM|IBM CORPORATION]**
[PROBEID|P=*xxxyyynn|xxxyyy*|xxx**]**
[OPTIONS|OPT=
(DUMP
SYMRC
GENAL
SYMST
SUPDP

|ALL)]
[DEFINE|DEF]
[LOGID|L=*n*|FFSTLOGn|REUSE]
[ALRCVID|AL=*alertreceiver*]

The following MODIFY operands are available for MVS only:

[DUMPQUAL|DQ=*dumpqualifier*]
[DUMPVOL|DV=*dump_volume_serial_number*]

The following MODIFY operand is available for VM only:

[DUMPRCV|DR=*userid*]

The following rules apply when you use these operands:

- If you include more than one operand, you must separate the operands with commas.
- If you include more than one option on an operand, you must separate the options with commas and enclose them in parentheses.

For example:

operand1=option,operand2=(option1,option2),operand3

The following list explains each of the FFST MODIFY command parameters:

MODIFY|F
The command used to communicate with the FFST/MVS program.

MODIFY|M
The command used to communicate with the FFST/VM program.

procname
The procedure name for the operation. (This parameter applies to MVS only.) The recommended value is FFST.

FFST
The parameter that indicates the command applies to FFST. (This parameter applies to VM only.)

ACTION|A=
The keyword used to indicate the action you want to perform.

This keyword can have the following values:

DISABLE|DIS
The parameter used to disable output options, probe statements, and probe message logging.

ENABLE|EN
The parameter used to enable output options, probe statements, and probe message logging.

CLEAR|CL
The parameter used to clear any knowledge of probe statements and to clear a message log which FFST maintains.

DISPLAY|D
The parameter used to display the operating status of FFST, an application known to FFST, or probe statements in an application known to FFST.

Note: DISPLAY is the default value for ACTION.

CHANGE|CH
The parameter used to change the destination of FFST dumps and generic alerts.

RESET|R
The parameter used to reset the destination of FFST dumps and alerts to the default value.

HALT
The parameter used to stop the execution of the FFST program once all currently running and pending processes are complete.

QUICK
The keyword used to indicate that FFST will stop running without waiting for all applications to terminate their interfaces to FFST. This keyword is allowed only with an ACTION=HALT command.

APPLID|AP=
The keyword used to identify the application affected by the command. This keyword can have either of the following values:

applname
The name of the application you want the MODIFY command to affect.

FFST
The MODIFY command affects the FFST program.

VENDOR|V=
The keyword used to indicate the application's owner. For IBM products, use IBM or IBM CORPORATION. For vendor products, use the documented vendor name.

PROBEID|P=
The keyword used to identify the probe statement to be affected by the command. You can use any of the following values:

xxxyyynn
Specifies a single probe statement, where:

- *xxx* is the probe identifier prefix (the first 3 characters of the probe identifier).
- *yyy* is the source file identifier (the third, fourth, and fifth characters of the probe identifier).
- *nn* is the number that uniquely identifies the individual probe statement.

*xxxyyy**
Specifies a group of probe statements that share the same probe identifier prefix and source file identifier, where:

- *xxx* is the probe identifier prefix.
- *yyy* is the source file identifier.

*xxx**
Specifies a group of probe statements that share the same probe identifier prefix, where xxx is the probe identifier prefix.

Note: If you type a command that includes a probe identifier prefix that is unknown to FFST, you must include the APPLID parameter.

OPTIONS|OPT=
The keyword used to identify the FFST output options affected by the command.

You can use any of the following parameters with the OPTIONS keyword:

DUMP
The MODIFY command affects FFST dump support.

SYMRC
The MODIFY command affects symptom record support.

GENAL
The MODIFY command affects generic alert support.

SYMST
The MODIFY command affects symptom string message support.

SUPDP
The MODIFY command affects duplicate dump suppression.

ALL
The MODIFY command affects all the preceding output options.

DEFINE|DEF
The keyword used to identify a new application. If you use the APPLID keyword to specify an application that is not known to FFST, include the DEFINE parameter to indicate that it is new.

LOGID|L=
The keyword used to indicate that the command is to affect the probe message log function. When you use LOGID you have three options:

- You can type LOGID without specifying a value if you also specify ACTION=ENABLE or ACTION=DISABLE. If you do not specify a value, the FFST probe message logging function will be enabled or disabled.
- You can type LOGID=n or LOGID=FFSTLOGn, where n is a numeric value between 1 and 9. Using this notation means that the log data set specified on DD name FFSTLOGn will be enabled, disabled, or cleared. When a data set is cleared, the clear is scheduled, which means that FFST will not clear the data set at the time of the command, but will consider the data set available the next time it becomes the current data set, and will clear it then.

  Note: Up to 9 DD statements may be specified for probe message logs in the FFST start-up JCL. However, FFST will only use as many as are sequentially specified, starting at 1. In other words, if FFSTLOG1, FFSTLOG2 and FFSTLOG4 are in the JCL, only FFSTLOG1 and FFSTLOG2 will be used, and are the only ones that you may specify a modify command for.
- You can type LOGID=REUSE if you also specify ACTION=ENABLE or ACTION=DISABLE. This indicates that the REUSE function is to be enabled or disabled. REUSE means that when FFST switches to the next log data set, FFST will reuse that data set (clearing it automatically first), even if it contains log information. If REUSE is disabled, FFST will not reuse a data set that contains any data, unless a CLEAR command has been issued for it.

  Note: FFST message log switching initially starts with FFSTLOG1 data set, and continues through the last FFSTLOGx DD in the FFST JCL. When that is full, FFST starts over with FFSTLOG1. Also, all log information is stored in the FFST checkpoint data set, so the environment will be restored after recycling of FFST, even after an IPL of the operating system.

ALRCVID|AL=
The keyword used to identify the NetView* alert receiver that is to receive FFST generic alerts. When you use ALRCVID, you have two options:

- If you are using ACTION=RESET, you can type ALRCVID without specifying a value. FFST assumes you want to reset the value to the default of "NETVALRT".
- You can type ALRCVID=*alertreceiver* where *alertreceiver* is one of the following values:

- If you are using ACTION=CHANGE, *alertreceiver* is the alert receiver you want to use.
- If you are using ACTION=RESET, *alertreceiver* is the name of the current alert receiver (the receiver you want reset to the default value).

DUMPQUAL|DQ=

The keyword used to indicate the high-level data set qualifier for all FFST dump data sets. (This parameter applies to MVS only.) FFST dump data set names have the format *dumpqual.sysname.prodqual.DMPxxxxx*. At FFST initialization, the default *dumpqual* value is "FFST."

When you use DUMPQUAL, you have two options:

- If you are using ACTION=RESET, you can type `DUMPQUAL` without specifying a value. FFST assumes you want to reset the value to the default.
- You can type DUMPQUAL=*dumpqualifier* where *dumpqualifier* is one of the following values:
  - If you are using ACTION=CHANGE, *dumpqualifier* is the dump data set qualifier you want to use.
  - If you are using ACTION=RESET, *dumpqualifier* is the name of the current dump data set qualifier (the qualifier you want reset to the default value).

DUMPVOL|DV=

The keyword used to identify the volume serial number on which FFST dump data sets are allocated. (This parameter applies to MVS only.) When you use DUMPVOL, you have two options:

- If you are using ACTION=RESET, you can type `DUMPVOL` without specifying a value. FFST assumes you want to reset the value to the default.
- You can type DUMPVOL=*dump_volume_serial_number* where *dump_volume_serial_number* is one of the following values:
  - If you are using ACTION=CHANGE, *dump_volume_serial_number* is the volume serial number you want to use.
  - If you are using ACTION=RESET, *dump_volume_serial_number* is the name of the current volume serial number (the number you want reset to the default value).

DUMPRCV|DR=

The keyword used to identify the userid to which FFST CMS dumps will be sent. (This parameter applies to VM only.) When you use DUMPRCV, you have two options:

- If you are using ACTION=RESET, you can type `DUMPRCV` without specifying a value. FFST assumes you want to reset the value to the default of SYSTEM.
- You can type DUMPRCV=*userid* where *userid* is one of the following values:
  - If you are using ACTION=CHANGE, *userid* is the CMS userid you would like all FFST CMS dumps to be sent to.
  - If you are using ACTION=RESET, *userid* is the name of the current userid (the userid you want reset to the default value).

FFST STOP Command Overview

Although the preferred way to stop FFST is to use a MODIFY command with the ACTION=HALT parameter, you can also use the STOP command. The STOP command has the following format:

Platform	Command Syntax
MVS	**STOP|P** *procname*
VM	**FFST STOP|P**

The following list explains each of the STOP command parameters:

STOP
The command used to stop execution of the FFST program.

procname
The procedure name for the operation. (This parameter applies to MVS only.) The recommended value is FFST.

FFST
The parameter that indicates the command applies to FFST. (This parameter applies to VM only.)

Using FFST Commands from a Console

You can control FFST operation by issuing commands from an FFST console. The following sections explain how to use these console commands.

Note: In this chapter, the phrase "an application known to FFST" refers to an application that has executed a probe statement, or an application specified in an FFST MODIFY command.

Starting FFST

When used to start FFST, the START command has the following operands:

[LANG=*lang***|ENU]**
[FMODE=NORMAL|DEBUG]
[PAGE=*pagenum***|200]**

For more information about these operands, see “FFST START Command Overview” on page 2-2

Example 1: To start FFST in debug mode, type one of the following commands:

MVS
```
START EPWFFST.FFST,FMODE=DEBUG
```

VM
```
FFST START FMODE=DEBUG
```

Example 2: To start FFST/MVS with 100 preallocated pages of fixed storage, type the following command:

```
START EPWFFST.FFST,PAGE=100
```

Disabling FFST Functions

The MODIFY ACTION=DISABLE command lets you perform the following tasks:

- Disable a probe statement or group of probe statements
- Disable FFST output options
- Disable FFST probe message logging

When you use the MODIFY ACTION=DISABLE command to disable a probe statement or an FFST output option, the APPLID or PROBEID keyword indicates the command's level of control. There are 5 levels of control:

- FFST (the highest level). FFST will not process any probes.
- A specific application. FFST will not process any probes from a specified application.
- A group of probe statements that have the same probe identifier prefix. (The probe identifier prefix is the first 3 characters of the probe identifier.)
- A group of probe statements that have the same probe identifier prefix and the same source file identifier. (The source file identifier is the third, fourth, and fifth characters of the probe identifier.)
- A single probe statement (the lowest level).

If you disable probe statements or output options at one of these levels, the command also affects all levels below that level. In addition, if you want to use a MODIFY ACTION=ENABLE command to enable the disabled probe statements or output options, you must issue that command at the same level. For example, if you disable an output option at the application level, you cannot enable it for a single probe statement in that application by issuing a MODIFY ACTION=ENABLE command at the probe statement level. Nor can you enable the output option for all the probe statements in the application by issuing a MODIFY ACTION=ENABLE command at the FFST level. You must issue the MODIFY ACTION=ENABLE command at the application level. Knowledge of the probe statement and the number of times the probe has tripped is not cleared as with the MODIFY ACTION=CLEAR command.

Disabling Probe Statements for FFST

When you disable probe statements at the FFST level, FFST does not process any triggered software probes.

When used to disable probe statements at the FFST level, the MODIFY command has the following operands:

ACTION|A=DISABLE|DIS
APPLID|AP=FFST

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to disable probe statements at the FFST level, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,APPLID=FFST`

VM `FFST MODIFY ACTION=DISABLE,APPLID=FFST`

Disabling Probe Statements for an Application

When you disable probe statements at the application level, FFST does not process any software probes triggered in that application.

When used to disable probe statements at the application level, the MODIFY command has the following operands:

ACTION|A=DISABLE|DIS
APPLID|AP=*applname*
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**
[DEFINE|DEF]

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to disable all the probe statements in IBMs VTAM* application, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,APPLID=VTAM,VENDOR=IBM`

VM `FFST MODIFY ACTION=DISABLE,APPLID=VTAM,VENDOR=IBM`

Disabling Probe Statements by Probe Identifier

When you disable a probe statement or probe statements by probe identifier, FFST does not process any triggered software probes with a probe identifier you specified.

When used to disable probe statements by probe identifier, the MODIFY command has the following operands:

ACTION|A=DISABLE|DIS
PROBEID|P=*xxxyyynn|xxxyyy*|xxx**
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**
[APPLID|AP=*applname***]**
[DEFINE|DEF]

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

Example 1: To disable a single probe statement with the probe identifier ISTTSC07, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,PROBEID=ISTTSC07,VENDOR=IBM`

VM: `FFST MODIFY ACTION=DISABLE,PROBEID=ISTTSC07,VENDOR=IBM`

Example 2: To disable all the probe statements that have a probe identifier prefix of IST and a source file identifier of TSC, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,PROBEID=ISTTSC*,VENDOR=IBM`

VM `FFST MODIFY ACTION=DISABLE,PROBEID=ISTTSC*,VENDOR=IBM`

Example 3: To disable all the probe statements that have a probe identifier prefix of IST, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,PROBEID=IST*,VENDOR=IBM`

VM `FFST MODIFY ACTION=DISABLE,PROBEID=IST*,VENDOR=IBM`

Disabling Output Options for FFST

When you disable an output option at the FFST level, FFST does not generate the output for any triggered probe statements.

When used to disable output options at the FFST level, the MODIFY command has the following operands:

ACTION|A=DISABLE|DIS
APPLID|AP=FFST
OPTIONS|OPT=
(DUMP
SYMRC

GENAL
SYMST
SUPDP
|ALL)

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

Example 1: To disable the generic alert output option at the FFST level, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,APPLID=FFST,OPTIONS=GENAL`

VM `FFST MODIFY ACTION=DISABLE,APPLID=FFST,OPTIONS=GENAL`

Example 2: To disable the symptom record and duplicate dump suppression output options at the FFST level, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,APPLID=FFST,OPTIONS=(SYMRC,SUPDP)`

VM `FFST MODIFY ACTION=DISABLE,APPLID=FFST,OPTIONS=(SYMRC,SUPDP)`

Example 3: To disable all the output options at the FFST level, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,APPLID=FFST,OPTIONS=ALL`

VM `FFST MODIFY ACTION=DISABLE,APPLID=FFST,OPTIONS=ALL`

Disabling Output Options for an Application

When you disable an output option at the application level, FFST does not generate the output for any probe statements triggered in the specified application.

When used to disable FFST output options at the application level, the MODIFY command has the following operands:

ACTION|A=DISABLE|DIS
APPLID|AP=*applname*
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**
OPTIONS|OPT=
(DUMP
SYMRC
GENAL
SYMST
SUPDP
|ALL)
[DEFINE|DEF]

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

Example 1: To disable the FFST generic alert output option for IBM's VTAM application, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,APPLID=VTAM,VENDOR=IBM,OPTIONS=GENAL`

VM `FFST MODIFY ACTION=DISABLE,APPLID=VTAM,VENDOR=IBM,OPTIONS=GENAL`

Example 2: To disable the FFST symptom record and duplicate dump suppression output options for IBM's VTAM application, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,APPLID=VTAM,VENDOR=IBM,OPTIONS=(SYMRC,SUPDP)`

VM `FFST MODIFY ACTION=DISABLE,APPLID=VTAM,VENDOR=IBM,OPTIONS=(SYMRC,SUPDP)`

Example 3: To disable all the FFST output options for IBM's VTAM application, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,APPLID=VTAM,VENDOR=IBM,OPTIONS=ALL`

VM `FFST MODIFY ACTION=DISABLE,APPLID=VTAM,VENDOR=IBM,OPTIONS=ALL`

Disabling Output Options by Probe Identifier

When you disable an output option by probe identifier, FFST does not generate the output for any triggered probe statement with a probe identifier you specified.

When used to disable FFST output options by probe identifier, the MODIFY command has the following operands:

ACTION|A=DISABLE|DIS

PROBEID|P=*xxxyyynn|xxxyyy*|xxx**
OPTIONS|OPT=
(DUMP
SYMRC
GENAL
SYMST
SUPDP
|ALL)
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**
[APPLID|AP=*applname***]**
[DEFINE|DEF]

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

Example 1: To disable the FFST generic alert output option for a single probe statement with the probe identifier ISTTSC07, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,PROBEID=ISTTSC07,OPTIONS=GENAL,VENDOR=IBM`

VM `FFST MODIFY ACTION=DISABLE,PROBEID=ISTTSC07,OPTIONS=GENAL,VEND OR=IBM`

Example 2: To disable the FFST symptom record and duplicate dump suppression output options for all the probe statements that have a probe identifier prefix of IST and a source file identifier of TSC, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,PROBEID=ISTTSC*,OPTIONS=(SYMRC,SUPDP),VENDOR=IBM`

VM `FFST MODIFY ACTION=DISABLE,PROBEID=ISTTSC*,OPTIONS=(SYMRC,SUPDP),VENDOR=IBM`

Example 3: To disable all the FFST output options for probe statements that have a probe identifier prefix of IST, type one of the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,PROBEID=IST*,OPTIONS=ALL,VENDOR=IBM`

VM `FFST MODIFY ACTION=DISABLE,PROBEID=IST*,OPTIONS=ALL,VENDOR=IBM`

Disabling FFST Probe Message Logging

When used to disable the FFST probe message logging function, the MODIFY ACTION=DISABLE command has the following format:

```
 Operation        Operands
-------------------------------------------------------------------
 MODIFY|F procname   ,ACTION|A=DISABLE|DIS
                   ,LOGID|L =n|FFSTLOGn|REUSE
```

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to disable message logging for DD name FFSTLOG3, type the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,LOGID=FFSTLOG3`

VM `FFST MODIFY ACTION=DISABLE,LOGID=FFSTLOG3`

To disable the REUSE function, type the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,LOGID=REUSE`

VM `FFST MODIFY ACTION=DISABLE,LOGID=REUSE`

To disable the FFST's message logging function, type the following commands:

MVS `MODIFY FFST,ACTION=DISABLE,LOGID`

VM `FFST MODIFY ACTION=DISABLE,LOGID`

Enabling FFST Functions

The MODIFY ACTION=ENABLE command lets you perform the following tasks:

- Enable a probe statement or group of probe statements
- Enable FFST output options
- Enable FFST probe message logging

Note: Probe statements, probe message logging, and all the FFST output options are enabled by default. You only need to enable them if they have been disabled using the MODIFY ACTION=DISABLE command.

When you use the MODIFY ACTION=ENABLE command to enable a probe statement or an FFST output option, the APPLID or PROBEID keyword indicates the command's level of control. There are 5 levels of control:

- FFST (the highest level).
- A specific application.
- A group of probe statements that have the same probe identifier prefix. (The probe identifier prefix is the first 3 characters of the probe identifier.)
- A group of probe statements that have the same probe identifier prefix and the same source file identifier. (The source file identifier is the third, fourth, and fifth characters of the probe identifier.)
- A single probe statement (the lowest level).

  When you issue a MODIFY ACTION=ENABLE command, you must issue it at the same level at which you issued the corresponding MODIFY ACTION=DISABLE command.

For example, if you disable probe statements at the application level, you cannot enable a single probe statement in that application by issuing a MODIFY ACTION=ENABLE command at the probe statement level. Nor can you enable all the probe statements in the application by issuing a MODIFY ACTION=ENABLE command at the FFST level. You must issue the MODIFY ACTION=ENABLE command at the application level.

Enabling Probe Statements for FFST

When you enable probe statements at the FFST level, FFST processes any triggered software probes that were previously disabled at the FFST level, unless they were also disabled at the application level or by probe identifier.

When used to enable probe statements at the FFST level, the MODIFY command has the following operands:

ACTION|A=ENABLE|EN
APPLID|AP=FFST

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to enable probe statements at the FFST level, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,APPLID=FFST`

VM `FFST MODIFY ACTION=ENABLE,APPLID=FFST`

Enabling Probe Statements for an Application

When you enable probe statements at the application level, FFST processes any triggered software probes in the application that were previously disabled at the application level, unless they were also disabled at the FFST level or by probe identifier.

When used to enable all the probe statements at the application level, the MODIFY ACTION=ENABLE command has the following operands:

ACTION|A=ENABLE|EN
APPLID|AP=*applname*
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to enable all the probe statements in IBM's VTAM application, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,APPLID=VTAM,VENDOR=IBM`

VM `FFST MODIFY ACTION=ENABLE,APPLID=VTAM,VENDOR=IBM`

Enabling Probe Statements by Probe Identifier

When you enable probe statements by probe identifier, FFST processes any triggered software probes previously disabled at the same probe identifier level, unless they were also disabled at one of the following levels:

- FFST level
- Application level
- A higher or lower probe statement level

When used to enable probe statements by probe identifier, the MODIFY command has the following operands:

ACTION|A=ENABLE|EN

PROBEID| P=*xxxyyynn|xxxyyy*|xxx**
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**
[APPLID|AP=*applname***]**

For more information about these operands, see "FFST MODIFY Command Overview" on page 2-3.

Example 1: To enable a single probe statement with the probe identifier ISTTSC07, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,PROBEID=ISTTSC07,VENDOR=IBM`

VM `FFST MODIFY ACTION=ENABLE,PROBEID=ISTTSC07,VENDOR=IBM`

Example 2: To enable all the probe statements that have a probe identifier prefix of IST and a source file identifier of TSC, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,PROBEID=ISTTSC*,VENDOR=IBM`

VM `FFST MODIFY ACTION=ENABLE,PROBEID=ISTTSC*,VENDOR=IBM`

Example 3: To enable all the probe statements that have a probe identifier prefix of IST, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,PROBEID=IST*,VENDOR=IBM`

VM `FFST MODIFY ACTION=ENABLE,PROBEID=IST*,VENDOR=IBM`

Enabling Output Options for FFST

When you enable an output option at the FFST level, FFST generates the output for any software probe for which the output was previously disabled at the FFST level, unless it was also disabled at the application level,by probe identifier, or in the probe statement.

When used to enable output options at the FFST level, the MODIFY command has the following operands:

ACTION|A=ENABLE|EN
APPLID|AP=FFST
OPTIONS|OPT=
(DUMP
SYMRC
GENAL
SYMST
SUPDP
|ALL)

For more information about these operands, see "FFST MODIFY Command Overview" on page 2-3.

Example 1: To enable the generic alert output option at the FFST level, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,APPLID=FFST,OPTIONS=GENAL`

VM `FFST MODIFY ACTION=ENABLE,APPLID=FFST,OPTIONS=GENAL`

Example 2: To enable the symptom record and duplicate dump suppression output options at the FFST level, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,APPLID=FFST,OPTIONS=(SYMRC,SUPDP)`

VM `FFST MODIFY ACTION=ENABLE,APPLID=FFST,OPTIONS=(SYMRC,SUPDP)`

Example 3: To enable all the output options at the FFST level, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,APPLID=FFST,OPTIONS=ALL`

VM `FFST MODIFY ACTION=ENABLE,APPLID=FFST,OPTIONS=ALL`

Enabling Output Options for an Application

When you enable an output option at the application level, FFST generates the output for any triggered software probes for which the output was previously disabled at the application level, unless the output was also disabled at the FFST level, by probe identifier, or in the probe statement.

When used to enable FFST output options at the application level, the MODIFY command has the following operands:

ACTION|A=ENABLE| EN
APPLID|AP=*applname*
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**
OPTIONS|OPT=
  (DUMP
  SYMRC
  GENAL
  SYMST
  SUPDP
  |ALL)

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

Example 1: To enable the FFST generic alert output option for IBM's VTAM application, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,APPLID=VTAM,VENDOR=IBM,OPTIONS=GENAL`

VM `FFST MODIFY ACTION=ENABLE,APPLID=VTAM,VENDOR=IBM,OPTIONS=GENAL`

Example 2: To enable the FFST symptom record and duplicate dump suppression output options for IBM's VTAM application, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,APPLID=VTAM,VENDOR=IBM,OPTIONS=(SYMRC,SUPDP)`

VM `FFST MODIFY ACTION=ENABLE,APPLID=VTAM,VENDOR=IBM,OPTIONS=(SYMRC,SUPDP)`

Example 3: To enable all the FFST output options for IBM's VTAM application, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,APPLID=VTAM,VENDOR=IBM,OPTIONS=ALL`

VM `FFST MODIFY ACTION=ENABLE,APPLID=VTAM,VENDOR=IBM,OPTIONS=ALL`

Enabling Output Options by Probe Identifier

When you enable an output option by probe identifier, FFST generates the output for any triggered software probes for which the output was previously disabled at the same probe identifier level, unless the output was also disabled at one of the following levels:

- FFST level
- Application level
- A higher or lower probe statement level
- In the probe statement

When used to enable FFST output options by probe identifier, the MODIFY command has the following operands:

ACTION|A=ENABLE|EN
PROBEID|P=*xxxyyynn|xxxyyy*|xxx**
OPTIONS| OPT=
(DUMP
SYMRC
GENAL
SYMST
SUPDP
|ALL)
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**
[APPLID|AP*applname***]**

For more information about these operands, see "FFST MODIFY Command Overview" on page 2-3.

Example 1: To enable the FFST generic alert output option for a single probe statement with the probe identifier ISTTSC07, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,PROBEID=ISTTSC07,OPTIONS=GENAL,VENDOR=IBM`

VM `FFST MODIFY ACTION=ENABLE,PROBEID=ISTTSC07,OPTIONS=GENAL,VENDOR=IBM`

Example 2: To enable the FFST symptom record and duplicate dump suppression output options for all the probe statements that have a probe identifier prefix of IST and a source file identifier of TSC, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,PROBEID=ISTTSC*,OPTIONS=(SYMRC,SUPDP),VENDOR=IBM`

VM `FFST MODIFY ACTION=ENABLE,PROBEID=ISTTSC*,OPTIONS=(SYMRC,SUPDP),VENDOR=IBM`

Example 3: To enable all the FFST output options for probe statements that have a probe identifier prefix of IST, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,PROBEID=IST*,OPTIONS=ALL,VENDOR=IBM`

VM `FFST MODIFY ACTION=ENABLE,PROBEID=IST*,OPTIONS=ALL,VENDOR=IBM`

Enabling FFST Probe Message Logging

When used to enable the FFST probe message logging function, the MODIFY ACTION=ENABLE command has the following format:

Operation	Operands
MODIFY|F procname	**,ACTION|A=ENABLE|EN**

,LOGID|L=n|FFSTLOGn|REUSE

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to enable message logging for DD name FFSTLOG3, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,LOGID=FFSTLOG3`

VM `FFST MODIFY ACTION=ENABLE,LOGID=FFSTLOG3`

To enable the REUSE function, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,LOGID=REUSE`

VM `FFST MODIFY ACTION=ENABLE,LOGID=REUSE`

To enable FFST's message logging function, type one of the following commands:

MVS `MODIFY FFST,ACTION=ENABLE,LOGID`

VM `FFST MODIFY ACTION=ENABLE,LOGID`

Note: Enabling a probe message log will make it available for use the next time FFST loops through to that data set. This command no longer causes a change in the log data set being used.

Clearing Message Logs and Knowledge of Probe Statements

The MODIFY ACTION=CLEAR command lets you perform the following tasks:

- Clear any knowledge of a probe statement. When you clear knowledge of a probe statement, FFST discards all the counter values and any other information associated with that probe statement. The next time the probe statement is executed, FFST treats it as a probe statement that is being executed for the first time. When you clear knowledge of probe statements for FFST or an application, FFST also enables any output options previously disabled at the same level.
- Clear a probe message log and make that message log the active message log.

The following sections explain how to perform these tasks.

Clearing Knowledge of All Probe Statements for FFST

When used to clear knowledge of all probe statements, the MODIFY command has the following operands:

ACTION|A=CLEAR|CL
APPLID|AP=FFST

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to clear knowledge of all the probe statements known to FFST, type one of the following commands:

MVS `MODIFY FFST,ACTION=CLEAR,APPLID=FFST`

VM `FFST MODIFY ACTION=CLEAR,APPLID=FFST`

Clearing Knowledge of the Probe Statements in an Application

When used to clear any knowledge of probe statements in a specific application, the MODIFY command has the following operands:

ACTION|A=CLEAR|CL
APPLID|AP=*applname*
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to clear any knowledge of all the probe statements in IBM's VTAM application, type one of the following commands:

MVS `MODIFY FFST,ACTION=CLEAR,APPLID=VTAM,VENDOR=IBM`

VM `FFST MODIFY ACTION=CLEAR,APPLID=VTAM,VENDOR=IBM`

Clearing Knowledge of Probe Statements by Probe Identifier

When used to clear knowledge of probe statements by probe identifier, the MODIFY command has the following operands:

ACTION|A=CLEAR|CL
PROBEID|P=*xxxyyynn|xxxyyy*|xxx**
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**
[APPLID|AP=*applname***]**

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

Example 1: To clear knowledge of a single probe statement with the probe identifier ISTTSC07, type one of the following commands:

MVS `MODIFY FFST,ACTION=CLEAR,PROBEID=ISTTSC07,VENDOR=IBM`

VM `FFST MODIFY ACTION=CLEAR,PROBEID=ISTTSC07,VENDOR=IBM`

Example 2: To clear knowledge of all the probe statements that have a probe identifier prefix of IST and a source file identifier of TSC, type one of the following commands:

MVS `MODIFY FFST,ACTION=CLEAR,PROBEID=ISTTSC*,VENDOR=IBM`

VM `FFST MODIFY ACTION=CLEAR,PROBEID=ISTTSC*,VENDOR=IBM`

Example 3: To clear knowledge of all the probe statements that have a probe identifier prefix of IST, type one of the following commands:

MVS `MODIFY FFST,ACTION=CLEAR,PROBEID=IST*,VENDOR=IBM`

VM `FFST MODIFY ACTION=CLEAR,PROBEID=IST*,VENDOR=IBM`

Clearing a Probe Message Log

When used to clear a probe message log, the MODIFY ACTION=CLEAR command has the following format:

```
  Operation          Operands
-------------------------------------------------------------------
  MODIFY|F procname   ,ACTION|A=CLEAR|CL
                     ,LOGID|L=n|FFSTLOGn
```

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to schedule the clearing of message log FFSTLOG3, type one of the following commands:

MVS `MODIFY FFST,ACTION=CLEAR,LOGID=FFSTLOG3`

VM `FFST MODIFY ACTION=CLEAR,LOGID=FFSTLOG3`

Note: Clearing a probe message log will not cause the data set to be immediately cleared, unless it is the current data set. The clear will be done the next time FFST loops through to the specified data set. Also, this command is not needed of you are using the REUSE function.

Displaying Status

The MODIFY ACTION=DISPLAY command lets you display the operating status for the following entities:

- FFST
- The applications known to FFST
- Individual probe statements

The following sections explain how to display each of these statuses.

Displaying FFST Status

When used to display FFST status, the MODIFY command has the following operands:

[ACTION|A=DISPLAY|D]
APPLID|AP=FFST
[VENDOR|V=*vendorname***|IBM|IBM CORPORATION]**

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to display FFST status, type one of the following commands:

MVS `MODIFY FFST,APPLID=FFST`

VM `FFST MODIFY APPLID=FFST`

The status display for FFST includes the following information:

- FFST's operating status.
- A list of the applications known to FFST. (Include the VENDOR keyword if you want to limit this list to the applications of a specific vendor.)

Figure 2-1 on page 2-21 and Figure 2-2 on page 2-21 are examples of FFST status displays.

```
EPW0610I procname:  DISPLAY FOR APPLID FFST FOLLOWS:
EPW0611I APPLID     COUNTS    PROBE  DUMP SYMRC GENAL SYMST SUPDP
EPW0612I FFST     00032/00005  EN     EN   EN    EN    EN    EN
EPW0613I
EPW0621I DUMPQUAL  DUMPVOL  GA EXIT   ALRT RCV  MSG LOG /LOGREUSE
EPW0622I FFST       *N/A*    *N/A*    NETVALRT  ENABLED /ENABLED
EPW0613I
EPW0626I MSG LOG  - STATUS
EPW0627I FFSTLOG1 - ENABLED, CURRENT
EPW0628I FFSTLOG2 - ENABLED, AVAILABLE
EPW0613I
EPW0614I APPLID   PRODUCT NAME                    VENDOR
EPW0615I VTAM     VTAM MVS/ESA V4R4M1             IBM CORPORATION
EPW0615I FFSTV1R2 FFST/ESA VERSION 1 RELEASE 2    IBM CORPORATION
EPW0701I END OF MESSAGE GROUP
```

Figure 2-1. FFST/MVS Status Display

```
EPW0610I procname: DISPLAY FOR APPLID FFSTV1R2 FOLLOWS:
EPW0611I APPLID    COUNTS    PROBE  DUMP SYMRC GENAL SYMST SUPDP
EPW0612I FFSTV1R2 00020/00003  EN     EN   EN    EN    EN    EN
EPW0613I
EPW0621I DUMPQUAL DUMPVOL   GA EXIT   ALRT RCV  MSG LOG /LOGREUSE
EPW0622I FFST      *N/A*     *N/A*    NETVALRT  ENABLED /ENABLED
EPW0613I
EPW0614I APPLID   PRODUCT NAME                    VENDOR
EPW0615I FFSTV1R2 FFST/ESA VERSION 1 RELEASE 2    IBM CORPORATION
EPW0613I
EPW0617I THE FOLLOWING PROBEIDS HAVE TRIPPED AT LEAST ONCE:
EPW0618I EPWIVP01 EPWIVP02
EPW0701I END OF MESSAGE GROUP
```

Figure 2-2. FFST/VM Status Display

Displaying Application Status

When used to display application status, the MODIFY command has the following operands:

[ACTION|A=DISPLAY|D]
APPLID|AP=*applname*
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to display the status of IBM's FFSTV1R2 application, type one of the following commands:

MVS `MODIFY FFST,APPLID=FFSTV1R2,VENDOR=IBM`

VM `FFST MODIFY APPLID=FFSTV1R2,VENDOR=IBM`

When FFST displays operating status for an application, it includes the following information:

- The application’s name and operating status
- The probe identifier for each probe statement in the application

Figure 2-3 on page 2-22 and Figure 2-4 on page 2-22 are examples of a status display for IBM application FFSTV1R2.

```
EPW0610I EPWFFST: DISPLAY FOR APPLID FFSTV1R2 FOLLOWS:
EPW0611I APPLID     COUNTS    PROBE  DUMP SYMRC GENAL SYMST SUPDP
EPW0612I FFSTV1R2 00020/00003  EN     EN   EN    EN    EN    EN
EPW0613I
EPW0621I DUMPQUAL  DUMPVOL  GA EXIT   ALRT RCV  MSG LOG /STATUS
EPW0622I FFST       *N/A*    *N/A*    NETVALRT  FFSTLOG1/ENABLED
EPW0613I
EPW0614I APPLID   PRODUCT NAME                    VENDOR
EPW0615I FFSTV1R2 FFST/ESA VERSION 1 RELEASE 2   IBM CORPORATION
EPW0613I
EPW0617I THE FOLLOWING PROBEIDS HAVE TRIPPED AT LEAST ONCE:
EPW0618I EPWCVP01 EPWIVP01 EPWIVP03
EPW0701I END OF MESSAGE GROUP
```

Figure 2-3. FFST/MVS Application Status Display

```
EPW0610I FFST: DISPLAY FOR APPLID FFSTV1R2 FOLLOWS:
EPW0611I APPLID     COUNTS    PROBE  DUMP SYMRC GENAL SYMST SUPDP
EPW0612I FFSTV1R2 00010/00001  EN     EN   EN    EN    EN    EN
EPW0613I
EPW0621I DUMP DESTINATION   GA EXIT   ALRT RCV MSG LOG /STATUS
EPW0622I SYSTEM              *N/A*    NETVALRT FFSTLOG1/ENABLED
EPW0613I
EPW0614I APPLID   PRODUCT NAME                   VENDOR
EPW0615I FFSTV1R2 FFST/ESA VERSION 1 RELEASE 2  IBM CORPORATION
EPW0613I
EPW0617I THE FOLLOWING PROBEIDS HAVE TRIPPED AT LEAST ONCE:
EPW0618I EPWIVP04
EPW0701I END OF MESSAGE GROUP
```

Figure 2-4. FFST/VM Application Status Display

Displaying Probe Statement Status

When used to display probe statement status, the MODIFY command has the following operands:

[ACTION|A=DISPLAY|D]
PROBEID|P=*xxxyyynn|xxxyyy*|xxx**
[APPLID|AP=*applname***]**
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

When FFST displays operating status for a probe statement, it includes the following information:

- The probe identifier
- The probe statement's status
- The number of times the probe statement has executed

Figure 2-5 on page 2-23 is an example of a status display for a probe statement with probe identifier EPWIVP03.

```
EPW0610I EPWFFST: DISPLAY FOR PROBEID EPWIVP03 FOLLOWS:
EPW0611I PROBEID    COUNTS    PROBE  DUMP SYMRC GENAL SYMST SUPDP
EPW0612I EPWIVP03 00010/00001  EN     EN   EN    EN    EN    EN
EPW0701I END OF MESSAGE GROUP
```

Figure 2-5. FFST Probe Statement Status Display (PROBEID=EPWIVP03)

Figure 2-6 is an example of a status display for a group of probe statements whose probe identifiers begin with the characters EPWIVP.

```
EPW0610I EPWFFST: DISPLAY FOR PROBEID EPWIVP* FOLLOWS:
EPW0611I PROBEID    COUNTS    PROBE  DUMP SYMRC GENAL SYMST SUPDP
EPW0612I EPWIVP01 00005/00001  EN     EN   EN    EN    EN    EN
EPW0612I EPWIVP03 00010/00001  EN     EN   EN    EN    EN    EN
EPW0701I END OF MESSAGE GROUP
```

Figure 2-6. FFST Probe Statement Status Display (PROBEID=EPWIVP)*

Figure 2-7 is an example of status displays for a group of probe statements whose probe identifiers begin with the characters EPW.

```
EPW0610I EPWFFST: DISPLAY FOR PROBEID EPW* FOLLOWS:
EPW0611I PROBEID    COUNTS    PROBE  DUMP SYMRC GENAL SYMST SUPDP
EPW0612I EPWIVP01 00005/00001  EN     EN   EN    EN    EN    EN
EPW0612I EPWIVP01 00005/00001  EN     EN   EN    EN    EN    EN
EPW0612I EPWIVP03 00010/00001  EN     EN   EN    EN    EN    EN
EPW0701I END OF MESSAGE GROUP
```

Figure 2-7. FFST Probe Statement Status Display (PROBEID=EPW)*

Example 1: To display the status of a single probe statement with the probe identifier EPWIVP03, type one of the following commands:

MVS `MODIFY FFST,PROBEID=EPWIVP03,VENDOR=IBM`

VM `FFST MODIFY PROBEID=EPWIVP03,VENDOR=IBM`

Example 2: To display the status of all the probe statements that have a probe identifier prefix of EPW and a source file identifier of IVP, type one of the following commands:

MVS `MODIFY FFST,PROBEID=EPWIVP*,VENDOR=IBM`

VM `FFST MODIFY PROBEID=EPWIVP*,VENDOR=IBM`

Example 3: To display the status of all the probe statements that have a probe identifier prefix of EPW, type one of the following commands:

MVS `MODIFY FFST,PROBEID=EPW*,VENDOR=IBM`

VM `FFST MODIFY PROBEID=EPW*,VENDOR=IBM`

Changing Output Destinations

The MODIFY ACTION=CHANGE command lets you perform the following tasks for the specified platform:

MVS Change the destination of unformatted dumps and generic alerts for FFST or for an application known to FFST.

VM Change the destination of the receiver id for dumps and generic alerts for FFST or for an application know to FFST.

The following sections explain how to perform these tasks.

Changing Dump Destination for FFST/MVS

When used to change the destination of unformatted dumps for FFST/MVS, the MODIFY command has the following operands:

ACTION|A=CHANGE|CH
DUMPQUAL|DQ=*dumpqualifier*
DUMPVOL|DV=*dump_volume_serial_number*
[APPLID|AP=FFST]

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

Note: You do not have to include both DUMPQUAL and DUMPVOL. You can choose to include just one or the other.

For example, to send FFST unformatted dumps to a data set with high-level qualifier FFSTDUMP and volume serial number R12NB4, type the following command:

```
MODIFY FFST,ACTION=CHANGE,DUMPQUAL=FFSTDUMP,DUMPVOL=R12NB4
```

Changing Dump Destination for a Specific MVS Application

When used to change the destination of unformatted dumps for a specific application running in an MVS environment, the MODIFY command has the following operands:

ACTION|A=CHANGE|CH
APPLID|AP=*applname*
[DEFINE|DEF]
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**
DUMPQUAL|DQ=*dumpqualifier*
DUMPVOL|DV=*dump_volume_serial_number*

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

Note: You do not have to include both DUMPQUAL and DUMPVOL. You can choose to include just one or the other.

For example, to send FFST unformatted dumps for IBM's VTAM application to a data set with high-level qualifier FFSTDUMP and volume serial number R12NB4, type the following command:

```
MODIFY FFST,ACTION=CHANGE,APPLID=VTAM,VENDOR=IBM,DUMPQUAL=FFSTDUMP,DUMPVOL=R12NB4
```

Changing Dump Destination for FFST/VM

When used to change the dump receiver id for FFST/VM, the MODIFY command has the following operands:

ACTION|A=CHANGE|CH
DUMPRCV|DR=*userid*
[APPLID|AP=FFST]

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

Note: This command will only change the dump receiver id for FFST probe dumps in CMS. All GCS dumps and unexpected abend dumps are sent to the user id defined at GCS Group build time. If a destination is not specified, the default is the user id that is defined to receive system dumps.

For example, to send FFST dumps to a userid with the name FFSTDUMP, type the following command:

```
FFST MODIFY ACTION=CHANGE,DUMPRCV=FFSTDUMP
```

Changing Dump Destination for a Specific VM Application

When used to change the dump receiver id for FFST/VM, the MODIFY command has the following operands:

Note: This command will only change the dump receiver id for dumps taken in CMS. All GCS dumps and unexpected abend dumps are sent to the user id defined at GCS Group build time.

ACTION|A=CHANGE|CH
APPLID|AP=*applname*
[DEFINE|DEF]
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**
DUMPRCV|DR=*userid*

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

Note: If a destination is not specified, the default is the userid that is setup to receive system dumps.

For example, to send FFST dumps for IBM's VTAM application to a userid with the name FFSTDUMP, type the following command:

```
FFST MODIFY ACTION=CHANGE,APPLID=VTAM,VENDOR=IBM,DUMPRCV=FFSTDUMP
```

Changing Generic Alert Destination for FFST

When used to change the destination of generic alerts for FFST, the MODIFY command has the following operands:

ACTION|A=CHANGE|CH
ALRCVID|AL=*alertreceiver*
[APPLID|AP=FFST]

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to send FFST generic alerts to NetView alert receiver RCV001, type one of the following commands:

MVS
```
MODIFY FFST,ACTION=CHANGE,ALRCVID=RCV001
```

VM
```
FFST MODIFY ACTION=CHANGE,ALRCVID=RCV001
```

Changing Generic Alert Destination for a Specific Application

When used to change the destination of generic alerts for a specific application, the MODIFY command has the following operands:

ACTION|A=CHANGE|CH
APPLID|AP=*applname*
[DEFINE|DEF]
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**

ALRCVID|AL=*alertreceiver*

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to send FFST generic alerts for IBM's VTAM application to NetView alert receiver RCV001, type one of the following commands:

MVS `MODIFY FFST,ACTION=CHANGE,APPLID=VTAM,VENDOR=IBM,ALRCVID=RCV001`

VM `FFST MODIFY ACTION=CHANGE,APPLID=VTAM,VENDOR=IBM,ALRCVID=RCV001`

Resetting Output Destinations

The MODIFY ACTION=RESET command lets you perform the following tasks for the specified platform:

MVS Reset the destination of unformatted dumps and generic alerts for FFST or for an application known to FFST. For FFST, the values are reset to the following FFST defaults:

- Customized dump destination defaults are a high-level dump data qualifier of FFST and no dump volume.
- The default alert receiver is NETVALRT.

For a specific application, the values are reset to the current FFST values.

VM Reset the dump destination userid for FFST or an application known to FFST. The default is the system userid setup to receive dumps. Reset the destination of generic alerts for FFST or for an application known to FFST. For FFST, the value is reset to the FFST default alert receiver, NETVALRT. For a specific application, the value is reset to the current FFST value.

Note: This command will only reset the dump receiver id for dumps taken in CMS. All GCS dumps and unexpected abend dumps are sent to the user id defined at GCS Group build time.

The following sections explain how to perform these tasks.

Resetting Dump Destination for FFST/MVS

When used to reset the destination of unformatted dumps for FFST/MVS, the MODIFY command has the following operands:

ACTION|A=RESET|R
DUMPQUAL|DQ[=*dumpqualifier***]**
DUMPVOL|DV[=*dump_volume_serial_number***]**
[APPLID|AP=FFST]

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

You do not have to include both DUMPQUAL and DUMPVOL. You can choose to include just one or the other.

Example 1: To reset the high-level dump data set qualifier to the FFST default, type the following command:

```
MODIFY FFST,ACTION=RESET,DUMPQUAL
```

Example 2: To reset the FFST dump data set high-level qualifier and volume to the FFST default, type the following command:

```
MODIFY FFST,ACTION=RESET,DUMPQUAL,DUMPVOL
```

Resetting Dump Destination for a Specific MVS Application

When used to reset the destination of unformatted dumps for a specific MVS application, the MODIFY command has the following operands:

ACTION|A=RESET|R
APPLID|AP=*applname*
[DEFINE|DEF]
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**
DUMPQUAL|DQ[=*dumpqualifier***]**
DUMPVOL|DV[=*dump_volume_serial_number***]**

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

The destination is reset to the FFST value. You do not have to include both DUMPQUAL and DUMPVOL. You can choose to include just one or the other.

For example, to reset the dump data set high-level qualifier and volume for IBM's VTAM application to the FFST values, type the following command:

```
MODIFY FFST,ACTION=RESET,APPLID=VTAM,VENDOR=IBM,DUMPQUAL,DUMPVOL
```

Resetting Dump Destination for FFST/VM

When used to reset the dump destination userid for FFST/VM, the MODIFY command has the following operands:

ACTION|A=RESET|R
DUMPRCV|DR[=*userid***]**
[APPLID|AP=FFST]

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

Example 1: To reset the dump destination userid for FFST back to the default, type the following command:

```
MODIFY FFST,ACTION=RESET,DUMPRCV
```

Resetting Dump Destination for a Specific VM Application

When used to reset the dump destination id for a specific VM application, the MODIFY command has the following operands:

ACTION|A=RESET|R
APPLID|AP=*applname*
[DEFINE|DEF]
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**
DUMPRCV|DQ[=*userid***]**

Note: This command will only reset the dump receiver id for dumps taken in CMS. **All** GCS dumps and unexpected abend dumps are sent to the user id defined at GCS Group build time. For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

The destination is reset to the FFST value.

For example, to reset the dump destination id for IBM's VTAM application to the FFST values, type the following command:

```
FFST MODIFY ACTION=RESET,APPLID=VTAM,VENDOR=IBM,DUMPRCV
```

Resetting Generic Alert Destination for FFST

When used to reset the destination of generic alerts for FFST, the MODIFY command has the following operands:

ACTION|A=RESET|R
ALRCVID|AL[=*alertreceiver***]**
[APPLID|AP=FFST]

For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to reset the destination of FFST generic alerts to the FFST default, type one of the following commands:

MVS `MODIFY FFST,ACTION=RESET,ALRCVID`

VM `FFST MODIFY ACTION=RESET,ALRCVID`

Resetting Generic Alert Destination for a Specific Application

When used to reset the destination of generic alerts for a specific application, the MODIFY command has the following operands:

ACTION|A=RESET|R
APPLID|AP=*applname*
[DEFINE|DEF]
VENDOR|V=*vendorname***|IBM|IBM CORPORATION**
ALRCVID|AL[=*alertreceiver***]**

The destination is reset to the FFST value. For more information about these operands, see “FFST MODIFY Command Overview” on page 2-3.

For example, to reset the generic alert destination for IBM's VTAM application to the FFST value, type one of the following commands:

MVS `MODIFY FFST,ACTION=RESET,APPLID=VTAM,VENDOR=IBM,ALRCVID`

VM `FFST MODIFY ACTION=RESET,APPLID=VTAM,VENDOR=IBM,ALRCVID`

Stopping FFST

You can stop FFST using any of the following commands:

- MODIFY ACTION=HALT

  If you use this command, FFST completes all currently running and pending processes before it stops. Also, if there are any applications that have an active interface to FFST, FFST does not stop running until each of these applications terminates its interface.

  Using the MODIFY ACTION=HALT command is the preferred method for stopping FFST. It has the following formats:

  MVS `MODIFY FFST,ACTION=HALT`

  VM `FFST MODIFY ACTION=HALT`

- MODIFY ACTION=HALT,QUICK

  If you use this command, FFST stops running after the operator replies to a message which verifies this action. (A product cannot terminate its interface to FFST while FFST is not running.) FFST completes both currently running and pending processes before it stops.

  The MODIFY ACTION=HALT,QUICK command has the following formats:

  MVS `MODIFY FFST,ACTION=HALT,QUICK`

  VM `FFST MODIFY ACTION=HALT,QUICK`

- STOP

  This command has the same effect as the MODIFY ACTION=HALT,QUICK command, except that FFST does not complete pending processes before it stops. The STOP command has the following formats:

  MVS In an MVS environment, use one of the following commands:

  ```
  STOP FFST
  P FFST
  ```

  VM In a VM environment, use one of the following commands:

  ```
  FFST STOP
  FFST P
  ```

Warnings:

- **Using the MVS CANCEL or FORCE command to stop FFST can cause unpredictable results, including abends, in applications using FFST.**
- **For VM, issuing an IPL of the FFST machine can cause unpredictable results, including abends, in applications using FFST.**

Using a Startup Command List

The FFST startup command list is a partitioned data set specified through a DD statement in the FFST JCL for MVS or, for VM, through the START00 FFSTPARM file. This list lets you provide FFST with a set of operational control commands that you want it to process when the FFST Problem Source Identifier (PSI) is started. These commands establish the FFST working environment. The commands you can use in this list are explained in “Using FFST Commands from a Console” on page 2-8.

When you create this command list, keep the following guidelines in mind:

- For MVS, the DD name is FFSTPARM and the default member name is START00, which can be overridden with a parameter on the MVS START command.
- For VM, the file name is START00 and the file type is FFSTPARM.
- Any record with an asterisk (*) in column 1 is treated as a comment line and is ignored.
- Any record can be WIDTH=x (starting in column 1) to specify that FFST looks for commands in columns 1 through x of the following records. (The default value for x is 72.)
- Any non-comment record not containing other FFST commands can contain TRN=*trnmemnm*, where *trnmemnm* is the FFSTPARM member name used for the FFST transition ABEND code parameter list. The default name is TRNSABCD.
- Any non-comment record not containing other FFST commands can contain HWR=*hwrmemnm*, where *hwrmemnm* is the FFSTPARM member name used for the FFST hardware support parameter list. The default name is EPWHWR01.

- If MVS 5.2 is used, any record can contain system symbolics (such as &SYSNAME, &SYSCLONE, etc.) which will be interpreted (by the ASASYMBM facility) before being processed.

Figure 2-8 is an example of an FFST startup command list for MVS and VM.

```
* FFST START PARAMETERS
* DISABLE ALL PROBES THAT HAVE A PROBE IDENTIFIER PREFIX OF EPW
P=EPW*,V=IBM,A=DIS
* DISPLAY THE STATUS OF ALL PROBE STATEMENTS THAT HAVE A PROBE
* IDENTIFIER PREFIX OF EPW
P=EPW*,V=IBM
* CHANGE THE WIDTH OF THE COMMAND LINE TO 60 CHARACTERS
WIDTH=60
* DISPLAY THE STATUS OF FFST
AP=FFST
* DISPLAY THE STATUS OF FFST APPLICATION FFSTVIR2
AP=FFSTV1R2,V=IBM
* ENABLE ALL PROBES THAT HAVE A PROBE IDENTIFIER PREFIX OF EPW
P=EPW*,V=IBM,A=EN
* DISABLE THE SYMREC FUNCTION FOR APPLICATION FFSTV1R2
AP=FFSTV1R2,V=IBM,A=DIS,OPT=SYMRC
* CHANGE THE WIDTH OF THE COMMAND LINE BACK TO 72 CHARACTERS
WIDTH=72
```

Figure 2-8. FFST Startup Command List

Chapter 3. Using FFST Output

When an event triggers a software probe, FFST can generate the following output to help you identify, track, and analyze the event:

- A customized dump that is smaller than the traditional full-address space dump for MVS and smaller than the full-virtual machine dump for VM. (FFST initially creates an unformatted dump. You can use the dump formatting tool provided with FFST to create a formatted version of the dump. For more information, see "Formatting a Customized Dump for FFST/MVS" or "Formatting a Customized Dump for FFST/VM" on page 3-8.
- A symptom string that uniquely identifies the event. FFST places the symptom string in the following output:
  - The formatted customized dump
  - The symptom record
  - The console message
  - The probe message log
  - The generic alert (if you have NetView)
- A symptom record placed in SYS1.LOGREC for MVS or sent to the OPERSYMP machine for VM. This symptom record contains the symptom string and other information about the event.
- A console message that contains the application name, probe identifier, and primary symptom string.
- A probe message log entry. The probe message log records each probe statement that is executed.
- A Systems Network Architecture (SNA) generic alert which can be viewed.

In addition, this chapter also documents return codes for FFST initialization, executed probe statements, and FFST termination.

Unless application programmers disabled a particular type of output for a specific software probe during product development, you can enable each of these types of output using a set of FFST commands. You can also use these commands to disable any of the FFST outputs. For more information, see Chapter 2, "Controlling FFST Operation."

This chapter explains how to use the different types of FFST output.

Note: FFST also generates various messages that contain information about FFST operation. Appendix A, "FFST Messages," provides explanations and suggested responses for these messages.

Using the Customized Dump

Before you can read an FFST customized dump, you must format it using the FFST/MVS dump formatter, EPWDMPFM, or the FFST/VM dump formatter, EPWDMPFV. The following sections explain how to format an unformatted dump and how to use the formatted output.

Formatting a Customized Dump for FFST/MVS

The EPWDMPFM program is an Interactive Problem Control System command list (IPCS CLIST) that lets you format unformatted FFST/MVS dumps. When FFST/MVS generates a customized dump, it saves the unformatted dump in a dynamically allocated data set. EPWDMPFM reads the dump data set and writes the formatted output to an output data set. You can view this data set using the online time-sharing option (TSO) browse function or the MVS utility, IEBGENER.

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You can run EPWDMPFM under IPCS or under TSO. When run under TSO (as shown in the examples in this section), EPWDMPFM enters IPCS, formats the dump, and then exits IPCS. In addition, if you want to run EPWDMPFM from a TSO ID, you must first concatenate the FFST/MVS CLIST library to your TSO library list (SYSPROC) and the FFST/MVS panel library to your TSO panel library list (ISPPLIB).

The following sections explain how to perform the following tasks:

- Use the EPWDMPFM program to format an unformatted dump.
- Use the online help provided with EPWDMPFM.
- Print a customized dump after it is formatted.

Running EPWDMPFM for FFST/MVS

To format a customized dump with the EPWDMPFM program, perform the following steps:

1 Type EPWDMPFM on the TSO command line, as shown in Figure 3-1, and press **Enter**.

Note: You may also invoke EPWDMPFM from the IPCS command line. In this case, the IPCSPRNT should have already been set up and you may use the default dump as the data set to format.

```
---------------------- TSO COMMAND PROCESSOR -----------------------

ENTER TSO COMMAND OR CLIST BELOW:

===> EPWDMPFM
```

Figure 3-1. Invoking EPWDMPFM

2 Fill in the fields on the FFST DUMP FORMATTER screen (Figure 3-2 on page 3-3).

```
                              FFST DUMP FORMATTER
COMMAND ==>

 Enter the dump dataset to be used:


 DUMP LIBRARY NAME   ===> 'USER1.SYSTEM1.FFSTV1R2.DMP00127'
 DUMP MEMBER NAME    ===>           (Blank if sequential)


 Select output destination (Terminal or Printer or Both):

     P - OUTPUT DESTINATION

 Select which print options are to be used (Yes or No):

     Y  - SYMPTOM STRING DATA will be part of output
     N  - FFST WORK AREA will be part of output
     N  - DATA STRUCTURE TABLE(S) will be part of output
     N  - AREA AROUND REGISTERS will be part of output
     Y  - DATA STRUCTURES will be part of output
```

Figure 3-2. FFST DUMP FORMATTER Screen for EPWDMPFM

Note: You can process TSO commands from this screen without exiting the EPWDMPFM dump formatting routine.

DUMP LIBRARY NAME

Type the name of the file that contains the customized dump. The dump is the input for the dump formatter. (If another dump data set was specified previously, the name of that data set appears in this field. To use a new dump data set, type the new name over the existing name.)

DUMP MEMBER NAME

Type the member name for the dump if it is a member of a partitioned data set. (Some components of FFST/MVS use partitioned data sets for dumps taken because of FFST detected problems).

OUTPUT DESTINATION

Type one of the following characters to indicate where you want FFST/MVS to send the formatted output:

T EPWDMPFM displays the formatted output on your terminal.

P EPWDMPFM places the formatted output in an output data set. If the IPCSPRNT data set is already set up, EPWDMPFM stores the formatted output there. Otherwise, you can specify the name of the output data set on the FFST DUMP OUTPUT DATA SET screen (Figure 3-3 on page 3-4).

B EPWDMPFM displays the formatted output on your terminal and places it in an output data set.

Type `Y` (Yes) or `N` (No) beside the following options:

SYMPTOM STRING DATA will be part of output

If you type `Y`, the formatted dump includes the primary symptom string and, if one exists, the secondary symptom string.

FFST WORK AREA will be part of output

If you type `Y`, the formatted dump includes the FFST/MVS work area.

Note: If a problem occurs during FFST/MVS execution, FFST/MVS support might require the FFST/MVS work area as a debugging aid.

DATA STRUCTURE TABLE(S) will be part of output

If you type `Y`, the formatted dump includes the data structure table (DST) and the default DST (if a default DST exists).

Note: If a problem occurs during FFST/MVS execution, FFST/MVS support might require the DSTs as a debugging aid.

AREA AROUND REGISTERS will be part of output

If you type `Y`, the formatted dump includes an X'800' byte area around each register.

DATA STRUCTURES will be part of output

If you type `Y`, the formatted dump includes the data structures requested by the probe statement.

For an example of a formatted dump that contains this information, see “Using a Formatted Dump” on page 3-11.

When you finish, press **Enter**.

3 If you typed `P` or `B` in the OUTPUT DESTINATION field and the IPCSPRNT data set is not already set up, the FFST DUMP OUTPUT DATA SET screen (Figure 3-3) appears.

```
                 FFST DUMP OUTPUT DATA SET
COMMAND ==>

 Enter the output dataset to be used:


 OUTPUT DATASET NAME ===> 'USER1.OUTPUT.FFSTV1R2.DMP00127'
  (Blank out to have FFST generate the name)


 Select output dataset disposition:

 NEW         - DISPOSITION (NEW, OLD, MOD)


 If new dataset, enter attributes:

    MVSST3  - VOLUME SERIAL WHERE DATASET WILL BE STORED
    10      - NUMBER OF PRIMARY BLOCKS TO BE ALLOCATED
    50      - NUMBER OF SECONDARY BLOCKS TO BE ALLOCATED

   NOTE: BLKSZ=3155, RECFM=VBA, LRECL=137
```

Figure 3-3. FFST DUMP OUTPUT DATA SET Screen

The OUTPUT DATA SET NAME field contains either a previously specified data set name or a data set name supplied by FFST/MVS.

An FFST/MVS-supplied data set name appears in the format *userid.*OUTPUT.*qual3.qual4.*. If the unformatted dump data set is sequential, *qual3* and *qual4* are the last 2 qualifiers of the unformatted dump data set. If the unformatted dump data set is partitioned, *qual3* is the last qualifier of the unformatted dump data set, and *qual4* is the dump member name.

Fill in the following fields:

OUTPUT DATA SET NAME

Make sure the name in this field is the name of the data set in which you want EPWDMPFM to store the formatted output.

If you want to change the data set name, type the new name over the existing name. The name you type will appear automatically the next time you use EPWDMPFM.

If a user-specified data set name appears in this field and you want to regenerate the FFST/MVS-supplied data set name, type blanks over the current data set name and press **Enter**. The FFST/MVS-supplied data set name appears in the field.

DISPOSITION

Type one of the following options:

NEW Type NEW if you typed the name of a new output data set in the OUTPUT DATA SET NAME field. If you type NEW in the DISPOSITION field, you also need to perform the following steps:

a In the VOLUME SERIAL WHERE DATA SET WILL BE STORED field, type the serial number of the volume where EPWDMPFM should store the output data set or leave it blank to use UNIT(SYSDA).

b In the NUMBER OF PRIMARY BLOCKS TO BE ALLOCATED field, type the number of primary blocks EPWDMPFM should allocate for the data set.

c In the NUMBER OF SECONDARY BLOCKS TO BE ALLOCATED field, type the number of secondary blocks EPWDMPFM should allocate for the data set.

Note: For BLKSZ, RECFM, and LRECL, EPWDMPFM uses the values required for an IPCSPRNT data set.

OLD Type OLD if you want to replace the contents of the existing output data set with the new formatted output.

MOD Type MOD if you want to append the new formatted output to the contents of the existing output data set.

When you finish, Press **Enter**.

4 If this is the first time the dump formatter is being used or if IPCS cannot find the previously specified dump directory, the FFST DUMP DIRECTORY screen (Figure 3-4 on page 3-6) appears.

```
                    FFST DUMP DIRECTORY
COMMAND ==>

Enter the dump directory to be used:


DUMP DIRECTORY ===> 'USER1.DMPDIR'


If new dataset, enter attributes:

    MVSST3  - VOLUME SERIAL WHERE VSAM CLUSTER WILL BE STORED

    10000   - BUFFER SPACE FOR DATA PORTION OF CLUSTER (HEX)
    1000    - CONTROL INTERVAL SIZE OF DATA PORTION OF CLUSTER (HEX)

   NOTE: CYL(1,1), KEYS(128 0)
```

Figure 3-4. FFST DUMP DIRECTORY Screen

If the dump formatter is being used for the first time, the default dump directory (*userid*.DMPDIR) appears in the DUMP DIRECTORY field.

If a user previously specified a dump directory that IPCS cannot find, the name of that directory appears in the DUMP DIRECTORY field. (This situation occurs, for example, if you delete the previously specified dump directory.)

Make sure the name in the DUMP DIRECTORY field is the name of the directory you want to use.

If you want to change the directory, type the new name over the existing name. EPWDMPFM will automatically use that directory the next time you format a dump.

If you type the name of a new directory, indicate its volume serial number, buffer space, and control interval size by filling in the appropriate fields.

When you finish, Press **Enter**.

5 Look for the following messages, which indicate when the dump formatting process starts and when it is complete:

```
EPW9573I ENTERING IPCS
EPW9574I DUMP FORMATTING IN PROGRESS
EPW9575I DUMP FORMATTING COMPLETE
EPW9576I EXITING IPCS
```

Note: Messages EPW9573I and EPW9576I appear only if you are not already running EPWDMPFM under IPCS. If EPWDMPFM does not display any of the messages, an error message should appear below the TSO command line. When an error message appears, see Appendix A, “FFST Messages,” for information about the error; then correct the problem and retry the process.

6 When FFST/MVS message EPW9575I appears indicating that dump formatting is complete, press **Enter** to use the browse function.

You can view the output online and, if necessary, print it using the MVS program IEBPTPCH. For more information, see “Printing a Formatted Dump for FFST/MVS” on page 3-7.

When you finish looking at the formatted dump, press **F3** to redisplay the FFST DUMP FORMATTER screen, and perform one of the following steps:

- Repeat the process to format a different dump or format the same dump using different options.
- Press **F3** to exit the FFST DUMP FORMATTER screen.

  FFST/MVS saves the values specified on this screen as new EPWDMPFM defaults and redisplays the TSO COMMAND PROCESSOR screen (Figure 3-1 on page 3-2).

Getting Help with EPWDMPFM for FFST/MVS

FFST/MVS provides help panels to assist you in using the EPWDMPFM program. To access these panels:

1 Perform one of the following steps:

- Press **F1** at any time during the formatting process.
- Type help on the TSO command line and press **Enter**.

A panel similar to the one in Figure 3-5 appears.

```
TUTORIAL ------------------- FFST DUMP FORMATTER --------------------- EPWFDFMH
OPTION ===>

Indicate the data needed to format the FFST dump under IPCS. This formatter
may be run under IPCS or under normal TSO/ISPF.

The DUMP LIBRARY NAME and DUMP MEMBER NAME indicate the dump that was produced
by FFST which will be used as input to the dump formatter. The DUMP LIBRARY
NAME is required, but only include the DUMP MEMBER NAME if the dump is a
member of a partitioned dump data set (as used in Release 1).

A T or P or B is expected to indicate where the formatted output will go.
T will send the output to your terminal, P will send the output to a data set
(which will be defined by panel EPWFDFOD if file IPCSPRNT is not already set
up), and B will send the output to both destinations.

                  (Press ENTER to continue)
```

Figure 3-5. Help Panel for the EPWDMPFM SETUP Function

2 Press **Enter** to reveal the next panel (if one exists).

3 When you finish, press **F3** to return to the screen from which you requested help.

Printing a Formatted Dump for FFST/MVS

After you use EPWDMPFM to format a customized dump, you can use the MVS program IEBPTPCH to print the results. See Figure 3-6 on page 3-8 for a sample job to print a member from the output data set.

```
//PRINTMEM JOB (ACCOUNTING),
//         MSGCLASS=A,CLASS=A,MSGLEVEL=(1,1)
//STEP1    EXEC PGM=IEBPTPCH
//SYSPRINT DD SYSOUT=A
//SYSUT1   DD DSN=USER1.OUTPUT.FFSTV1R2.DMP00127,
//            DISP=OLD
//SYSUT2   DD SYSOUT=A
//SYSIN    DD *
  PRINT    TYPORG=PS,MAXFLDS=1
  RECORD   FIELD=(80)
/*
```

Figure 3-6. Sample Job for Printing a Formatted Dump

Formatting a Customized Dump for FFST/VM

The EPWDMPFV program is a DUMPSCAN macro that lets you format unformatted FFST/VM dumps. The customized dumps that FFST/VM generates are the same as other VM dumps, except that they use only certain address ranges. When the unformatted dump appears in your reader, you can receive it using the DUMPLOAD facility and invoke the DUMPSCAN facility to display it in an XEDIT session. You can then invoke EPWDMPFV to format the dump. EPWDMPFV places the formatted output into the XEDIT file created by DUMPSCAN.

The following sections explain how to:

- Use the EPWDMPFV program to format an unformatted dump.
- Use the online help provided with EPWDMPFV.

Running EPWDMPFV for FFST/VM

To format a customized dump with the EPWDMPFV program, perform the following steps:

1 Type the following command on the CMS command line and press **Enter**:

```
DUMPSCAN PRBxxxxx
```

where xxxxx is the problem number generated by the DUMPLOAD facility for the FFST/VM dump.

DUMPSCAN opens an XEDIT session.

2 Type EPWDMPFV on the XEDIT command line, as shown in Figure 3-7 on page 3-9, and press **Enter**.

```
 VM/ESA 1.1 - DUMPSCAN   PRB00001 DUMP A1   TYPE=VM FORMAT=FILE
PROCESSING FILE PRB00001 DUMP A1
READY, DUMP TYPE IS VM
  * * * END OF FILE * * *



====> EPWDMPFV
```

Figure 3-7. Invoking EPWDMPFV

3 Fill in the fields on the FFST DUMP FORMATTER screen (Figure 3-8).

```
                          FFST DUMP FORMATTER



Select which print options are to be used (Yes or No):

   Y  - SYMPTOM STRING DATA will be part of output

   N  - FFST WORK AREA will be part of output

   N  - DATA STRUCTURE TABLE(S) will be part of output

   N  - AREA AROUND REGISTERS will be part of output

   Y  - DATA STRUCTURES will be part of output


     PF1 = HELP,    PF3 = EXIT,    ENTER = CONTINUE
```

Figure 3-8. FFST DUMP FORMATTER Screen for EPWDMPFV

Type `Y` (Yes) or `N` (No) beside the following options:

SYMPTOM STRING DATA will be part of output
If you type `Y`, the formatted dump includes the primary symptom string and, if one exists, the secondary symptom string.

FFST WORK AREA will be part of output
If you type `Y`, the formatted dump includes the FFST/VM work area.

Note: If a problem occurs during FFST/VM execution, FFST/VM support might require the FFST/VM work area as a debugging aid.

DATA STRUCTURE TABLE(S) will be part of output
If you type `Y`, the formatted dump includes the data structure table (DST) and the default DST (if a default DST exists).

Note: If a problem occurs during FFST/VM execution, FFST/VM support might require the DSTs as a debugging aid.

AREA AROUND REGISTERS will be part of output
If you type `Y`, the formatted dump includes an X'800' byte area around each register.

DATA STRUCTURES will be part of output
If you type `Y`, the formatted dump includes the data structures requested by the probe statement.

For an example of a formatted dump that contains this information, see “Using a Formatted Dump” on page 3-11.

When you finish, press **Enter**.

4 Look for the following messages, which indicate when the dump formatting process starts and when it is complete:

```
EPW9574I DUMP FORMATTING IN PROGRESS
EPW9575I DUMP FORMATTING COMPLETE
```

5 When FFST/VM message EPW9575I appears, indicating that dump formatting is complete, clear the screen and use normal XEDIT scrolling to browse the formatted output. To invoke the dump formatter again for the same dump (perhaps to select a different option), repeat the procedure beginning with step 2.

Getting Help with EPWDMPFV for FFST/VM

FFST/VM provides a help panel to assist you in using the EPWDMPFV program. To access this panel, perform the following steps:

1 Press **F1** when the FFST DUMP FORMATTER panel appears. A panel similar to the one in Figure 3-9 appears.

```
                          FFST DUMP FORMATTER

A Y or N is expected for the options which will indicate how you would
like to see the output of the FFST dump formatter.  The options are:

- Whether SYMPTOM STRING data, which includes the type of failure, and
  primary and secondary symptom strings, will be part of output.

- Whether the FFST WORK AREA, which could be used to help debug a problem
  with FFST, will be part of output.

- Whether the DATA STRUCTURE TABLE, which also could be used to help debug
  a problem with FFST, will be part of output.

- Whether the x'800' byte AREA AROUND REGISTERS at time of the probe
  will be part of output.

- Whether the DATA STRUCTURES that were requested by the probe will be
  part of output.

                       PRESS ENTER TO CONTINUE
```

Figure 3-9. Help Panel for EPWDMPFV

2 Press **Enter** to return to the FFST DUMP FORMATTER panel.

Using a Formatted Dump

When you format a dump for FFST/MVS, IPCS saves the formatted dump in the dump data set you specify. When you format a dump for FFST/VM, it places the output in the current XEDIT session, which you can file.

A formatted customized dump can contain the following information:

- Primary and secondary symptom strings. (When it appears in the customized dump, the secondary symptom string contains the register values for the triggered software probe.)
- The FFST work area.
- The applicable DSTs.
- The area around the data registers.
- The data structures specified in the DST.

Figure 3-10 on page 3-12 is a sample dump that contains all the information in the preceding list. The sample is an FFST/MVS dump formatted using EPWDMPFM. FFST/VM dumps formatted with EPWDMPFV have a similar format. For information about specifying which information you want to include in a dump, see “Running EPWDMPFM for FFST/MVS” on page 3-2 or “Running EPWDMPFV for FFST/VM” on page 3-8.

```
FIRST FAILURE SUPPORT TECHNOLOGY DUMP

EPW9521I DUMP DATA SET NAME = FFST.FFSTESA1.FFSTV1R2.DMP00002

EPW9522I TITLE FROM DUMP = FIRST FAILURE SUPPORT TECHNOLOGY DUMP

EPW9523I DATE FROM DUMP = 04/27/92, TIME FROM DUMP = 11:06:10

EPW9501I PRODUCT NAME: FFST/ESA VERSION 1 RELEASE 2

EPW9502I IBM PROGRAM

EPW9503I COMPONENT/PROGRAM ID: 569504402, LEVEL: 101

EPW9504I TYPE OF FAILURE: INCORROUT

EPW9505I PROBE PRIMARY SYMPTOM STRING:

PIDS/569504402 LVLS/101 PCSS/EPWIVP01 RIDS/EPWIVP FLDS/TEST FLDS/PROBE FLDS/FOR
FLDS/FFSTIVP

EPW9506I PROBE SECONDARY SYMPTOM STRING:

FLDS/CPUMODEL VALU/H3090

EPW9507I REGISTER SECONDARY SYMPTOM STRING:

REGS/GR13 VALU/H02F00E00 REGS/GR14 VALU/H82F006BA REGS/GR15 VALU/H00000000
REGS/GR00 VALU/H82F006BA REGS/GR01 VALU/H02F006C0 REGS/GR02 VALU/H00000040
REGS/GR03 VALU/H009F6964 REGS/GR04 VALU/H009F6940 REGS/GR05 VALU/H009F3E88
REGS/GR06 VALU/H02F00D54 REGS/GR07 VALU/H00FD6978 REGS/GR08 VALU/H009F3190
REGS/GR09 VALU/H809FF1C8 REGS/GR10 VALU/H00000000 REGS/GR11 VALU/H009F3E88
REGS/GR12 VALU/H82F00548

EPW9508I DATA COLLECTION WORK AREA:

+00000000 02F05000. 61004000 00000000 050010F8 01000002 02F00E00 82EEA028 000057C0 02F07ED8 |/. ........8.....0..b......{.0=Q|
+00000020 02F05020. C5D7E6C4 E2E3E2D2 00000000 00000000 10000000 82F1F3D0 02F1E510 00000001 |EPWDSTSK............b13}.1V.....|
+00000040 02F05040. 7FFDCB74 00000002 00000000 02F1E510 02F27000 02F27000 7FFDCB98 7FFDCB20 |"............1V..2...2.."..q"...|
+00000060 02F05060. 00000001 7FFDCB20 02E97018 82F1F0D0 C5D7E6C4 D4D7E2E5 000057C0 0018295C |...."....Z..b10}EPWDMPSV...{...*|
+00000080 02F05080. 00000000 82F1E8E0 82EEA028 00000000 00FE8100 02F27C2C 00000001 000057C0 |....b1Y\b.........a..2@........{|
                   .
                   .
                   .
+00000C20 02F05C20. 02F07000 02F2A000 02F08000 00000000 00000000 00000000 00000000 00000000 |.0...2...0......................|
+00000C40 02F05C40 LENGTH(960)==>All bytes contain X'00'
02F06000 LENGTH(8192)==>All bytes contain X'00'
+00003000 02F08000 LENGTH(4064)==>All bytes contain X'00'
+00003FE0 02F08FE0. 00000000 00000000 00000000 00000000 F0F461F2 F761F9F2 F1F17AF0 F67AF1F0 |................04/27/9211:06:10|

EPW9509I SPECIFIED DATA STRUCTURE TABLE:

+00000000 02F02050.                                     770006F8 018000F8 C5D7E6C9 E5E34040 |                  ...8...8EPWIVT|
+00000010 02F02060. 00F0F4F2 F4F9F240 000005CC 00000000 EE0000C8 C9D5C3D6 D9D9D6E4 E3404040 |.042492 ...........HINCORROUT   |
+00000030 02F02080. 002803F8 0C000007 01000000 00000000 40404040 40404040 C4C5E2C3 C2F0F0F0 |...8...........        DESCB000|
+00000050 02F020A0. C3C1E4E2 F1F0F1F0 DB100000 00C30640 D9C9C4E2 000000E8 DB100000 00C30440 |CAUS1010.....C. RIDS...Y.....C. |
+00000070 02F020C0. C6D3C4E2 000000EE DB100000 00C30540 C6D3C4E2 000000F2 DB100000 00C30340 |FLDS.........C. FLDS...2.....C. |
                   .
                   .
                   .
+00000670 02F026C0. E5D7F0F1 00000020 C5D7E6C9 E5D7F0F2 0000010C D9C5C1C3 C6F0C1F0 000005BC |VP01....EPWIVP02....REACF0A0....|
+00000690 02F026E0. D9C5C1C3 F1F0C1F4 000005A8 D9C5C1C3 F3F5C5F0 000005B8 000014F5 000022AB |REAC10A4...yREAC35E0.......5....|
+000006B0 02F02700. 000001B8 0000105F 00002448 0000165D 000017CD 00001718 00000FF6 00001D65 |.......¬.......)...........6....|
+000006D0 02F02720. 000010C4 0000109E 0000139E 00004777 00005679 00000A10 00000A3B 000001FF |...D...........................|
+000006F0 02F02740. 0001C9C4 00000000                                                       |..ID....                        |
```

Figure 3-10 (Part 1 of 7). Sample Customized Dump

```
EPW9510I AREA AROUND REGISTER 0 - 82F006BA:

+00000000 02F002BA LENGTH(6)==>All bytes contain X'00'
+00000006 02F002C0 LENGTH(320)==>All bytes contain X'00'
+00000146 02F00400. 00000000 00000000 78000140 00000000 F5F6F9F5 F0F4F4F0 F1F1F0F1 40404040 |........... ....569504402101|
+00000166 02F00420. 40F86000 0001000A 00000258 0074001C 00900025 00B80001 00000000 00000000 | 8-.............................|
                    .
                    .
+000003C6 02F00680. E2C6E4D3 0A234110 C3981BFF 41000091 89000018 0A2F5870 001041E0 00281F7E |SFUL....Cq.....ji..........\...=|
+000003E6 02F006A0. D201C808 70224160 C80C58F0 C18812FF 4780C1AA 4110C178 05EF47F0 C1AE0000 |K.H....-H..0Ah....A...A....0A...|
+00000406 02F006C0. 02F006D4 4110C808 41100002 41106000 02F00EE0 5CC5D7E6 C9E5E36B C5D7E6C9 |.0.M..H.......-..0.\*EPWIVT,EPWI|
                    .
                    .
+00000786 02F00A40. F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 C4E2C5D5 E3D9E8F5 |4444444444444444444444444DSENTRY5|
+000007A6 02F00A60 LENGTH(32)==>All bytes contain X'F5', EBCDIC C'5'
+000007C6 02F00A80. F5F5F5F5 F5F5F5F5 02F00B70 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 |55555555.0..55555555555555555555|
+000007E6 02F00AA0. F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5              |55555555555555555555555555      |

EPW9510I AREA AROUND REGISTER 1 - 02F006C0:

+00000000 02F002C0 LENGTH(320)==>All bytes contain X'00'
+00000140 02F00400. 00000000 00000000 78000140 00000000 F5F6F9F5 F0F4F4F0 F1F1F0F1 40404040 |........... ....569504402101    |
+00000160 02F00420. 40F86000 0001000A 00000258 0074001C 00900025 00B80001 00000000 00000000 | 8-.............................|
+00000180 02F00440. 00C00080 C6C6E2E3 E5F1D9F2 C9C2D440 C3D6D9D7 D6D9C1E3 C9D6D540 40404040 |.{..FFSTV1R2IBM CORPORATION     |
                    .
                    .
+000003E0 02F006A0. D201C808 70224160 C80C58F0 C18812FF 4780C1AA 4110C178 05EF47F0 C1AE0000 |K.H....-H..0Ah....A...A....0A...|
+00000400 02F006C0. 02F006D4 4110C808 41100002 41106000 02F00EE0 5CC5D7E6 C9E5E36B C5D7E6C9 |.0.M..H.......-..0.\*EPWIVT,EPWI|
+00000420 02F006E0. E5D7F0F1 6BF0D5C9 F06BF36B F1F8F2F9 F54B41F0 021012FF 4780C22C 187F0700 |VP01,0NI0,3,18295..0......B.."..|
                    .
                    .
+00000780 02F00A40. F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 C4E2C5D5 E3D9E8F5 |4444444444444444444444444DSENTRY5|
+000007A0 02F00A60 LENGTH(32)==>All bytes contain X'F5', EBCDIC C'5'
+000007C0 02F00A80. F5F5F5F5 F5F5F5F5 02F00B70 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 |55555555.0..55555555555555555555|
+000007E0 02F00AA0. F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 |55555555555555555555555555555555|

EPW9510I AREA AROUND REGISTER 2 - 00000040:

+00000000 00000000. 040C0000 81168200 00000000 00000000 00FD69A0 00000000 070C1000 8118DC1C |....a.b.....................a...|
+00000020 00000020. 078C3000 82D90862 070C6000 82D90092 00000000 00000000 070E0000 00000000 |....bR....-.bR.k...............|
+00000040 00000040. 00000000 00000000 00000000 00FD69A0 00000000 00000000 040C0000 81156F08 |.........................a.?.|
+00000060 00000060. 040C0000 80FF2080 00080000 81C99398 00080000 81C9A2B8 040C0000 81159180 |...........aIlq....aIs.....a.j.|
                    .
                    .
+000003C0 000003C0. 00000000 00000000 00000000 00000000 01B7E628 00000C00 01B7DCC8 00000000 |................W........H....|
+000003E0 000003E0. 070C0000 82D90810 00000000 00000000 8007D000 581003F0 0A0D0000 AD00027B |....bR...........}....0.......#|
+00000400 00000400. 070C6000 82D90092 00C24490 00000000 01B7A3D0 01B5DF08 040C0000 80FF0594 |..-.bR.k.B........t}...........m|
+00000420 00000420. 070C0000 80FEEBB8 00000000 00000000 00000000 00000000 00000000 00000000 |.............................|

EPW9510I AREA AROUND REGISTER 3 - 009F6964:

+00000000 009F6564 LENGTH(28)==>All bytes contain X'00'
+0000001C 009F6580 LENGTH(960)==>All bytes contain X'00'
                    .
                    .
+000003DC 009F6940. 02EC2510 00FD2CA8 009F3E88 00000000 009E5F00 009E5D80 9E5D7000 00FD7080 |.......y...h......¬...)..)......|
+000003FC 009F6960. 68000000 009F6940 009D6000 00000000 009F6940 009F69A8 00000100 00000000 |....... ..-........ ...y........|
+0000041C 009F6980. 00000000 00000000 80FD69F0 00000000 00000000 00057E40 00000000 00000000 |...........0..........= ........|
                    .
                    .
+000006FC 009F6C60 LENGTH(160)==>All bytes contain X'00'
+0000079C 009F6D00. 00000018 809F6D00 0C0000B0 E2C3E3E7 9F6D000C 00000000 00000000 00000000 |......_.....SCTX._..............|
+000007BC 009F6D20 LENGTH(64)==>All bytes contain X'00'
+000007FC 009F6D60. 00000000                                                              |....                            |
EPW9510I AREA AROUND REGISTER 4 - 009F6940:

+00000000 009F6540 LENGTH(1024)==>All bytes contain X'00'
```

Figure 3-10 (Part 2 of 7). Sample Customized Dump

```
+00000400 009F6940. 02EC2510 00FD2CA8 009F3E88 00000000 009E5F00 009E5D80 9E5D7000 00FD7080 |.......y...h......¬...)..)......|
+00000420 009F6960. 68000000 009F6940 009D6000 00000000 009F6940 009F69A8 00000100 00000000 |..........-........ ...y........|
                    .
                    .
+00000700 009F6C40. 00000019 009F6C40 0C0000B0 E2C3E3E7 00000000 00000000 00000000 00000000 |......%.....SCTX................|
+00000720 009F6C60 LENGTH(160)==>All bytes contain X'00'
+000007C0 009F6D00. 00000018 809F6D00 0C0000B0 E2C3E3E7 9F6D000C 00000000 00000000 00000000 |......_.....SCTX._..............|
+000007E0 009F6D20. 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000 |................................|

EPW9510I AREA AROUND REGISTER 5 - 009F3E88:

+00000000 009F3A88.                   00000000 009D6000 00000000 00000000 7FFCD070 80000000 |        ......-.........".}.....|
+00000018 009F3AA0. 0000FFFF 009F3078 009FFC00 009F3C10 82F0047C 00000004 00170580 02F05308 |................b0.@.........0..|
+00000038 009F3AC0. 00000000 02F05000 02F054D5 00000001 02F011FF 40000001 02EEA128 00000168 |.....0&..0.N.....0....... . ....|
+00000058 009F3AE0. 82D90810 02F05168 82D90854 00000000 00005FB0 009F3678 00000000 009F3A80 |bR...0..bR........¬............|
                    .
                    .
+000003D8 009F3E60. 80000000 7FFD9008 00000000 00000000 00000000 00000000 00000000 00000000 |...."..........................|
+000003F8 009F3E80. 00000000 00000000 009F3D88 00000000 009E29AC 009E7000 00000000 00000000 |...........h....................|
+00000418 009F3EA0. 7FF16B58 80000000 0400FFFF 00000000 00000000 00000000 00000001 FF60CE58 |"1,........................-..|
                    .
                    .
+00000538 009F3FC0. 7FFFD738 00000000 1173E06B 00000000 00000003 00000000 00000000 009F3290 |".P.......\,....................|
+00000558 009F3FE0. 00000000 00000000 00000000 00000016 00000000 00000000 00000000 00000000 |................................|
+00000578 009F4000 LENGTH(640)==>All bytes contain X'00'
+000007F8 009F4280. 00000000 00000000                                                       |........                        |

EPW9510I AREA AROUND REGISTER 6 - 02F00D54:

+00000000 02F00954.                                         F2F2F2F2 F2F2F2F2 C4E2C5D5 |                    22222222DSEN|
+0000000C 02F00960. E3D9E8F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 |TRY3333333333333333333333333333|
+0000002C 02F00980. F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 02F00AD0 |3333333333333333333333333333.0.}|
+0000004C 02F009A0 LENGTH(32)==>All bytes contain X'F3', EBCDIC C'3'
                    .
                    .
+0000038C 02F00CE0 LENGTH(96)==>All bytes contain X'F7', EBCDIC C'7'
+000003EC 02F00D40. F0F1F2F3 F4F5F6F7 F8F9C1C2 C3C4C5C6 30900000 C4E2C5D5 E3D9E8F1 F1F1F1F1 |0123456789ABCDEF....DSENTRY11111|
+0000040C 02F00D60. F1F1F1F1 02F008E4 F1F1F1F1 F1F1F1F1 F1F1F1F1 02F0095C F1F1F1F1 F1F1F1F1 |1111.0.U111111111111.0.*11111111|
                    .
                    .
+0000062C 02F00F80. 901A5860 60041266 4780902A D5036008 90844770 90161266 4780906E 58706014 |...--.......N.-..d.........>..-.|
+0000064C 02F00FA0. 12774780 906218A7 9502A009 47709056 5880A02C 12884780 905618F8 0CEF47F0 |.......xn............h.....8...0|
+0000066C 02F00FC0. 907641B0 051050B0 D01047F0 907641C0 051050C0 D01047F0 90764170 01105070 |......&.}..0...{..&{}..0......&.|
+0000068C 02F00FE0. D01098EC D00C0101 07FE0000 00000000 C6C6E2E3 C1C6C3E7 07000000 00000000 |}.q.}...........FFSTAFCX........|

EPW9510I AREA AROUND REGISTER 7 - 00FD6978:

+00000000 00FD6578. D0485090 315C189F | }.&..*..|
+00000008 00FD6580. 181D0700 47F0C0CA FD000088 5800C0C6 41101000 0A0A1812 12994780 C19A41B0 |.....0{....h..{F.........r..A...|
+00000028 00FD65A0. 000419B9 4780C164 41BB0004 19B94770 C19A5C00 C2A68F00 000C8810 001F1A10 |......A.........A.*.Bw....h.....|
+00000048 00FD65C0. 12114770 C1084110 00019110 500047E0 C1185010 40C447F0 C1305890 40501E91 |....A.....j.&..\A.&. D.0A... &.j|
                    .
                    .
+000003C8 00FD6940. 00000000 00000000 00F70048 00000000 00F840C0 00000000 00F0EAD8 00000000 |.........7.......8 {.....0.Q....|
+000003E8 00FD6960. C9C5C1E5 C3E5E340 F1F061F1 F161F9F0 40E4E8F9 F0F7F0F5 E2D7F44B F14BF040 |IEAVCVT 10/11/90 UY90705SP4.1.0 |
+00000408 00FD6980. C8C2C2F4 F4F1F040 40404040 40404040 40404040 40404040 00003090 F0F3F840 |HBB4410 ....038 |
                    .
                    .
+00000788 00FD6D00. 00FEA604 00FD7200 80D18838 81DE98D8 00FEF5E0 00000000 00FD5340 00000000 |..w......Jh.a.qQ..5\....... ....|
+000007A8 00FD6D20. 00000000 00FD33FE 010255A0 00C79000 823F1190 823F0000 00FE8876 01C17310 |.............G..b...b.....h..A..|
+000007C8 00FD6D40. 0117B524 00000000 00FDF7E0 00FDF7F6 00FDF7FC 80FE6E20 00FE42E8 012974C8 |..........7\..76..7...>....Y...H|
+000007E8 00FD6D60. 00000000 00FF332C 00000000 00FF9ECC 80CDA28A 00FF1480                   |.................s.....        |

EPW9510I AREA AROUND REGISTER 8 - 009F3190:

+00000000 009F3000 LENGTH(32)==>All bytes contain X'00'
```

Figure 3-10 (Part 3 of 7). Sample Customized Dump

```
+00000020 009F3020. 00000000 00000000 00000000 00000000 00000000 00000000 009FF488 009F3058 |.........................4h....|
+00000040 009F3040. 00000000 00000000 00000010 00000001 800006F8 02F01908 009F3C10 00000000 |...................8.0..........|
+00000060 009F3060. C5D7E6C9 E5E34040 82F01908 009F3048 000000FB 1B200000 00000000 009F3088 |EPWIVT  b0.....................h|
                    .
                    .
+00000160 009F3160. 00000038 009F3178 000000FF 009F3158 009F3158 009F3158 00180008 009E29AC |..............................|
+00000180 009F3180. 00000000 00000000 00000000 00000000 009F3A80 00000000 009F31C0 009F6940 |.........................{... |
+000001A0 009F31A0. 009F3E88 009D5FF8 009F31B4 82EC254C 5F090000 809F3D88 00000000 00000000 |...h..¬8....b..<¬......h........|
                    .
                    .
+00000520 009F3520. 00000000 00000000 00000000 00000000 00000000 00000000 00000001 76000904 |..............................|
+00000540 009F3540. 00E3E6C1 04110482 00000000 7F000000 00000000 00F7CE80 00000000 00000005 |.TWA...b...."........7.........|
+00000560 009F3560. 009FF468 00000000 00FD691C 0000009C 00000000 00F70048 00000000 00000001 |..4.................7.........|
+00000580 009F3580. 009E1000 0001EFFF 000043B8 0001AC48                                      |...............                |

EPW9510I AREA AROUND REGISTER 9 - 809FF1C8:

+00000000 009FEDC8.                   00000000 00000000 00000000 809FD330 00000000 00000000 |        .............L.........|
+00000018 009FEDE0. 00000000 80FE9EAE 00FEEAB2 01B05494 009FEE20 81B05468 809FD330 01B05494 |...............m....a.....L....m|
+00000038 009FEE00. 00F0F008 00000C60 00F7CE80 00FEFAB1 01B05484 00000000 009FED38 00FD69A0 |.00....-.7.........d...........|
+00000058 009FEE20. 80FE9EAE 01B05484 00000000 00000000 00000000 00000000 00000000 00000000 |.......d.......................|
                    .
                    .
+000003D8 009FF1A0. 003CFAD7 0092118F 00000000 0000E000 00000000 00200000 00005200 00000000 |...P.k........\................|
+000003F8 009FF1C0. 0000523D 00000000 00000004 009F3E88 809FF300 009F30A8 FF00016C 00000000 |...............h..3....y...%....|
+00000418 009FF1E0. 009FF19C 009FF178 00000000 00000000 00000000 00000000 00000000 00000000 |..1...1........................|
                    .
                    .
+00000778 009FF540. D1C5E2F2 40404040 C9D5C9E3 40404040 40404040 40404040 D0404040 40404040 |JES2 INIT}|
+00000798 009FF560. 000003CB 00000000 00000000 00000000 00000000 00000000 00000000 00000000 |..............................|
+000007B8 009FF580 LENGTH(64)==>All bytes contain X'00'
+000007F8 009FF5C0. 00000000 00000000                                                        |........                       |

EPW9510I AREA AROUND REGISTER 10 - 00000000:

+00000000 00000000. 040C0000 81168200 00000000 00000000 00FD69A0 00000000 070C1000 8118DC1C |....a.b....................a...|
+00000020 00000020. 078C3000 82D90862 070C6000 82D90092 00000000 00000000 070E0000 00000000 |....bR....-.bR.k...............|
+00000040 00000040. 00000000 00000000 00000000 00FD69A0 00000000 00000000 040C0000 81156F08 |...........................a.?.|
+00000060 00000060. 040C0000 80FF2080 00080000 81C99398 00080000 81C9A2B8 040C0000 81159180 |...........aIlq....aIs.....a.j.|
                    .
                    .
+00000380 00000380. 00000C00 00000C00 00F504D0 00000C00 01B7EF88 00000000 00F50E30 00000C00 |.........5.}.......h.....5......|
+000003A0 000003A0. 00F51790 00000C00 00F520F0 00000000 00F52A50 00000000 01B7F8E8 00000000 |.5.......5.0.....5.&......8Y....|
+000003C0 000003C0. 00000000 00000000 00000000 00000000 01B7E628 00000C00 01B7DCC8 00000000 |..................W........H....|
+000003E0 000003E0. 070C0000 82D90810 00000000 00000000 8007D000 581003F0 0A0D0000 AD00027B |....bR............}....0.......#|

EPW9510I AREA AROUND REGISTER 11 - 009F3E88:

+00000000 009F3A88.                   00000000 009D6000 00000000 00000000 7FFCD070 80000000 |        ......-.........".}.....|
+00000018 009F3AA0. 0000FFFF 009F3078 009FFC00 009F3C10 82F0047C 00000004 00170580 02F05308 |...............b0.@.........0..|
+00000038 009F3AC0. 00000000 02F05000 02F054D5 00000001 02F011FF 40000001 02EEA128 00000168 |.....0&..0.N.....0.. ..... .....|
+00000058 009F3AE0. 82D90810 02F05168 82D90854 00000000 00005FB0 009F3678 00000000 009F3A80 |bR...0..bR........¬............|
                    .
                    .
+000003D8 009F3E60. 80000000 7FFD9008 00000000 00000000 00000000 00000000 00000000 00000000 |...."..........................|
+000003F8 009F3E80. 00000000 00000000 009F3D88 00000000 009E29AC 009E7000 00000000 00000000 |...........h...................|
+00000418 009F3EA0. 7FF16B58 80000000 0400FFFF 00000000 00000000 00000000 00000001 FF60CE58 |"1,........................-..|
                    .
                    .
+00000538 009F3FC0. 7FFFD738 00000000 1173E06B 00000000 00000003 00000000 00000000 009F3290 |".P.......\,....................|
+00000558 009F3FE0. 00000000 00000000 00000000 00000016 00000000 00000000 00000000 00000000 |..............................|
+00000578 009F4000 LENGTH(640)==>All bytes contain X'00'
+000007F8 009F4280. 00000000 00000000                                                        |........                       |

EPW9510I AREA AROUND REGISTER 12 - 82F00548:

+00000000 02F00148 LENGTH(24)==>All bytes contain X'00'
+00000018 02F00160 LENGTH(672)==>All bytes contain X'00'
```

Figure 3-10 (Part 4 of 7). Sample Customized Dump

```
+000002B8 02F00400. 00000000 00000000 78000140 00000000 F5F6F9F5 F0F4F4F0 F1F1F0F1 40404040 |........... ....569504402101    |
+000002D8 02F00420. 40F86000 0001000A 00000258 0074001C 00900025 00B80001 00000000 00000000 | 8-.............................|
                    .
                    .
+000003D8 02F00520 LENGTH(32)==>All bytes contain X'00'
+000003F8 02F00540. 00000000 00000000 47F0F01C 17C5D7E6 C9E5D740 4040F9F2 4BF1F1F5 40C8C6E2 |.........00..EPWIVP   92.115 HFS|
+00000418 02F00560. E3F1F0F1 18CF4700 0998BEDF C87490EC C87C41D0 C8B80700 4510C048 02F008D8 |T101.....q..H...H@.}H.....{..0.Q|
                    .
                    .
+00000778 02F008C0. D7D3C5E3 C5000A23 BFDFC874 98ECC87C 1FFF07FE 00000000 C5D7E6C9 E5C3C540 |PLETE.....H.q.H@........EPWIVCE |
+00000798 02F008E0. 0000012C C4E2C5D5 E3D9E8F2 F2F2F2F2 F2F2F2F2 F2F2F2F2 F2F2F2F2 F2F2F2F2 |....DSENTRY22222222222222222222|
+000007B8 02F00900. F2F2F2F2 F2F2F2F2 F2F2F2F2 F2F2F2F2 F2F2F2F2 02F00A58 F2F2F2F2 F2F2F2F2 |22222222222222222222.0..22222222|
+000007D8 02F00920 LENGTH(32)==>All bytes contain X'F2', EBCDIC C'2'
+000007F8 02F00940. F2F2F2F2 F2F2F2F2                                                        |22222222                        |

EPW9510I AREA AROUND REGISTER 13 - 02F00E00:

+00000000 02F00A00. F4F4F4F4 F4F4F4F4 F4F4F4F4 02F00AD0 F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 |444444444444.0.}4444444444444444|
+00000020 02F00A20 LENGTH(32)==>All bytes contain X'F4', EBCDIC C'4'
+00000040 02F00A40. F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 C4E2C5D5 E3D9E8F5 |44444444444444444444444DSENTRY5|
+00000060 02F00A60 LENGTH(32)==>All bytes contain X'F5', EBCDIC C'5'.
                    .
                    .
+000003E0 02F00DE0. 009F3E88 009D5FF8 FD000000 009F3190 809FF1C8 00000000 009F3E88 82F00548 |...h..¬8..........1H.......hb0..|
+00000400 02F00E00. 00000000 00000000 10000000 82F006BA 00000000 82F006BA 02F006C0 00000040 |............b0......b0...0.{... |
+00000420 02F00E20. 009F6964 009F6940 009F3E88 02F00D54 00FD6978 009F3190 809FF1C8 00000000 |....... ...h.0............1H....|
                    .
                    .
+00000580 02F00F80. 901A5860 60041266 4780902A D5036008 90844770 90161266 4780906E 58706014 |...--.......N.-..d.........>..-.|
+000005A0 02F00FA0. 12774780 906218A7 9502A009 47709056 5880A02C 12884780 905618F8 0CEF47F0 |.......xn............h.....8...0|
+000005C0 02F00FC0. 907641B0 051050B0 D01047F0 907641C0 051050C0 D01047F0 90764170 01105070 |......&.}..0...{..&{}..0......&.|
+000005E0 02F00FE0. D01098EC D00C0101 07FE0000 00000000 C6C6E2E3 C1C6C3E7 07000000 00000000 |}.q.}...........FFSTAFCX........|

EPW9510I AREA AROUND REGISTER 14 - 82F006BA:

+00000000 02F002BA LENGTH(6)==>All bytes contain X'00' +00000006 02F002C0 LENGTH(320)==>All bytes contain X'00'
+00000146 02F00400. 00000000 00000000 78000140 00000000 F5F6F9F5 F0F4F4F0 F1F1F0F1 40404040 |........... ....569504402101    |
+00000166 02F00420. 40F86000 0001000A 00000258 0074001C 00900025 00B80001 00000000 00000000 | 8-.............................|
                    .
                    .
+000003C6 02F00680. E2C6E4D3 0A234110 C3981BFF 41000091 89000018 0A2F5870 001041E0 00281F7E |SFUL....Cq.....ji..........\...=|
+000003E6 02F006A0. D201C808 70224160 C80C58F0 C18812FF 4780C1AA 4110C178 05EF47F0 C1AE0000 |K.H....-H..0Ah....A...A....0A...|
+00000406 02F006C0. 02F006D4 4110C808 41100002 41106000 02F00EE0 5CC5D7E6 C9E5E36B C5D7E6C9 |.0.M..H.......-..0.\*EPWIVT,EPWI|
                    .
                    .
+00000786 02F00A40. F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 C4E2C5D5 E3D9E8F5 |44444444444444444444444DSENTRY5|
+000007A6 02F00A60 LENGTH(32)==>All bytes contain X'F5', EBCDIC C'5'
+000007C6 02F00A80. F5F5F5F5 F5F5F5F5 02F00B70 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 |55555555.0..5555555555555555555|
+000007E6 02F00AA0. F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5               |555555555555555555555555555      |

EPW9510I AREA AROUND REGISTER 15 - 00000000:

+00000000 00000000. 040C0000 81168200 00000000 00000000 00FD69A0 00000000 070C1000 8118DC1C |....a.b.....................a...|
+00000020 00000020. 078C3000 82D90862 070C6000 82D90092 00000000 00000000 070E0000 00000000 |....bR....-.bR.k................|
+00000040 00000040. 00000000 00000000 00000000 00FD69A0 00000000 00000000 040C0000 81156F08 |...........................a.?.|
+00000060 00000060. 040C0000 80FF2080 00080000 81C99398 00080000 81C9A2B8 040C0000 81159180 |............aIlq....aIs.....a.j.|
                    .
                    .
+00000380 00000380. 00000C00 00000C00 00F504D0 00000C00 01B7EF88 00000000 00F50E30 00000C00 |.........5.}.......h.....5......|
+000003A0 000003A0. 00F51790 00000C00 00F520F0 00000000 00F52A50 00000000 01B7F8E8 00000000 |.5.......5.0.....5.&......8Y....|
+000003C0 000003C0. 00000000 00000000 00000000 00000000 01B7E628 00000C00 01B7DCC8 00000000 |..................W........H....|
+000003E0 000003E0. 070C0000 82D90810 00000000 00000000 8007D000 581003F0 0A0D0000 AD00027B |....bR............}....0.......#|

DATA STRUCTURE ONE

+00000000 02F00D54.                                           C4E2C5D5 E3D9E8F1 F1F1F1F1 |                    DSENTRY11111|
+0000000C 02F00D60. F1F1F1F1 02F008E4 F1F1F1F1 F1F1F1F1 F1F1F1F1 02F0095C F1F1F1F1 F1F1F1F1 |1111.0.U111111111111.0.*11111111|
```

Figure 3-10 (Part 5 of 7). Sample Customized Dump

```
+0000002C 02F00D80. F1F1F1F1 02F009CC F1F1F1F1 F1F1F1F1 F1F1F1F1 F1F1F1F1 F1F1F1F1 F1F1F1F1 |1111.0..1111111111111111111111|
+0000004C 02F00DA0. F1F1F1F1 F1F1F1F1 F1F1F1F1 F1F1F1F1 F1F1F1F1 F1F1F1F1                   |111111111111111111111111        |

DATA STRUCTURE TWO

+00000000 02F008E4.          C4E2C5D5 E3D9E8F2 F2F2F2F2 F2F2F2F2 F2F2F2F2 F2F2F2F2 F2F2F2F2 |    DSENTRY2222222222222222222222|
+0000001C 02F00900. F2F2F2F2 F2F2F2F2 F2F2F2F2 F2F2F2F2 F2F2F2F2 02F00A58 F2F2F2F2 F2F2F2F2 |2222222222222222222.0..22222222|
+0000003C 02F00920 LENGTH(32)==>All bytes contain X'F2', EBCDIC C'2'
+0000005C 02F00940. F2F2F2F2 F2F2F2F2 F2F2F2F2 F2F2F2F2 F2F2F2F2 F2F2F2F2 F2F2F2F2          |2222222222222222222222222222    |

DATA STRUCTURE FIVE

+00000000 02F00A58.                                                     C4E2C5D5 E3D9E8F5 |                        DSENTRY5|
+00000008 02F00A60 LENGTH(32)==>All bytes contain X'F5', EBCDIC C'5'
+00000028 02F00A80. F5F5F5F5 F5F5F5F5 02F00B70 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 |55555555.0..55555555555555555555|
+00000048 02F00AA0 LENGTH(32)==>All bytes contain X'F5', EBCDIC C'5'
+00000068 02F00AC0. F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5                                     |5555555555555555                |

DATA STRUCTURE FIVE

+00000000 02F00B70.                                       C4E2C5D5 E3D9E8F5 F5F5F5F5 F5F5F5F5|                DSENTRY555555555|
+00000010 02F00B80 LENGTH(32)==>All bytes contain X'F5', EBCDIC C'5'
+00000030 02F00BA0. 02F00BE8 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 |.0.Y5555555555555555555555555555|
+00000050 02F00BC0 LENGTH(32)==>All bytes contain X'F5', EBCDIC C'5'
+00000070 02F00BE0. F5F5F5F5 F5F5F5F5                                                         |55555555                        |

DATA STRUCTURE FIVE

+00000000 02F00BE8.                    C4E2C5D5 E3D9E8F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 |        DSENTRY55555555555555555|
+00000018 02F00C00. F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 02F00C60 F5F5F5F5 |5555555555555555555555.0.-5555|
+00000038 02F00C20 LENGTH(64)==>All bytes contain X'F5', EBCDIC C'5'

DATA STRUCTURE FIVE

+00000000 02F00C60. C4E2C5D5 E3D9E8F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 |DSENTRY5555555555555555555555555|
+00000020 02F00C80. F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 00000000 F5F5F5F5 F5F5F5F5 F5F5F5F5 |5555555555555555....555555555555|
+00000040 02F00CA0 LENGTH(32)==>All bytes contain X'F5', EBCDIC C'5'
+00000060 02F00CC0. F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5 F5F5F5F5                   |555555555555555555555555        |

DATA STRUCTURE THREE

+00000000 02F0095C.                                                                   C4E2C5D5 |                            DSEN|
+00000004 02F00960. E3D9E8F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 |TRY3333333333333333333333333333333|
+00000024 02F00980. F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 F3F3F3F3 02F00AD0 |3333333333333333333333333333.0.}|
+00000044 02F009A0 LENGTH(32)==>All bytes contain X'F3', EBCDIC C'3'
+00000064 02F009C0. F3F3F3F3 F3F3F3F3 F3F3                                                   |3333333333|

DATA STRUCTURE SIX

+00000000 02F00AD0.                                       C4E2C5D5 E3D9E8F6 F6F6F6F6 F6F6F6F6 |                DSENTRY666666666|
+00000010 02F00AE0 LENGTH(64)==>All bytes contain X'F6', EBCDIC C'6'
+00000050 02F00B20. 02F00CD8 F6F6F6F6 F6F6F6F6 F6F6F6F6 02F00E48 F6F6F6F6 F6F6F6F6 F6F6F6F6 |.0.Q666666666666.0..666666666666|
+00000070 02F00B40 LENGTH(32)==>All bytes contain X'F6', EBCDIC C'6'
+00000090 02F00B60. F6F6F6F6 F6F6F6F6 F6F6F6F6 F6F6F6F6                                     |6666666666666666                |

DATA STRUCTURE SEVEN

+00000000 02F00CD8.                                                     C4E2C5D5 E3D9E8F7 |                        DSENTRY7|
+00000008 02F00CE0 LENGTH(64)==>All bytes contain X'F7', EBCDIC C'7'
+00000048 02F00D20. F7F7F7F7 F7F7F7F7 F7F7F7F7 F7F7F7F7 F7F7F7F7 F7F7F7F7 F7F7F7F7          |7777777777777777777777777777    |

DATA STRUCTURE EIGHT

+00000000 02F00E48.                    C4E2C5D5 E3D9E8F8 F8F8F8F8 F8F8F8F8 F8F8F8F8 F8F8F8F8 |        DSENTRY88888888888888888|
+00000018 02F00E60 LENGTH(64)==>All bytes contain X'F8', EBCDIC C'8'
+00000058 02F00EA0. F8F8F8F8 F8F8F8F8 F8F8F8F8                                               |888888888888                    |

DATA STRUCTURE FOUR

+00000000 02F009CC.                              C4E2C5D5 E3D9E8F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 | DSENTRY4444444444444           |
```

Figure 3-10 (Part 6 of 7). Sample Customized Dump

```
+00000014 02F009E0 LENGTH(32)==>All bytes contain X'F4', EBCDIC C'4'
+00000034 02F00A00. F4F4F4F4 F4F4F4F4 F4F4F4F4 02F00AD0 F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 |444444444444.0.}4444444444444444|
+00000054 02F00A20 LENGTH(32)==>All bytes contain X'F4', EBCDIC C'4'
+00000074 02F00A40. F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4 F4F4F4F4                   |4444444444444444444444        |

DATA STRUCTURE SIX

+00000000 02F00AD0.                                     C4E2C5D5 E3D9E8F6 F6F6F6F6 F6F6F6F6 |               DSENTRY666666666|
+00000010 02F00AE0 LENGTH(64)==>All bytes contain X'F6', EBCDIC C'6'
+00000050 02F00B20. 02F00CD8 F6F6F6F6 F6F6F6F6 F6F6F6F6 02F00E48 F6F6F6F6 F6F6F6F6 F6F6F6F6 |.0.Q666666666666.0..666666666666|
+00000070 02F00B40 LENGTH(32)==>All bytes contain X'F6', EBCDIC C'6'
+00000090 02F00B60. F6F6F6F6 F6F6F6F6 F6F6F6F6 F6F6F6F6                                     |6666666666666666                |

DATA STRUCTURE SEVEN

+00000000 02F00CD8.                                                     C4E2C5D5 E3D9E8F7 |                       DSENTRY7|
+00000008 02F00CE0 LENGTH(64)==>All bytes contain X'F7', EBCDIC C'7'
+00000048 02F00D20. F7F7F7F7 F7F7F7F7 F7F7F7F7 F7F7F7F7 F7F7F7F7 F7F7F7F7 F7F7F7F7          |77777777777777777777777777    |

DATA STRUCTURE EIGHT

+00000000 02F00E48.                  C4E2C5D5 E3D9E8F8 F8F8F8F8 F8F8F8F8 F8F8F8F8 F8F8F8F8 |        DSENTRY88888888888888888|
+00000018 02F00E60 LENGTH(64)==>All bytes contain X'F8', EBCDIC C'8'
+00000058 02F00EA0. F8F8F8F8 F8F8F8F8 F8F8F8F8                                             |888888888888                    |
```

Figure 3-10 (Part 7 of 7). Sample Customized Dump

Using the Symptom String

A symptom string consists of a set of keywords and values that appear in the following format:

`kkkk/vvvvvvvvvv kkkk/vvvvvvvvvv kkkk/vvvvvvvvvv. . . .`

where

- *kkkk* is a keyword.
- *vvvvvvvvvv* is the value associated with that keyword.

Figure 3-11 provides a list of standard FFST keywords and their meanings.

Figure 3-11. Standard Keywords Supported by FFST		
Keyword	**Description**	**Example**
AB	Abend code	AB/U0001
ADRS	Address	ADRS/000001C0
DEVS	Device type	DEVS/3380
FLDS	Field	FLDS/ASCB
LVLS	Product Level	LVLS/101
MS	Message	MS/IEF244I
OPCS	Program OP code	OPCS/02
OVS	Overlaid storage	OVS/CBLOCK01
PCSS	Any statement	PCSS/PF10
PIDS	Product ID	PIDS/569504402
PRCS	Return, status, condition code	PRCS/0000UNIT
REGS	Registers	REGS/GR15
RIDS	Resource identifications	RIDS/NUCLEU#L
SIG	Signal	SIG/ALARM
VALU	Field, register value	VALU/B01110101
WS	Coded wait	WS/E003F

Because duplicate events have identical primary symptom strings, the primary symptom string is the key to distinguishing between a new event and a known or duplicate event. If you request duplicate dump suppression, FFST uses the primary symptom string to identify duplicate events. In addition, you can use the primary symptom string to search the IBM problem database to determine whether the event is a known problem and whether any information about how to solve the problem is available.

The primary symptom string appears in the following FFST output:

- Message EPW0404I. This message appears on the console and in the probe message log. For more information, see Appendix A, “FFST Messages,” “Using the Console Message” on page 3-27, and “Using the Probe Message Log Entry” on page 3-27.
- The symptom record. For more information, see “Using the Symptom Record” on page 3-20.
- The customized dump, if requested. For more information, see “Using the Customized Dump” on page 3-1.
- If you have NetView, the generic alert. For more information, see “Using the Generic Alert” on page 3-28.

Figure 3-12 and Figure 3-13 are examples of primary symptom strings.

```
PIDS/569504402 LVLS/101 PCSS/EPWIVP01 RIDS/EPWIVP FLDS/TEST FLDS/PROBE
FLDS/FOR FLDS/FFSTIVP
```

Figure 3-12. Sample Primary Symptom String for FFST/MVS

```
PIDS/568415800 LVLS/120 PCSS/EPWIVP01 RIDS/EPWIVP FLDS/TEST FLDS/PROBE
FLDS/FOR FLDS/FFSTIVP
```

Figure 3-13. Sample Primary Symptom String for FFST/VM

The primary symptom strings in Figure 3-12 provides the following information about the event that caused the probe statement to be executed:

- The product identifier and level of the product that contains the triggered software probe (for FFST/MVS, 569504402, level 101; for FFST/VM, 568415800, level 120)
- The probe identifier (EPWIVP01)
- The name of the module that contains the triggered software probe (EPWIVP)
- A message indicating that the triggered software probe is a test probe for FFSTIVP.

The secondary symptom string appears in the following FFST output:

- Customized dump
- Symptom record
- Console message
- Probe message log

When it appears in the customized dump and the symptom record, the secondary symptom string contains the register values for the triggered software probe. These register values do not appear in the console message and the probe message log.

Figure 3-14 is an example of a secondary symptom string without register values.

```
FLDS/CPUMODEL VALU/H3090
```

Figure 3-14. Sample Secondary Symptom String

The secondary symptom string provides additional information about the event, in this case the model number of the central processing unit (CPU).

Using the Symptom Record

When a probe statement is executed, FFST generates a symptom record using IBM's Symptom Record Architecture. The following sections explain how to use FFST/MVS and FFST/VM symptom records.

Using FFST/MVS Symptom Records

FFST places FFST/MVS symptom records in LOGREC, the MVS error record log. You can format and view a symptom record generated by FFST/MVS using the Environmental Record Editing and Printing (EREP) feature of the MVS operating system. For more information about this feature, refer to the Environmental Record Editing and Printing Program (EREP) User's Guide and Reference Manual (GC28-1378). Figure 3-15 illustrates a sample EREP job you can use to format and print a symptom record generated by FFST/MVS.

```
//STEP   EXEC  PGM=IFCEREP1,REGION=1024K,PARM=('HIST=N,PRINT=PS,TYPE=S,ACC=N')
//SERLOG   DD  DSN=SYS1.LOGREC,DISP=(OLD,KEEP),UNIT=DISK,VOL=SER=EREPLB2
//DIRECTWK DD UNIT=VIO,SPACE=(CYL,(5))
//EREPPT   DD SYSOUT=*,DCB=BLKSIZE=133
//TOURIST  DD SYSOUT=*,DCB=BLKSIZE=133
//SYSIN    DD DUMMY
//ACCDEV   DD DUMMY
//ACCIN    DD DUMMY
```

Figure 3-15. Sample EREP Job for Printing an FFST/MVS Symptom Record

An FFST/MVS symptom record contains the following sections:

- The header
- The search argument abstract
- System environment information
- Component information
- Symptom strings
- Free-format component information
- The summary

The following sections provide examples of the different parts of a symptom record and explain what they mean.

The FFST/MVS Symptom Record Header

The header section of an FFST/MVS symptom record provides the following information:

- The date the symptom record was created
- The time and date that the event occurred
- The version and release number of the system control program (SCP)
- The model and serial number of the CPU in which the event occurred

Figure 3-16 is an example of an FFST/MVS symptom record header.

```
TYPE: SYMPTOM RECORD      REPORT: SOFTWARE EDIT REPORT           DAY YEAR
                                                   REPORT DATE: 118 92
SCP: VS 2 REL 3                                     ERROR DATE: 118 92
                          MODEL: 3090                            HH MM SS.TH
                          SERIAL: 070115                   TIME: 11:09:32.32
```

Figure 3-16. FFST/MVS Symptom Record Header

The FFST/MVS Search Argument Abstract

The search argument abstract is identical to the primary symptom string, and IBM customers can use it to search the IBM problem database to see whether the event has occurred before.

Figure 3-17 is an example of an FFST/MVS search argument abstract.

```
SEARCH ARGUMENT ABSTRACT:
    PIDS/569504402 LVLS/101 PCSS/EPWIVP01 RIDS/EPWIVP FLDS/TEST
    FLDS/PROBE FLDS/FOR FLDS/FFSTIVP
```

Figure 3-17. FFST/MVS Symptom Record Search Argument Abstract

FFST/MVS Symptom Record System Environment Information

The FFST/MVS symptom record provides the following information about the system environment in which the event occurred:

- The date and time of the event
- The model and serial number of the CPU
- The name of the system, in this case NONAME
- The base control program (BCP), in this case MVS
- The release number or service level of the routine that failed
- The architecture level for the system data and component data
- System data (zeros for FFST)

Figure 3-18 on page 3-22 is an example of system environment information as it appears in an FFST/MVS symptom record.

```
SYSTEM ENVIRONMENT:
CPU MODEL: 3090                DATE: 118 92
CPU SERIAL: 070115             TIME: 11:09:32.32
SYSTEM: FFSTESA1               BCP:  MVS
RELEASE LEVEL OF SERVICE ROUTINE:     HBB4410
SYSTEM DATA AT ARCHITECTURE LEVEL:    10
COMPONENT DATA AT ARCHITECTURE LEVEL: 10
RECORD IS ASSOCIATED WITH SVC DUMP
SYSTEM DATA: 00000000  00000000   |........|
```

Figure 3-18. System Environment Information in an FFST/MVS Symptom Record

FFST/MVS Symptom Record Component Information

An FFST/MVS symptom record provides the following information about the component in which the event occurred:

- The component identifier and release number or
- The program identifier and release number or
- A description of the event that includes the following information:
  - The type of event, in this case INCORROUT for an incorrect output error
  - The ID number for the component in which the event occurred
  - The name of the routine that detected the event

Figure 3-19 is an example of component information as it appears in an FFST/MVS symptom record.

```
COMPONENT INFORMATION:
     COMPONENT ID:            569504402
     COMPONENT RELEASE LEVEL: 101
     DESCRIPTION OF FUNCTION:  INCORROUT    569504402 EPWIVP
     PROBLEM ID:
```

Figure 3-19. Component Information in an FFST/MVS Symptom Record

FFST/MVS Symptom Record Symptom String Information

An FFST/MVS symptom record provides the following symptom string information:

- The primary symptom string and the secondary symptom string (if a secondary symptom string exists)
- An explanation of each of the values associated with the symptom string keywords

Figure 3-20 on page 3-23 is an example of symptom string information as it appears in an FFST/MVS symptom record.

```
PRIMARY SYMPTOM STRING:
    PIDS/569504402 LVLS/101 PCSS/EPWIVP01 RIDS/EPWIVP FLDS/TEST
    FLDS/PROBE FLDS/FOR FLDS/FFSTIVP

    SYMPTOM            SYMPTOM DATA     EXPLANATION
    ---------------    -------------    -----------
    PIDS/569504402     569504402        COMPONENT IDENTIFIER
    LVLS/101           101              PROGRAM PRODUCT RELEASE LEVEL
    PCSS/EPWIVP01      EPWIVP01         SOFTWARE STATEMENT
    RIDS/EPWIVP        EPWIVP           ROUTINE IDENTIFIER
    FLDS/TEST          TEST             DATA FIELD NAME
    FLDS/PROBE         PROBE            DATA FIELD NAME
    FLDS/FOR           FOR              DATA FIELD NAME
    FLDS/FFSTIVP       FFSTIVP          DATA FIELD NAME

SECONDARY SYMPTOM STRING:
    REGS/GR13 VALU/H02F00E00 REGS/GR14 VALU/H82F006BA REGS/GR15
    VALU/H00000000 REGS/GR00 VALU/H82F006BA REGS/GR01 VALU/H02F006C0
    REGS/GR02 VALU/H00000040 REGS/GR03 VALU/H009F6964 REGS/GR04
    VALU/H009F6940 REGS/GR05 VALU/H009F3E88 REGS/GR06 VALU/H02F00D54
    REGS/GR07 VALU/H00FD6978 REGS/GR08 VALU/H009F3190 REGS/GR09
    VALU/H809FF1C8 REGS/GR10 VALU/H00000000 REGS/GR11 VALU/H009F3E88
    REGS/GR12 VALU/H82F00548

    SYMPTOM            SYMPTOM DATA     EXPLANATION

    ---------------    -------------    -----------
    REGS/GR13          13               GENERAL PURPOSE REGISTER
    VALU/H02F00E00     02F00E00         ERROR RELATED HEXADECIMAL VALUE
    REGS/GR14          14               GENERAL PURPOSE REGISTER
    VALU/H82F006BA     82F006BA         ERROR RELATED HEXADECIMAL VALUE
    REGS/GR15          15               GENERAL PURPOSE REGISTER
    VALU/H00000000     00000000         ERROR RELATED HEXADECIMAL VALUE
    REGS/GR00          00               GENERAL PURPOSE REGISTER
    VALU/H82F006BA     82F006BA         ERROR RELATED HEXADECIMAL VALUE
    REGS/GR01          01               GENERAL PURPOSE REGISTER
    VALU/H02F006C0     02F006C0         ERROR RELATED HEXADECIMAL VALUE
    REGS/GR02          02               GENERAL PURPOSE REGISTER
    VALU/H00000040     00000040         ERROR RELATED HEXADECIMAL VALUE
```

Figure 3-20 (Part 1 of 2). FFST/MVS Symptom Record Symptom String Information

```
REGS/GR03          03               GENERAL PURPOSE REGISTER
VALU/H009F6964     009F6964         ERROR RELATED HEXADECIMAL VALUE
REGS/GR04          04               GENERAL PURPOSE REGISTER
VALU/H009F6940     009F6940         ERROR RELATED HEXADECIMAL VALUE
REGS/GR05          05               GENERAL PURPOSE REGISTER
VALU/H009F3E88     009F3E88         ERROR RELATED HEXADECIMAL VALUE
REGS/GR06          06               GENERAL PURPOSE REGISTER
VALU/H02F00D54     02F00D54         ERROR RELATED HEXADECIMAL VALUE
REGS/GR07          07               GENERAL PURPOSE REGISTER
VALU/H00FD6978     00FD6978         ERROR RELATED HEXADECIMAL VALUE
REGS/GR08          08               GENERAL PURPOSE REGISTER
VALU/H009F3190     009F3190         ERROR RELATED HEXADECIMAL VALUE
REGS/GR09          09               GENERAL PURPOSE REGISTER
VALU/H809FF1C8     809FF1C8         ERROR RELATED HEXADECIMAL VALUE
REGS/GR10          10               GENERAL PURPOSE REGISTER
VALU/H00000000     00000000         ERROR RELATED HEXADECIMAL VALUE
REGS/GR11          11               GENERAL PURPOSE REGISTER
VALU/H009F3E88     009F3E88         ERROR RELATED HEXADECIMAL VALUE
REGS/GR12          12               GENERAL PURPOSE REGISTER
VALU/H82F00548     82F00548         ERROR RELATED HEXADECIMAL VALUE
```

Figure 3-20 (Part 2 of 2). FFST/MVS Symptom Record Symptom String Information

For more information about using symptom strings, see “Using the Symptom String” on page 3-18.

FFST/MVS Symptom Record Free-Format Component Information

FFST/MVS symptom record free-format component information, as shown in Figure 3-21, is a hexadecimal dump of the symptom record.

```
FREE FORMAT COMPONENT INFORMATION:
HEX DUMP OF RECORD:
  HEADER

    +000    4C831800    00000000    0092132F    13214347    |<C.......K......|
    +010    FF070115    30900000                            |........        |

  SYMPTOM RECORD
    +000    E2D9F3F0    F9F0F0F7    F0F1F1F5    FFFFCA5B    |SR3090070115...$|
    +010    A5ACEBA5    DAB14602    40404040    40404040    |V..V....        |
    +020    4040C6C6    E2E3C5E2    C1F1F5F7    F5F2C8C2    |  FFSTESA15752HB|
    +030    C2F4F4F1    F0400080    E2E5C340    C4E4D4D7    |B4410 ..SVC DUMP|
    +040    F1F00030    00640070    005D00D4    01A90131    |10.......).M.Z..|
    +050    000402DA    00000000    00000000    00000000    |................|
    +060    00000000    00000000    00000000    00000000    |................|
    +070    E2D9F2F1    F1F0F5F6    F9F5F0F4    F4F0F100    |SR2110569504401.|
    +080    F1F0F140    00000000    00000000    00000000    |101 ............|
    +090    00000000    00000000    00000000    1DC9D5C3    |.............INC|
```

Figure 3-21 (Part 1 of 2). FFST/MVS Symptom Record Free-Format Component Information

```
+0A0    D6D9D9D6    E4E34040    4040F5F6    F9F5F0F4    |ORROUT    569504|
+0B0    F4F0F140    C5D7E6C9    E5D70000    00000000    |401 EPWIVP......|
+0C0    00000000    40404040    40404040    00000000    |....        ....|
+0D0    00000000    D7C9C4E2    61F5F6F9    F5F0F4F4    |....PIDS/5695044|
+0E0    F0F140D3    E5D3E261    F1F0F140    D7C3E2E2    |01 LVLS/101 PCSS|
+0F0    61C5D7E6    C9E5D7F0    F140D9C9    C4E261C5    |/EPWIVP01 RIDS/E|
+100    D7E6C9E5    D740C6D3    C4E261E3    C5E2E340    |PWIVP FLDS/TEST |
+110    C6D3C4E2    61D7D9D6    C2C540C6    D3C4E261    |FLDS/PROBE FLDS/|
+120    C6D6D940    C6D3C4E2    61C6C6E2    E3C9E5D7    |FOR FLDS/FFSTIVP|
+130    40C6D3C4    E261C3D7    E4D4D6C4    C5D340E5    | FLDS/CPUMODEL V|
+140    C1D3E461    C8F3F0F9    F040D9C5    C7E261C7    |ALU/H3090 REGS/G|
+150    D9F1F340    E5C1D3E4    61C8F0F2    C6F0F0C5    |R13 VALU/H02F00E|
+160    F0F040D9    C5C7E261    C7D9F1F4    40E5C1D3    |00 REGS/GR14 VAL|
+170    E461C8F8    F2C6F0F0    F6C2C140    D9C5C7E2    |U/H82F006BA REGS|
+180    61C7D9F1    F540E5C1    D3E461C8    F0F0F0F0    |/GR15 VALU/H0000|
+190    F0F0F0F0    40D9C5C7    E261C7D9    F0F040E5    |0000 REGS/GR00 V|
+1A0    C1D3E461    C8F8F2C6    F0F0F6C2    C140D9C5    |ALU/H82F006BA RE|
+1B0    C7E261C7    D9F0F140    E5C1D3E4    61C8F0F2    |GS/GR01 VALU/H02|
+1C0    C6F0F0F6    C3F040D9    C5C7E261    C7D9F0F2    |F006C0 REGS/GR02|
+1D0    40E5C1D3    E461C8F0    F0F0F0F0    F0F4F040    | VALU/H00000040 |
+1E0    D9C5C7E2    61C7D9F0    F340E5C1    D3E461C8    |REGS/GR03 VALU/H|
+1F0    F0F0F9C6    F6F9F6F4    40D9C5C7    E261C7D9    |009F6964 REGS/GR|
+200    F0F440E5    C1D3E461    C8F0F0F9    C6F6F9F4    |04 VALU/H009F694|
+210    F040D9C5    C7E261C7    D9F0F540    E5C1D3E4    |0 REGS/GR05 VALU|
+220    61C8F0F0    F9C6F3C5    F8F840D9    C5C7E261    |/H009F3E88 REGS/|
+230    C7D9F0F6    40E5C1D3    E461C8F0    F2C6F0F0    |GR06 VALU/H02F00|
+240    C4F5F440    D9C5C7E2    61C7D9F0    F740E5C1    |D54 REGS/GR07 VA|
+250    D3E461C8    F0F0C6C4    F6F9F7F8    40D9C5C7    |LU/H00FD6978 REG|
+260    E261C7D9    F0F840E5    C1D3E461    C8F0F0F9    |S/GR08 VALU/H009|
+270    C6F3F1F9    F040D9C5    C7E261C7    D9F0F940    |F3190 REGS/GR09 |
+280    E5C1D3E4    61C8F8F0    F9C6C6F1    C3F840D9    |VALU/H809FF1C8 R|
+290    C5C7E261    C7D9F1F0    40E5C1D3    E461C8F0    |EGS/GR10 VALU/H0|
+2A0    F0F0F0F0    F0F0F040    D9C5C7E2    61C7D9F1    |0000000 REGS/GR1|
+2B0    F140E5C1    D3E461C8    F0F0F9C6    F3C5F8F8    |1 VALU/H009F3E88|
+2C0    40D9C5C7    E261C7D9    F1F240E5    C1D3E461    | REGS/GR12 VALU/|
+2D0    C8F8F2C6    F0F0F5F4    F840F000    0004        |H82F00548 0...  |
```

Figure 3-21 (Part 2 of 2). FFST/MVS Symptom Record Free-Format Component Information

The FFST/MVS Symptom Record Summary

The FFST/MVS symptom record summary provides a summary of each software record. Figure 3-22 is an example of a symptom record summary.

```
TYPE:  SYMPTOM RECORD       REPORT:  SOFTWARE SUMMARY               DAY YEAR
                                                          REPORT DATE: 118  92
SCP:   VS 2 REL 3           MODEL:   N/A                  PERIOD FROM: 118  92
                            SERIAL:  N/A                           TO: 118  92
  COUNT OF SYMPTOM RECORDS PROCESSED:   0001
  COUNT OF UNIQUE SYMPTOM STRINGS:      0002
 PIDS/566528901 LVLS/103 PCSS/ISTTSC01 RIDS/ISTTSCCM FLDS/PIU FLDS/INVALID
 PIDS/569504401 LVLS/101 PCSS/EPWIVP01 RIDS/EPWIVP FLDS/TEST FLDS/PROBE
                       COUNT: 0002 FIRST: 92.117 12:10:43 LAST: 92.118 11:09:32
```

Figure 3-22. Symptom Record Summary

Using FFST/VM Symptom Records

FFST/VM records symptom records on the OPERSYMP machine. To view one of these symptom records, your user ID must have access to the OPERSYMP A-disk or the disk where the symptom records are stored. When you have the proper access, you can use the VIEWSYM command to look at FFST/VM symptom records. When you type VIEWSYM on a VM command line and press **Enter**, the Symptom Viewing Facility - Command Menu panel appears. For information about using this facility, refer to the *Dump Viewing Facility Operation Guide and Reference*, SC24-5530.

An FFST/VM symptom record contains the following information:

- A header that provides basic information about the event that triggered the software probe
- The primary symptom string
- The secondary symptom string (if one exists)

Figure 3-23 is an example of an FFST/VM symptom record as it is displayed by the Symptom Viewing Facility.

```
TOD CLOCK . . A764FD922736F304                    DATE. . . . . 04/26/93
TIME ZONE . . 0                                   TIME. . . . . 17:44:44

CPU MODEL . . 3090                                BASE SCP. . . 5684
CPU SERIAL. . 172604                              NODEID. . . . FASTVM03

                                                  DUMP TYPE . . SVC DUMP
-----------------------------------------------------------------------
PRIMARY SYMPTOM STRING:
              PIDS/568415800
              LVLS/120
              PCSS/EPWIVP01
              RIDS/EPWIVP
              FLDS/TEST
              FLDS/PROBE
              FLDS/FOR
              FLDS/FFSTIVP
-----------------------------------------------------------------------
SECONDARY SYMPTOM STRINGS:
              REGS/GR13
              VALU/H00010E3C
              REGS/GR14
              VALU/H800106F6
              REGS/GR15
              VALU/H00000000
              REGS/GR00
              VALU/H91000000
              REGS/GR01
              VALU/H000106FC
              REGS/GR02
              VALU/H00FDE190
              REGS/GR03
              VALU/H00FDE164
              REGS/GR04
              VALU/H00FE3400
```

Figure 3-23. Sample FFST/VM Symptom Record

Using the Console Message

When a probe statement is executed, FFST displays a message on the operator's console. This message contains the following information:

- The name of the detecting application
- The probe identifier of the triggered software probe
- The name of the data set and volume that contain the unformatted dump (MVS only)
- The primary symptom string
- The secondary symptom string (if one exists)

Figure 3-24 is an example of an FFST/MVS console message. The only difference between the FFST/MVS console message and an FFST/VM console message is that the second and third lines (EPW0406I and EPW0407I) would not appear in FFST/VM.

```
EPW0401I FFSTPROC: EVENT DETECTION INVOKED BY FFSTV1R2
EPW0406I DUMP DATASET IS: FFST.FFSTESA1.FFSTV1R2.DMP00002
EPW0407I FOUND ON VOLUME: MVSST2
EPW0402I PRIMARY SYMPTOM STRING FOR PROBEID EPWIVP01 FOLLOWS:
EPW0404I PIDS/569504402 LVLS/101 PCSS/EPWIVP01 RIDS/EPWIVP
         FLDS/TEST
EPW0404I FLDS/PROBE FLDS/FOR FLDS/FFSTIVP
EPW0402I SECONDARY SYMPTOM STRING FOR PROBEID EPWIVP01
         FOLLOWS:
EPW0404I FLDS/CPUMODEL VALU/H3090
EPW0701I END OF MESSAGE GROUP
```

Figure 3-24. Sample FFST/MVS Console Message

Using the Probe Message Log Entry

When a probe statement is executed, FFST adds an entry to the probe message log (for example, FFSTLOG1 or FFSTLOG2). The probe message log entry is identical to the console message. For information about how to use the information in the entry, see “Using the Console Message.”

FFST will use up to 9 probe message log data sets. These are specified in the FFST start-up JCL as DD names FFSTLOG1 through FFSTLOG9. FFST will only use the data sets that are sequentially numbered starting with FFSTLOG1. That is, if FFSTLOG1, FFSTLOG2, FFSTLOG3 and FFSTLOG5 DD statements are specified, only FFSTLOG1, FFSTLOG2, and FFSTLOG3 will be used. FFST will not recognized FFSTLOG5 as being specified. FFST initially starts with the FFSTLOG1 data set. When this data set fills up, it issues a message and qutomatically switches to the FFSTLOG2 data set. When this fills up, FFST will switch to the next data set. When the last data set fills up, FFST will switch back to FFSTLOG1. Each data set must be defined as fixed, LRECL 80 and BLOCKSIZE any multiple of 80. There is a message log function called REUSE. If this function is disabled, FFST will not reuse a data set that contains data. That is, when a message log switch takes place, and the next log contains data, message log processing will be temporarily suspended. FFST Will use that data set when it has been cleared (either with an ACTION=CLEAR modify command or by deleting all data by hand).

FFST log data sets can be individually disabled, enabled or cleared. When a data set is disabled, FFST will skip over that data set when it performs log switching. If it is the current data set, it will switch to the next enabled data set. If an ACTION=CLEAR modify command is entered for a data set, that log will be cleared and reused the next time FFST cycles through to use that data set. The data set is not immediately cleared (unless it is the current data set); it is merely scheduled for clearing. If the REUSE

function is enabled, FFST will reuse a log data set even if it contains data. Therefore, the ACTION=CLEAR command should be of no use if REUSE is enabled. For more information on the use of the FFST modify command, see Chapter 2, “Controlling FFST Operation.”

Using the Generic Alert

A software generic alert is a Systems Network Architecture (SNA) function that notifies a network operations center when a software problem disrupts end-user services. If you use NetView in conjunction with FFST, the following events occur when a probe statement is executed:

- FFST generates a generic alert and passes it to NetView on the local processor (the processor where the probe statement was executed).
- Through local NetView, the generic alert can be:
  - Displayed
  - Logged
  - Sent to a NetView focal point

A generic alert generated by FFST contains the following information:

- The processor on which the software application that executed the probe statement
- The identification of the software application that executed the probe statement
- The date and time that the probe statement was executed
- A description of the event that caused the probe statement to be executed
- The event's primary symptom string
- The name of the data set that contains the customized dump for the event
- The probable cause of the event
- Recommended recovery actions for the event

Figure 3-25 is an example of the NetView generic alert Recommended Action screens.

```
 N E T V I E W          SESSION DOMAIN: CNM01    OPER1     04/27/92 11:09:00
 NPDA-45A           * RECOMMENDED ACTION FOR SELECTED EVENT *     PAGE  1 OF  2
  CNM01       USIBMMK      FFSTESA1     FFSTV1R2
             +--------+   +--------+
  DOMAIN     |  NTID  |---|  CPU   |---<  PROG  >
             +--------+   +--------+

 USER    CAUSED - NONE

 INSTALL CAUSED - NONE

 FAILURE CAUSED - HOST PROGRAM
        ACTIONS - I258 - REFER TO IBM FFST/ESA VERSION 1 RELEASE 2 PRODUCT
                   DOCUMENTATION FOR ADDITIONAL INFORMATION
                  I245 - FOR CORRECTIVE ACTION REFER TO PUBLICATION NUMBER
                   LV33-1014
                  I168 -  FOR PROGRAM FFSTV1R2
                  I127 - CONTACT SERVICE REPRESENTATIVE FOR IBM FFST/ESA
                   VERSION 1 RELEASE 2

 ENTER ST (MOST RECENT STATISTICS), DM (DETAIL MENU), OR D (EVENT DETAIL)

 ???
CMD==>
```

Figure 3-25 (Part 1 of 2). NetView Generic Alert Recommended Action Screens

```
N E T V I E W          SESSION DOMAIN: CNM01    OPER1     04/27/92 11:09:04
NPDA-45A           * RECOMMENDED ACTION FOR SELECTED EVENT *     PAGE  2 OF  2
 CNM01       USIBMMK      FFSTESA1     FFSTV1R2
            +--------+   +--------+
 DOMAIN     |  NTID  |---|  CPU   |---<  PROG  >
            +--------+   +--------+

                 I143 - REPORT THE FOLLOWING:
                      SYMPTOM CODE PIDS/569504401 LVLS/101 PCSS/EPWIVP01
                      SYMPTOM CODE RIDS/EPWIVP FLDS/TEST FLDS/PROBE
                      SYMPTOM CODE FLDS/FOR FLDS/FFSTIVP









ENTER ST (MOST RECENT STATISTICS), DM (DETAIL MENU), OR D (EVENT DETAIL)

???
CMD==>
```

Figure 3-25 (Part 2 of 2). NetView Generic Alert Recommended Action Screens

Figure 3-26 is an example of the NetView generic alert Event Detail Screens.

```
N E T V I E W          SESSION DOMAIN: CNM01    OPER1     04/27/92 11:09:14
NPDA-43S                      * EVENT DETAIL *                 PAGE  1 OF  3

 CNM01       USIBMMK      FFSTESA1     FFSTV1R2
            +--------+   +--------+
 DOMAIN     |  NTID  |---|  CPU   |---<  PROG  >
            +--------+   +--------+

DATE/TIME: RECORDED - 04/27 11:06

EVENT TYPE: TEMPORARY

DESCRIPTION: OPERATOR NOTIFICATION

PROBABLE CAUSES:
   HOST PROGRAM




ENTER A TO VIEW ACTION DISPLAY

???
CMD==>
```

Figure 3-26 (Part 1 of 3). NetView Generic Alert Event Detail Screens

```
N E T V I E W          SESSION DOMAIN: CNM01    OPER1     04/27/92 11:09:19
NPDA-43S                       * EVENT DETAIL *                 PAGE  2 OF  3

 CNM01       USIBMMK      FFSTESA1     FFSTV1R2
            +--------+   +--------+
 DOMAIN     |  NTID  |---|  CPU   |---<  PROG  >
            +--------+   +--------+

CORRELATION FOR SUPPORTING DATA:
   1)  EVENT CODE EPWIVP01
   2)  OPERATION PRIORITY 3
   3)  DIAGNOSTIC EXPLANATION FIRST FAILURE SUPPORT TECHNOLOGY DUMP
   4)  CENTRAL PROCESSING UNIT FFSTESA1
   5)  FILE NAME FFST.FFSTESA1.FFSTV1R2.DMP00002
   6)  UNIT MVSST2

APPLICATION PROGRAM TEXT:
    INCORROUT    569504401 EPWIVP


ENTER A TO VIEW ACTION DISPLAY

???
CMD==>
```

Note: The preceding screen contains an MVS example.
For VM, number 4, CENTRAL PROCESSING UNIT, would be FFST/GCS.*sysname*.FFSTV1R2.DMP, where *sysname* is the name of the user's system.
Also, for number 6, UNIT would appear, but MVSST2 would not.

Figure 3-26 (Part 2 of 3). NetView Generic Alert Event Detail Screens

```
N E T V I E W          SESSION DOMAIN: CNM01    OPER1     04/27/92 11:09:24
NPDA-43S                       * EVENT DETAIL *                 PAGE  3 OF  3

 CNM01       USIBMMK      FFSTESA1     FFSTV1R2
            +--------+   +--------+
 DOMAIN     |  NTID  |---|  CPU   |---<  PROG  >
            +--------+   +--------+

UNIQUE ALERT IDENTIFIER: PRODUCT ID - 3090       ALERT ID NUMBER - 4FDF449B









ENTER A TO VIEW ACTION DISPLAY

???
CMD==>
```

Figure 3-26 (Part 3 of 3). NetView Generic Alert Event Detail Screens

Figure 3-27 on page 3-31 is an example of the NetView generic alert product set identification screens.

```
N E T V I E W          SESSION DOMAIN: CNM01    OPER1     04/27/92 11:09:32
NPDA-44B                * SENDER HARDWARE PRODUCT ID *           PAGE  1 OF  2

 CNM01       USIBMMK      FFSTESA1     FFSTV1R2
            +--------+   +--------+
 DOMAIN     |  NTID  |---|  CPU   |---<  PROG  >
            +--------+   +--------+

DATE/TIME: 04/27 11:06

PRODUCT CLASSIFICATION         IBM OR NON-IBM HARDWARE (NOT DISTINGUISHED)
MACHINE TYPE                              3090 (PROD-ID)
MACHINE MODEL NUMBER                      N/AV
SERIAL NUMBER
   PLANT OF MANUFACTURE                   N/AV
   SEQUENCE NUMBER                        0070115





 ???
CMD==>
```

Figure 3-27 (Part 1 of 2). NetView Generic Alert Product Set Identification Screens

```
N E T V I E W          SESSION DOMAIN: CNM01    OPER1     04/27/92 11:09:36
NPDA-44B                * SENDER SOFTWARE PRODUCT ID *           PAGE  2 OF  2

 CNM01       USIBMMK      FFSTESA1     FFSTV1R2
            +--------+   +--------+
 DOMAIN     |  NTID  |---|  CPU   |---<  PROG  >
            +--------+   +--------+

DATE/TIME: 04/27 11:06

PRODUCT CLASSIFICATION                    IBM PROGRAMMING

SERVICEABLE COMPONENT IDENTIFIER          569504401
COMPONENT RELEASE LEVEL                   101
SOFTWARE COMMON NAME                      FFST/ESA VERSION 1 RELEASE 2





 ???
CMD==>
```

Figure 3-27 (Part 2 of 2). NetView Generic Alert Product Set Identification Screens

Note: The preceding screen contains an MVS example. For VM, the serviceable component identifier would be 568415800, the component release level would be 120, and the software common name would be FFST/VM Version 1 Release 2.

For more examples of generic alerts, refer to the *NetView Operation Primer* (SC30-3363) or the *NetView Customization Guide* (SC31-6016).

FFST Probe Return Codes

The following table contains the return codes which are returned on Probe Initialization, Probe Statement Execution and Probe Termination.

Figure 3-28. Probe Initialization Return Codes

Hexadecimal Return Code	Explanation
00000000	The request was completed successfully.
00000104	EPWCNTRL INIT requested a conditional wait and FFST is not yet active.
00000110	The FFST subsystem is not defined to MVS.
00000210	The FFST initialization stub module is not linked.
00000310	The FFST interface module is not in an accessible library.
00000410	The product configuration module is not found.
00000710	The DCB specified in the EPWCNTRL INIT macro could not be opened.
00000810	Insufficient storage to allocate a temporary work area.
00000910	The previous attempt to initialize FFST failed. See the console message for more information.
00000B10	The configuration load module was not link edited with the reusable attribute (REUS).
0000150C	The EPWCNTRL INIT function was requested specifying a configuration that indicates SHARED, but another configuration with the same prefix that also indicates SHARED is active.
0000160C	The EPWCNTRL INIT function was requested specifying a configuration that does not match another configuration with the same prefix that is active in the same address space.
0000170C	The EPWCNTRL INIT function failed because the pre-exit was not found on an accessible library.
0000180C	The EPWCNTRL INIT function failed because the post-exit was not found on an accessible library.
0000190C	The EPWCNTRL INIT function failed because the configuration load module was link-edited as re-entrant.
00001A0C	The EPWCNTRL INIT function failed because a DST specified shared storage or page-fixed storage, but the product is not authorized to use these facilities.
00001B0C	The EPWCNTRL INIT function failed because the configuration specified that it be page-fixed, but the product is not authorized to perform this function.
00001C0C	The EPWCNTRL INIT function failed because the configuration is marked shared, but the default DST is not marked shared.
00001D0C	The first byte of a DST does not contain the correct identifier. The load module specified may not actually be a DST.
00001E0C	The EPWCNTRL INIT function failed because a DST is marked shared, but the configuration is not.
00001F0C	The EPWCNTRL INIT function failed because a DST is marked page-fixed, but the configuration is not.
0000200C	The EPWCNTRL INIT function failed because allocation of a temporary area of storage failed.

Figure 3-29. Probe Statement Return Codes	
Return Code	**Explanation**
00000000	The request was completed successfully.
00000204	The probe statement was disabled by the system operator.
00000008	A minor error occurred - See the message log for more information.
0000010C	The probe parameter list contains an incorrect comma.
0000020C	The probe parameter list does not begin with the required asterisk(*).

Figure 3-29 (Page 2 of 2). Probe Statement Return Codes

Return Code	**Explanation**
0000030C	The probe parameter list contains a DST name that is too long.
0000040C	The probe parameter list contains a probe identifier that is too long.
0000050C	The probe statement list contains a flag that is not 4 characters long.
0000060C	The probe parameter list contains a parameter count that is too large.
0000070C	The probe parameter list does not end with the correct characters ('.').
0000080C	Product initialization was not performed or product initialization failed.
0000090C	The system is unable to allocate a work area for FFST.
00000A0C	SETFRR failed.
00000B0C	The DST is not found.
00000C0C	The DST is not Release 2 level.
00000D0C	The DST is marked invalid.
00000E0C	Information for the probe statement is not found in the DST.
00000F0C	The cyclic redundancy check (CRC) failed.
0000100C	The probe identifier describes an entry in the DST that is not a probe entry.
0000110C	The probe statement does not support AR mode.
0000120C	A SDBSTR value is inaccessible.
0000130C	The issuer of the IPROBE macro is in secondary mode.
0000140C	An unexpected abend occurred.
0000210C	CNFGLMOD was used on the probe statement, but the probe statement was not issued in TCB mode.
0000220C	FFST disabled the probe statement because it was issued a specified number of times within a specified time period.
00000510	The FFST subsystem is not active or the FFST virtual machine is not active.
00000610	The FFST entry point value is 0.

Figure 3-30. Probe Termination Return Codes

Return Code	Explanation
00000000	The request was completed successfully.
00000210	The FFST termination stub module is not linked.
00000310	The FFST interface module is not in an accessible library.
00000410	The product configuration module is not found.
00000510	The FFST subsystem is not active or the FFST virtual machine is not active.
00000810	Insufficient storage to allocate a temporary work area.
00000A10	The product's interface to FFST is not initialized.

Appendix A. FFST Messages

This appendix lists in numerical order all the messages that can appear during FFST operation. Along with the actual message text, this appendix provides an explanation for each message, as well as the following information:

System Action
Indicates how the system responds to the condition that generated the message.

Operator Response
Indicates how the system operator should respond to the message.

Programmer Response
Indicates how the programmer should respond to the message.

Suppression Level
Indicates whether or not the message can be suppressed. The suppression level is one of the following values:

DEBUG
The message appears because the DEBUG parameter was included as input for the task that issues the message.

Suppressible (SUP)
The operator can suppress the message by entering a MODIFY command.

Unsuppressible (UNSUP)
The operator cannot suppress the message. FFST issues the message whenever the conditions that generate the message exist.

Blank Suppression
FFST messages that allow blank suppression do not include extra blanks in the message text.

Destination
Indicates where the message is sent or where it can be viewed. The destination can be any of the following locations:

Console
FFST sends the message to the operator's console.

Terminal
FFST sends the message to a user's terminal.

Message log
FFST records the message in the probe message log.

Output data set
EPWDMPFM messages are included in the formatted dump.

An identifier precedes each of the FFST messages in this appendix. This identifier has the following format: EPW*aaxxy* where:

- EPW is the prefix for all FFST messages.
- *aaxx* is a unique 4-digit numeric identifier where:
  - *aa* indicates the process that generated the message:

    00 Preinitialization.

    02 Initialization.

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03 Termination.

04 Probe statement operation.

05 Message log operation.

06 Command processing.

07 Message processing.

10 Customer Information Control System (CICS*) application processing (MVS only).

90 Installation verification program processing.

95 CLIST processing. These messages appear in a dump processed by one of the FFST CLISTs.

99 Debug processing.

– *xx* is a decimal value from 01 to 99.

- *y* indicates the type of message and is one of the following values:

  I Information. The message is for information only. No action is required.

  E Error. The message indicates that an error occurred.

  D Debug. The message appears only when FFST is running in debug mode.

In most FFST messages, the *procname* variable is the procedure name you designate for FFST in your MVS JCL. **BOLD UPPERCASE CHARACTERS** represent the actual text of the message, while *lowercase italic characters* represent the variable information that is different each time the message appears. When FFST issues a message, it replaces these variables with actual information.

Note: Messages EPW0051 through EPW0066 and message EPW0204 apply only to FFST/MVS.

EPW0000E INITIALIZATION FAILED - *reason*

Explanation: The initialization of FFST failed for one of the following reasons:

- TOO MANY PARAMETERS SPECIFIED-More than 3 input parameters were specified with the FFST procedure.
- INVALID LANG PARAMETER SPECIFIED-The specified LANG parameter is invalid. LANG can be only 3 characters long and, when specified, must be the first parameter. If this parameter is not specified, the default value for LANG is ENU.
- INVALID MODE PARAMETER SPECIFIED-The specified MODE parameter is invalid. MODE can either be NORMAL or DEBUG and, when specified, must be the second parameter. If this parameter is not specified, the default value for MODE is NORMAL.
- INVALID PAGE PARAMETER SPECIFIED-The specified PAGE parameter is invalid. PAGE can be any number between 1 and 2000 and, when specified, must be the third parameter. If this parameter is not specified, the default value for PAGE is 200.
- INSUFFICIENT STORAGE FOR IFCVT-Not enough storage was available to allocate the IFCVT control block.
- ESTAE COULD NOT BE ESTABLISHED-The FFST extended specify task abnormal exit routine could not be established.
- MESSAGE PROCESSING FAILURE-FFST message processing could not be established.
- FFST NOT AUTHORIZED-FFST is not an authorized program.

System Action: System processing continues, but no FFST processing can occur.

Operator Response: Give the FFST initialization output to the system programmer.

Programmer Response: The response depends on the reason for the failure:

- TOO MANY PARAMETERS SPECIFIED-Specify up to 3 parameters on the FFST procedure, each separated by a comma.
- INVALID LANG PARAMETER SPECIFIED-Specify the LANG parameter correctly.
- INVALID MODE PARAMETER SPECIFIED-Specify the MODE parameter correctly.
- INVALID PAGE PARAMETER SPECIFIED-Specify the PAGE parameter correctly.
- INSUFFICIENT STORAGE FOR IFCVT-Ensure that the required storage is available for FFST before it is initialized.
- ESTAE COULD NOT BE ESTABLISHED-Determine why an ESTAE could not be established.
- MESSAGE PROCESSING FAILURE-Determine why FFST cannot issue messages.
- FFST NOT AUTHORIZED-Ensure that FFST is in an authorized library and is linked as an authorized program.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0001E COMMAND FAILED - *reason*

Explanation: A MODIFY command failed for the following reason:

- FFST IS NOT ACTIVE-FFST is not running in the FFST virtual machine.

System Action: System processing continues, but no FFST processing can occur.

Operator Response: Start FFST if necessary.

Programmer Response: The response depends on the reason for the failure:

- FFST IS NOT ACTIVE-Issue the FFST START command.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0051I FFSTFFDC: INITIALIZATION COMPLETE

Explanation: Initialization of the FFDC function of FFST is complete.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0052I FFSTFFDC: INITIALIZATION FAILED - CSECT CHECKING OF *modulename* **FAILED**

Explanation: Initialization of the FFDC function of FFST failed because a required FFDC module was not correct, where *modulename* is the FFDC module that failed the initialization check.

System Action: Processing continues.

Operator Response: Give the FFST initialization output to the system programmer.

Programmer Response: Verify that the installation of FFST completed successfully.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0053I FFSTFFDC: INITIALIZATION FAILED - LOAD OF *modulename* **FAILED**

Explanation: Initialization of the FFDC function of FFST failed because a required FFDC module could not be loaded, where *modulename* is the FFDC module that failed the load function.

System Action: Processing continues.

Operator Response: Give the FFST initialization output to the system programmer.

Programmer Response: Determine why the FFDC module could not be found in the FFST data sets.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0054I FFSTFFDC: INITIALIZATION FAILED - *funcname* **PROCESSING FAILURE**

Explanation: Initialization of the FFDC function of FFST failed because a required FFDC function failed to complete initialization, where *funcname* is the FFDC function that failed.

System Action: Processing continues.

Operator Response: Give the FFST initialization output to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0055I FFSTFFDC: FUNCTION *funcname* **NOT AVAILABLE**

Explanation: An FFDC function is not available, where *funcname* is the unavailable FFDC function.

System Action: Processing continues.

Operator Response: Give the FFST initialization output to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0056I FFSTFFDC: TERMINATION COMPLETE

Explanation: Termination of the FFDC function of FFST is complete.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0057I FFSTFFDC: FUNCTION HAS BEEN INVOKED BY FFSTV1R2

Explanation: An FFDC software probe was triggered to gather documentation for a FFST/FFDC problem. Other EPW00xxI messages follow this message.

System Action: Processing continues.

Operator Response: Give the FFST/FFDC documentation to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0058I FFSTFFDC: DUMP CAN BE FOUND IN: *dumpmembername*

Explanation: An FFDC software probe was triggered and a dump was taken, where *dumpmembername* is the associated dump member in the dump data set. This message can be issued when EPW0057I is issued.

System Action: Processing continues.

Operator Response: Give the FFST/FFDC documentation to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0059I FFSTFFDC: ON DATA SET: *dumpdataset*

Explanation: An FFDC software probe was triggered and a dump was taken, where *dumpdataset* is the name of the dump data set that contains the dump members. This message can be issued when EPW0057I is issued.

System Action: Processing continues.

Operator Response: Give the FFST/FFDC documentation to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0060I FFSTFFDC: SOFTWARE PROBE HAS BEEN DISABLED

Explanation: The FFDC function of FFST disabled a software probe because it was triggered more than 10 times. This message can be issued when EPW0057I is issued.

System Action: Processing continues.

Operator Response: Give the FFST/FFDC documentation to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0061I FFSTFFDC: DUMP SERVICES FAILED - RETURN CODE=*retcode*

Explanation: An FFDC software probe was triggered and the dump services function failed, where *retcode* is the return code passed back by the dump services function. This message can be issued when EPW0057I is issued. Figure A-1 provides explanations for the possible *retcode* values.

Figure A-1. Dump Return Codes

Reason Code	Return Code	Explanation
0000	0104	An input/output (I/O) error occurred while FFST was writing the dump. An incomplete dump is available.
0000	0204	FFST successfully wrote the dump, but it could not write the directory index member (FPSIDINO). A dump member called DUMP xxxx may be available.
0000	010C	FFST could not write the dump from the dump services member name to dump data set name DUMP xxxx. No dump is available.
0000	020C	An I/O error occurred while FFST was writing a dump data set. No dump is available.
0000	030C	Not enough storage was available below the 16MB line to allocate a dump work buffer. No dump is available.
0000	040C	FFST could not open the specified dump data set. No dump is available.
0000	050C	No space was available to write the dump on the primary extent, and all 16 extents had been used. No dump is available.

System Action: Processing continues.

Operator Response: Give the FFST/FFDC documentation to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0062I FFSTFFDC: SYMPTOM RECORD SERVICES FAILED - RETURN CODE= *retcode*

Explanation: An FFDC software probe was triggered and the symptom record services function failed, where *retcode* is the return code passed back by the symptom record services function. This message can be issued when EPW0057I is issued. Figure A-2 provides explanations for the possible *retcode* values.

Figure A-2 (Page 1 of 2). Symptom Record Return Codes

Reason Code	Return Code	Explanation
	0000	The symptom record component completed successfully and the symptom record was recorded.
0000		The SYMREC macro service routine successfully completed.
	0004	One or more errors were detected on the SYMREC macro statement. The entire input record was recorded. The symptom record component processed unsuccessfully for the following reason.
0164		The input symptom record was successfully copied. However, an attempt to write section 1 information from the completed symptom record failed. The area was inaccessible to a write request.
	0008	One or more errors were detected on the SYMREC macro statement. A partial symptom record was recorded. The symptom record component processed unsuccessfully for one of the following reasons.
0158		The total length of the input symptom record exceeds the maximum.

Figure A-2 (Page 2 of 2). Symptom Record Return Codes

Reason Code	Return Code	Explanation
015C		Optional segments of the input symptom record were inaccessible. The record includes the accessible entries of the input symptom record.
	000C	A serious error was on the SYMREC macro statement. No symptom record was recorded. The symptom record component processed unsuccessfully for one of the following reasons:
0104		The first 2 bytes of the input symptom record do not contain the SR operand.
0108		The input symptom record does not contain the required entries for section 2.
010C		The input symptom record does not contain the required entries for section 2.1.
0114		The input symptom record does not contain the required entries for section 3.
0128		Portions of the input symptom record were inaccessible to a write request.
012C		Required portions of the input symptom record were inaccessible to a write request.
0134		The input symptom record address is in inaccessible storage.
0144		Program attributes of the job issuing the SYMREC macro are not written using the symptom record component standards.
	0010	A serious error was in the symptom record component. The error is not related to SYMREC macro statement. No symptom record was recorded. The symptom record component processed unsuccessfully for one of the following reasons:
0F04		The LOGREC buffer had space insufficient to accommodate the symptom record.
0F08		The SYMREC macro service routine could not acquire storage for its work area and a copy of the symptom record.
0F0C		A failure occurred while moving the symptom record to the LOGREC buffer.
0F10		The SYMREC macro service routine has a logic error.
0F1C		The installation prevented the unauthorized caller from writing the symptom record to SYS1.LOGREC.
	0014	The symptom record component is not operable.

System Action: Processing continues.

Operator Response: Give the FFST/FFDC documentation to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0063I FFSTFFDC: GENERIC ALERT SERVICES FAILED - RETURN CODE=*retcode*

Explanation: An FFDC software probe was triggered and the generic alert services function failed, where *retcode* is the return code passed back by the generic alert services function. This message can be issued when EPW0057I is issued. Figure A-3 provides explanations for the possible *retcode* values.

Figure A-3 (Page 1 of 2). Generic Alert Return Codes

Reason Code	Return Code	Explanation
0000	0000	An alert was passed to NetView.
0000	0004	The symptom record was found to be invalid.
0000	0008	A cause category of UNDETERMINED was found with other cause categories.
0000	000A	An invalid cause category was found.

Figure A-3 (Page 2 of 2). Generic Alert Return Codes

Reason Code	Return Code	Explanation
0004	000C	The specified receiver is not active. The PPI has received a copy of the NMVT, CP-MSG, or data buffer.
000A	000C	The PPI is available to process user requests.
000C	000C	Connection is delayed.
000E	000C	The receiver program is active.
000F	000C	The receiver program is inactive.
0010	000C	The receiver program is already active.
0012	000C	The receiver ECB is not zero.
0014	000C	The request type is not valid.
0016	000C	The program issuing this request is not executing in primary addressing mode.
0017	000C	The user program is not authorized.
0018	000C	The PPI is not active.
0019	000C	The ASCB address is not correct.
001A	000C	The receiver program is not defined.
001C	000C	User requests are not supported for NetView V1R2 or earlier releases.
001E	000C	No data buffer in the receiver buffer queue.
001F	000C	The receiver buffer is not large enough to receive the incoming data buffer.
0020	000C	No NetView storage is available.
000C	0021	The buffer length is not valid.
0022	000C	The NMVT buffer length exceeds 512 bytes.
0023	000C	The receiver buffer queue is full.
0024	000C	ESTAE recovery cannot be established as requested.
0025	000C	Work area is not on a double word boundary.
0026	000C	Number of connects allowed to PPI for user exceeded.
0027	000C	Number of connects to PPI exceeded.
0028	000C	Invalid SENDER-ID or RECEIVER-ID.
005A	000C	A processing error has occurred.
005F	000C	Data transport error; reason in RPB.
0000	0010	An unrecognized code point type was found.
0000	0014	A symptom string entity of less than 5 or more than 15 characters was found.
0000	0018	Unknown error. The alert was probably not sent.

System Action: Processing continues.

Operator Response: Give the FFST/FFDC documentation to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0064I FFSTFFDC: SYMPTOM STRING FOLLOWS:

Explanation: An FFDC software probe was triggered and the symptom string for that software probe is being displayed. Message EPW0065I follows this message. This message can be issued when EPW0057I is issued.

System Action: Processing continues.

Operator Response: Give the FFST/FFDC documentation to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0065I *symptomstring*

Explanation: An FFDC software probe was triggered and the symptom string for that software probe is being displayed, where *symptomstring* is the symptom string for the software probe. Message EPW0064I precedes this message. This message can be issued when EPW0057I is issued.

System Action: Processing continues.

Operator Response: Give the FFST/FFDC documentation to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0066I FFSTFFDC: END OF MESSAGE GROUP

Explanation: An FFDC software probe was triggered; this is the last message issued for the software probe. This message is issued when EPW0057I is issued.

System Action: Processing continues.

Operator Response: Give the FFST/FFDC documentation to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0201I *procname*: **INITIALIZATION OF FFST IN PROGRESS**

Explanation: FFST initialization is in progress. Additional messages can be issued during the initialization process. When the initialization process is complete, FFST issues a message indicating that the initialization process is finished.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0202I *procname*: **INITIALIZATION OF FFST COMPLETE**

Explanation: FFST initialization is complete. Software probes and commands can now be processed.

System Action: Processing continues.

Operator Response: This message is informational. You can now enter any of the following FFST commands:

```
MODIFY  ACTION=DISABLE
MODIFY ACTION=ENABLE
MODIFY ACTION=CLEAR
MODIFY ACTION=DISPLAY
MODIFY ACTION=CHANGE
MODIFY ACTION=RESET
MODIFY ACTION=HALT
STOP
```

For more information about these commands, see Chapter 2, “Controlling FFST Operation” on page 2-1.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0203E *procname*: **INITIALIZATION OF FFST FAILED -** *reason*

Explanation: FFST initialization failed. The failure occurred for one of the following reasons:

- ALREADY ACTIVE—The system already initialized FFST.
- ANOTHER FFST IS SET AS THE CMS INTERFACE—Another GCS machine has already initialized itself as the FFST machine.
- AUTHNAME COMMAND FAILED—The GCS AUTHNAME command failed.
- INSUFFICIENT STORAGE—The system does not have enough storage to allocate the required control blocks and load the required modules.
- IUCVINI SET COMMAND FAILED—The GCS IUCVINI command failed.
- LOAD FAILED FOR AN FFST MODULE—During initialization, FFST attempted to load one of its modules and the load failed.
- MACHEXIT MACRO FAILED—The GCS MACHEXIT command failed.
- PROCESSING ERROR—An internal processing error occurred in FFST.
- START COMMAND NOT USED TO INVOKE EPWINIT—FFST was not invoked with the MVS START command. The job was submitted or called in some other way.
- SUBSYSTEM NOT FOUND—You did not define FFST as a subsystem of MVS.

System Action: System processing continues, but no FFST processing can occur.

Operator Response: If *reason* is "ALREADY ACTIVE," this message is informational; no action is required. If *reason* is any of the other defined values, give the FFST initialization output to the system programmer.

Programmer Response: The response depends on the reason for the failure:

- ALREADY ACTIVE-None.
- ANOTHER FFST IS SET AS THE CMS INTERFACE-Log off the other FFST machine or do not attempt to bring another FFST up.
- AUTHNAME COMMAND FAILED-Have the system programmer verify that the FFST saved segment exists.
- INSUFFICIENT STORAGE-Ensure that the required storage is available for FFST before it is initialized.

- IUCVINI SET COMMAND FAILED-Have the system programmer verify that the FFST saved segment exists.
- LOAD FAILED FOR AN FFST MODULE-An FFST module could not be found in the FFST load library structure. See message EPW0207I for the module name. Ensure that this module is available during FFST initialization.
- MACHEXIT MACRO FAILED-Have the system programmer verify that the FFST saved segment exists.
- PROCESSING ERROR-The FFST/FFDC process should have been invoked. Gather this documentation and contact the IBM support center.
- START COMMAND NOT USED TO INVOKE EPWINIT-Invoke FFST using the MVS START command.
- SUBSYSTEM NOT FOUND-The FFST/FFDC process should have been invoked. Use this documentation to determine which subsystems have been defined to MVS. Ensure that subsystem FFST is defined. For more information, refer to "System Considerations - MVS" in the FFST program directory.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0204I *procname*: **MVS LEVEL LESS THAN 2.2 - SYMREC NOT SUPPORTED**

Explanation: FFST determined that the level of MVS is lower than Version 2.2. The FFST SYMREC function requires MVS Version 2.2 or newer.

System Action: Processing continues, but the SYMREC function of FFST is not active.

Operator Response: None.

Programmer Response: To use SYMREC, reinstall FFST on an MVS system that is Version 2.2 or newer.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0205I *procname*: **LOAD FAILED FOR** *modulename - reason*

Explanation: During initialization, FFST failed while attempting to load *modulename* for one of the following reasons:

- COMMAND PROCESSING NOT AVAILABLE-The required command processing subtask could not be invoked.
- DUMP SERVICES FUNCTION NOT AVAILABLE-The required dump services subtask could not be invoked.
- SYMREC FUNCTION NOT AVAILABLE-The required symptom record services subtask could not be invoked.
- GENERIC ALERT FUNCTION NOT AVAILABLE-The required generic alert services subtask could not be invoked.
- CHECKPOINT FUNCTION NOT AVAILABLE-The required checkpoint services subtask could not be invoked.
- HARDWARE EVENT MONITOR NOT AVAILABLE-The required hardware event services subtask could not be invoked.

System Action: System processing continues, but FFST initialization terminates.

Operator Response: Report the message and give the FFST initialization output to the system programmer.

Programmer Response: One or more required subtasks could not be loaded. Ensure that the FFST startup procedure correctly identifies the load library structure that contains the FFST modules.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0206I *procname*: **MESSAGE LOG INITIALIZATION FAILED -** *reason*

Explanation: The message logging function for FFST is disabled. During initialization, FFST did not successfully initialize the FFST message log for the following reason:

- UNABLE TO ALLOCATE LOG BUFFER-Not enough storage was available below the 16MB line to allocate the message log buffer.

System Action: FFST initialization continues.

Operator Response: Report the message to the system programmer.

Programmer Response: The response depends on the reason for the failure:

- UNABLE TO ALLOCATE LOG BUFFER-Before the system attempts to initialize FFST, ensure that the required storage is available. After correcting this problem, restart FFST to activate the message logging function.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0207I *procname*: **LOAD FAILED FOR MODULE** *modulename*

Explanation: FFST tried to load module *modulename*, but the module was not found in any FFST load library.

System Action: System processing continues, but FFST processing terminates.

Operator Response: Give the FFST output to the system programmer.

Programmer Response: Message EPW0203E precedes this message. Ensure that module *modulename* is available during FFST initialization.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0208I *procname*: **INVALID WIDTH VALUE IN START MEMBER** *membername*

Explanation: During the processing of FFST startup parameters, the WIDTH parameter in *membername* was found to be invalid. For FFST/VM, the term "START MEMBER *membername*" refers to the file called *membername* FFSTPARM.

System Action: FFST initialization continues, but the WIDTH parameter is ignored.

Operator Response: Give the FFST output to the system programmer.

Programmer Response: Review the WIDTH start parameter in *membername* and ensure that the value specified for WIDTH is not greater than 80.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0209I *procname: cmd*

Explanation: This message appears during FFST initialization when commands are being processed from an FFST startup command list. It displays the command currently being processed.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0210E *procname*: **INVALID SYNTAX IN FFSTPARM START MEMBER** *memname*

Explanation: One or more records in member *memname* in the FFSTPARM data set contains a syntax error. FFST is expecting on of the following on a record:

- A comment, indicated by an asterisk ('*') in column 1
- An indication of the width to be used, indicated by the keyword 'WIDTH='starting in column 1
- An indication of the transition ABEND code parameter list FFSTPARM member name, indicated by the keyword 'TRN='
- An indication of the hardware support parameter list FFSTPARM member name, indicated by the keyword 'HWR='
- A command that can be interpreted exactly as it would appear on an FFST modify command, after the procedure name

System Action: The rest of the record containing the syntax error is ignored, the rest of the member is processed, and FFST initialization continues.

Operator Response: Recycle FFST after the syntax error is corrected.

Programmer Response: Correct the syntax error.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0250I *procname*: **FFST INITIALIZATION FOR** *applname* **COMPLETE**

Explanation: The initialization of *applname* has completed. This application is now ready to use FFST.

System Action: Application initialization continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0251E *procname*: **FFST INITIALIZATION FOR** *applname* **FAILED -** *reason*

Explanation: The initialization of *applname* failed for one of the following reasons:

- ANOTHER SHARED CONFIGURATION FOUND-The 3-character prefix for *applname* matches another configuration that is marked SHARED, but these configurations do not match.
- UNMATCHING CONFIGURATION USED-The 3-character prefix for *applname* matches another configuration but does not match the configuration being initialized.
- ALLOCATE FAILED FOR WORK AREA-The system does not have enough storage to allocate the requested number of FFST work areas.
- LOAD FAILED FOR PRE-EXIT-The load for the *applname* pre-exit failed.
- LOAD FAILED FOR POST-EXIT-The load for the *applname* post-exit failed.
- CONFIGURATION IS LINK-EDITED AS REENTRANT-The configuration for *applname* has been link edited with the REENTRANT attribute.
- NOT AUTHORIZED TO USE SHARED OR FIXED STORAGE-*applname* is not executing in an authorized mode, but the DST requests a load of this table into the system's common storage area or fixed storage.
- NOT AUTHORIZED TO PAGE-FIX CONFIGURATION-*applname* is not executing in an authorized mode, but the configuration requests a load into fixed storage.
- FRR SETUP FAILED-FFST could not establish a functional recovery routine (FRR).
- LOAD FAILED FOR DST *dstname*-The load for DST *dstname* failed.
- GETMAIN FAILED FOR DST *dstname*-The system does not have enough storage to allocate space for DST *dstname*.
- CONFIGURATION NOT SHARED, UNLIKE DST *dstname*-DST *dstname* is marked SHARED, but the configuration is marked NOT SHARED.
- CONFIGURATION PAGEABLE, UNLIKE DST *dstname*-DST dstname is marked FIXED, but the configuration is marked PAGEABLE.
- CONFIGURATION SHARED, UNLIKE DEFAULT DST-The product's configuration indicates that it is going to be used in a shared environment, so the default DST must also be used in a shared environment. However, the default DST does not indicate this option.
- INCORRECT IDENTIFIER FOUND IN DST-The referenced DST does not begin with the correct identifier for a DST.

System Action: System processing continues, but the initialization of *applname* to FFST fails.

Operator Response: Give the FFST output to the system programmer.

Programmer Response: The response depends on the reason for the failure:

- ANOTHER SHARED CONFIGURATION FOUND-Gather the required documentation and contact the IBM support center for *applname*.
- UNMATCHING CONFIGURATION USED-Gather the required documentation and contact the IBM support center for *applname*.
- ALLOCATE FAILED FOR WORK AREA-Ensure that sufficient storage is available to execute *applname*. If you cannot correct the problem, gather the required documentation and contact the IBM support center for *applname*.
- LOAD FAILED FOR PRE-EXIT-Ensure that all load libraries are available for *applname*. If you cannot correct the problem, gather the required documentation and contact the IBM support center for *applname*.
- LOAD FAILED FOR POST-EXIT-Ensure that all load libraries are available for *applname*. If you cannot correct the problem, gather the required documentation and contact the IBM support center for *applname*.
- CONFIGURATION IS LINK-EDITED AS REENTRANT-Gather the required documentation and contact the IBM support center for *applname*.

- NOT AUTHORIZED TO USE SHARED OR FIXED STORAGE-Gather the required documentation and contact the IBM support center for *applname*.
- NOT AUTHORIZED TO PAGE-FIX CONFIGURATION-Gather the required documentation and contact the IBM support center for *applname*.
- FRR SETUP FAILED-Gather the required documentation and contact the IBM support center for FFST.
- LOAD FAILED FOR DST *dstname*-Ensure that all load libraries are available for *applname*. If you cannot correct the problem, gather the required documentation and contact the IBM support center for *applname*.
- GETMAIN FAILED FOR DST *dstname*-Gather the required documentation and contact the IBM support center for *applname*.
- CONFIGURATION NOT SHARED, UNLIKE DST *dstname*-Gather the required documentation and contact the IBM support center for *applname*.
- CONFIGURATION PAGEABLE, UNLIKE DST *dstname*-Gather the required documentation and contact the IBM support center for *applname*.
- CONFIGURATION SHARED, UNLIKE DEFAULT DST-Gather the required documentation and contact the IBM support center for *applname*.
- INCORRECT IDENTIFIER FOUND IN DST-Gather the required documentation and contact the IBM support center for *applname*.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0253I *procname*: **DST** *dstname* **FOR** *applname* **MARKED INVALID -** *reason*

Explanation: After the DST *dstname* for application *applname* was loaded, it was marked invalid for one of the following reasons:

- VALIDITY CHECK FAILED FOR DST-The validity checking algorithm found an invalid value when validating the entire DST.
- VALIDITY CHECK FAILED FOR ENTRY *entryname*-The validity checking algorithm found an invalid value for entry *entryname*.
- LOAD FAILED FOR EXIT *exitname*-Exit *exitname* could not be loaded because it was not found in an available library. If DST *dstname* is marked shared, the exit was not found in an LPALST library (MVS) or a shared segment (VM).

System Action: System processing and the initialization of *applname* to FFST continue.

Operator Response: Give this message to the system programmer.

Programmer Response: If the reason is LOAD FAILED FOR EXIT *exitname*, check that the installation of *applname* was correct. If necessary, gather the required documentation and contact the IBM support center for *applname*.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0254I *procname*: **name BEING CHANGED FROM** *oldname* **TO** *newname*

Explanation: During the initialization of an application, existing information was changed to match the information from the configuration, where name is either APPLICATION NAME, VENDOR NAME, or PRODUCT LONG NAME, *newname* is the new name of the application or vendor, and *oldname* is the old name of the application or vendor.

System Action: System processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0270I *procname*: **ENF LISTEN REQUEST FAILED -** *reason*

Explanation: The FFST transition code issued an ENFREQ macro with the LISTEN option, but it failed for one of the following reasons:

- DUPLICATE LISTEN REQUEST-Another listen request had been issued from the same place in FFST code.
- ENFDS TABLE IS FULL-The table that contains the information for the listen has no more room to satisfy the request.
- ENF MODULE ERROR-An event notification facility (ENF) module failed. Look for another message to explain this failure.
- ENF NOT INITIALIZED-The ENF function is not available to process the listen request.
- STORAGE NOT AVAILABLE-Not enough temporary storage is available to process the listen request.

System Action: FFST initialization continues.

Operator Response: Report the message to the system programmer.

Programmer Response: If the reason is DUPLICATE LISTEN REQUEST, report the problem to FFST support. Otherwise, contact MVS support.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0271I *procname*: **EPWCNTRL INIT FAILED -** *reason*

Explanation: The FFST transition code issued an EPWCNTRL macro with the INIT option, but it failed for one of the following reasons:

- THE FFST INTERFACE MODULE IS NOT IN AN ACCESSIBLE LIBRARY-Module EPWPINIT should be in linklist, but is not found.
- MODULE EPWTRNCF COULD NOT BE FOUND-The configuration module for the transition code, EPWTRNCF, was not found in the load library.
- INSUFFICIENT STORAGE TO ALLOCATE A TEMPORARY WORK AREA-Not enough storage is available to process the request.
- EPWCNTRL INIT FAILED PREVIOUSLY-A previous INIT request was issued and failed. Look for a previous FFST message describing the failure.

System Action: FFST initialization continues.

Operator Response: Report the message to the system programmer.

Programmer Response: If the reason is THE FFST INTERFACE MODULE IS NOT IN AN ACCESSIBLE LIBRARY or MODULE EPWTRNCF COULD NOT BE FOUND, check to see that the installation of FFST was successful. Otherwise, contact FFST support.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0301I *procname*: **TERMINATION OF FFST IN PROGRESS**

Explanation: FFST termination is in progress. Termination started for any of the following reasons:

- The operator entered the MODIFY ACTION=HALT command.
- The operator entered the STOP command.
- FFST detected an unrecoverable error.

System Action: FFST termination continues.

Operator Response: If the message is the result of a MODIFY ACTION=HALT command or a STOP command, the operator does not need to respond. If an abnormal termination occurs, use prior messages to determine the cause.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0302I *procname*: **TERMINATION OF FFST COMPLETE**

Explanation: FFST termination is complete. Termination occurred either as a result of an unrecoverable error or because an operator entered a MODIFY ACTION=HALT or STOP command.

System Action: System processing continues, but no further FFST processing occurs.

Operator Response: The operator does not need to respond unless FFST needs to be restarted. To restart FFST, follow the normal startup procedure.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0303E *procname*: **TERMINATION OF FFST FAILED - PROCESSING ERROR**

Explanation: FFST termination failed because of an internal processing error.

System Action: System processing continues. The operator may need to flush FFST from the system.

Operator Response: Give the FFST termination output to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0304E *procname*: **ABEND** *abendcode* **IN MODULE** *modulename* **AT OFFSET** *displacement*

Explanation: An abend occurred in an FFST module, where:

- *abendcode* is the abend code.
- *modulename* is the module where the abend occurred.
- *displacement* is the offset into the abending module.

System Action: System processing continues. FFST may recover from the abend and continue processing. If FFST does not recover, it must be restarted.

Operator Response: Give the FFST output to the system programmer.

Programmer Response: If message EPW0305E does not follow this message, the FFST/FFDC process should have been invoked to provide necessary failure data. Gather this data and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0305E ABEND PSW IS *abendpsw*

Explanation: An abend occurred in an FFST module, where abendpsw is the abend PSW. This message follows message EPW0304E.

System Action: System processing continues. FFST may recover from the abend and continue processing. If FFST does not recover, it must be restarted.

Operator Response: Give the FFST output to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0306E ABEND REGISTERS GR00 THRU GR15 ARE:

Explanation: An abend occurred in an FFST module, and the registers at the time of the abend follow this message. This message follows messages EPW0304E and EPW0305E.

System Action: System processing continues. FFST may recover from the abend and continue processing. If FFST does not recover, then it must be restarted.

Operator Response: Give the FFST output to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0307E GR*reg= value* **GR***reg= value* **GR***reg= value* **GR***reg= value*

Explanation: An abend occurred in an FFST module, where *reg* is a general register number 00 through 15 and value is the hexadecimal value of the general register. This message follows messages EPW0304E, EPW0305E, and EPW0306E.

System Action: System processing continues. FFST may recover from the abend and continue processing. If FFST does not recover, then it must be restarted.

Operator Response: Give the FFST output to the system programmer.

Programmer Response: Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0308I FFST TERMINATION WAITING FOR ABOVE APPLICATIONS TO TERMINATE

Explanation: You issued a MODIFY ACTION=HALT command, and FFST found that the applications listed in message EPW0625I still have an active interface to FFST.

System Action: FFST does not stop running until each of the specified applications terminates its interface to FFST.

Operator Response: If you want FFST to stop running immediately, terminate the specified applications or issue the MODIFY ACTION=HALT command with the QUICK keyword.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0309I ENTER 'YES' TO CONTINUE TERMINATION, OR 'NO' TO KEEP FFST ACTIVE

Explanation: You issued a MODIFY ACTION=HALT,QUICK command or a STOP command, and FFST found that the applications specified in message EPW0625I still have an active interface to FFST.

System Action: If the operator responds "yes," FFST termination continues. If the operator responds "no," FFST continues to run. If the response is neither "yes" or "no," message EPW0702E is issued, and this message is issued again.

Operator Response: Respond "yes" if you want FFST to stop running without waiting for the specified applications to terminate their interface to FFST. Respond "no" if you do not want to terminate FFST at this time.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0350I FFST TERMINATION FOR *applname* COMPLETE

Explanation: Application *applname* terminated its interface to FFST.

System Action: If the following conditions are true, FFST termination begins:

- Before beginning its own termination, FFST is waiting for applications to terminate their interfaces to FFST.
- Application *applname* is the last application with an active interface to FFST.

Otherwise, no action is taken.

Operator Response: None

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0370I *procname*: **ENF DELETE REQUEST FAILED -** *reason*

Explanation: The FFST transition code issued an ENFREQ macro with the DELETE option, but it failed for one of the following reasons:

- ENFDS TABLE IS FULL-The table that contains the information for the delete has no more room to satisfy the request.
- ENF MODULE ERROR-An ENF module failed. Look for another message to explain this failure.
- ENF NOT INITIALIZED-The ENF function is not available to process the delete request.
- STORAGE NOT AVAILABLE-Not enough temporary storage is available to process the delete request.
- INVALID TOKEN USED-The ENFREQ macro was issued specifying a token that was invalid.

System Action: FFST termination continues.

Operator Response: Report the message to the system programmer.

Programmer Response: If the reason is INVALID TOKEN USED, report the problem to FFST support. Otherwise, contact MVS support.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0371I *procname*: **EPWCNTRL TERM FAILED -** *reason*

Explanation: The FFST transition code issued an EPWCNTRL macro with the TERM option, but it failed with one of the following reasons:

- THE FFST INTERFACE MODULE IS NOT IN AN ACCESSIBLE LIBRARY-Module EPWPTERM should be in linklist, but is not found.
- MODULE EPWTRNCF COULD NOT BE FOUND-The configuration module for the transition code, EPWTRNCF, was not found in the load library.
- INSUFFICIENT STORAGE TO ALLOCATE A TEMPORARY WORK AREA-Not enough storage is available to process the request.
- INITIALIZATION WAS NOT DONE-The EPWCNTRL INIT was never issued, or it failed when it was issued.

System Action: FFST termination continues.

Operator Response: Report the message to the system programmer.

Programmer Response: If the reason is THE FFST INTERFACE MODULE IS NOT IN AN ACCESSIBLE LIBRARY or MODULE EPWTRNCF COULD NOT BE FOUND, check to see that the installation of FFST was successful. Otherwise, contact FFST support.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0401I *procname*: **EVENT DETECTION INVOKED BY** *applname* **FOR PROBEID :mvprobeid**

Explanation: Application applname issued a probe statement with an identifier of *probeid*. FFST gathers the requested documentation and may save the information in a dump data set, and/or send the information (via generic alert) to Netview. Messages EPW0402I and EPW0404I should follow this message, unless FFST is suppressing the symptom string messages.

System Action: Processing continues.

Operator Response: Report the message to the programmer responsible for application applname. (Also include the information in messages EPW0402I and EPW0404I.)

Programmer Response: Use the information provided to determine why FFST issued the probe statement.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, message log.

EPW0402I *procname*: **SYMPTOM STRING FOR PROBEID** *probeid* **FOLLOWS:**

Explanation: This message follows message EPW0401I, unless FFST is suppressing the symptom string messages, where *probeid* is the probe identifier associated with the symptom string.

System Action: Processing continues.

Operator Response: Report the message to the programmer responsible for application *applname*. (Also include the information in messages EPW0401I and EPW0404I.)

Programmer Response: Use the information provided to determine the cause of the problem that triggered the software probe.

Suppression Level: SUP.

Blank Suppression: Yes.

Destination: Console, message log.

EPW0403E EVENT DETECTION FAILED - *reason*

Explanation: The processing of a software probe failed for one of the following reasons:

- DUMP SERVICES FAILURE-A dump services request failed. See message EPW0412I for the reason for the failure.
- GENERIC ALERT FAILURE-FFST issued a generic alert request that failed. See message EPW0412I for the reason for the failure.
- SYMREC SERVICES FAILURE-FFST issued a SYMREC macro that failed. See message EPW0412I for the reason for the failure.
- PROCESSING ERROR-An internal processing error occurred in FFST.

System Action: System processing and FFST probe processing continue.

Operator Response: Report the message to the system programmer.

Programmer Response: The response depends on the reason for the failure:

- DUMP SERVICES FAILURE-Use message EPW0412I that follows to determine the cause of the failure.
- GENERIC ALERT FAILURE-Use message EPW0412I that follows to determine the cause of the failure.
- SYMREC SERVICES FAILURE-Use message EPW0412I that follows to determine the cause of the failure.
- PROCESSING ERROR-Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, message log.

EPW0404I *symptomstring*

Explanation: This message follows message EPW0402I and is the symptom string for the probe statement identified by message EPW0402I.

System Action: Processing continues.

Operator Response: Record the symptom string, and give it to the programmer responsible for application *applname* identified in message EPW0401I. (Also include the information in messages EPW0401I and EPW0402I.)

Programmer Response: Use the information provided to determine why the application issued the probe statement.

Suppression Level: SUP.

Blank Suppression: Yes.

Destination: Console, message log.

EPW0405I PROBEID *probeid* **HAS BEEN DISABLED**

Explanation: FFST disabled software probe *probeid* because it was triggered more than a specified number of times during a specified time period. (The default threshold is 10 times in 10 minutes.) FFST disabled this software probe to reduce the performance impact. Until *probeid* is enabled with a MODIFY ACTION=ENABLE command, FFST does not issue any more messages related to the same symptom string in message EPW404I for this software probe.

System Action: Processing continues.

Operator Response: Report the message to the programmer responsible for application *applname* specified in message EPW0401I. (Also include the information in messages EPW0402I and EPW0404I.)

Programmer Response: Use the information provided to determine why the probe statement was issued.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, message log.

EPW0406I DUMP DATASET IS: *datasetname*

Explanation: The *datasetname* variable indicates the name of the data set that contains the customized dump. This variable can be up to 44 characters long. If the data set name is SYS1.DUMP*xx*, check message IEA911E to ensure that a complete dump is available. If only a partial dump was taken, the SYS1.DUMP*xx* data sets may not be large enough to hold a complete system dump.

System Action: Processing continues.

Operator Response: Report the message to the programmer responsible for the application identified in message EPW0401I.

Programmer Response: Use the information provided to locate the dump associated with this event.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, message log.

EPW0407I FOUND ON VOLUME: *volumename*

Explanation: This message is the second in a group of messages beginning with EPW0406I. The *volumename* variable identifies the volume of the data set that contains the customized dump.

System Action: Processing continues.

Operator Response: Report the message to the programmer responsible for the application *applname* in message EPW0401I. (Also include the information in message EPW0406I.)

Programmer Response: Use the information provided to locate the dump associated with this event.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, message log.

EPW0409I *probereasoncode*

Explanation: This message is issued to indicate any nonfailure reason that occurred during probe processing, where *probereasoncode* can be:

- ONLY A PARTIAL DUMP IS AVAILABLE-The dump is incomplete and only a partial dump exists.
- NO DUMP IS AVAILABLE BECAUSE OF A DUMP ERROR-An error occurred during the dump process and no dump is available.
- PAGE OF STORAGE NOT ACCESSIBLE FOR COPYING-A storage area for the dump is not accessible.
- INSUFFICIENT STORAGE TO COPY PAGE OF STORAGE-Not enough storage is available to contain the dump.
- ERROR OCCURRED DURING WRITE TO DUMP DATA SET-An I/O error occurred while FFST was writing the dump.
- ABEND OCCURRED IN PRE-EXIT-An abend occurred during the process of the pre-probe exit.
- PROBE ABSTRACT VALUE WAS TRUNCATED-The software probe abstract is longer than 80 characters and has been truncated.
- SYMPTOM STRING VALUE WAS TRUNCATED-A symptom string value is greater than the maximum and has been truncated.
- GENERIC ALERT TEXT OVERRIDE VALUE WAS TRUNCATED-A generic alert text override value is greater than the maximum and has been truncated.
- ABEND0C4-PROBE ABSTRACT NOT AVAILABLE-An abend occurred while FFST was trying to access the storage that contains the software probe abstract.
- GENERIC ALERT DESCRIPTOR NAME NOT FOUND IN DST-A generic alert description name was not found in the referenced DST.
- GENERIC ALERT CAUSE NAME NOT FOUND IN DST-A generic alert cause name was not found in the referenced DST.
- GENERIC ALERT TRUNCATED-EXCEEDS 512 BYTES-The generic alert is greater than 512 bytes and has been truncated.
- NOT AUTHORIZED TO ACCESS ALTERNATE ASID-The program that issued the software probe is not authorized to access an alternate address space identifier (ASID).
- ALESERV ADD FAILED FOR PASSED DATASPACE TOKEN-The program that issued the software probe has provided incorrect information to access a dataspace.
- ABEND0C4-INVALID POINTER FOUND DURING DATA COLLECTION-An abend occurred while FFST was trying to access storage to be included in the customized dump.
- NOT ENOUGH AVAILABLE SPACE IN THE WORK AREA TO CONTINUE-All available space in the software probe work area has been used.

- DATA STRUCTURE NAME NOT FOUND IN THE DST-A data structure name was not found in the referenced DST.
- ABEND0C4-INVALID POINTER FOUND DURING SYMREC BUILD-An abend occurred while FFST was trying to access storage that contained a value for the symptom string.
- DUMP HAS BEEN SUPPRESSED-A new dump has not been taken for this event.
- LEVELS NOT FOUND IN SYMPTOM STRING-SET TO 999-The LVLS keyword was not found in the symptom string and has been set to a default value of 999.

System Action: System processing and FFST probe processing continue.

Operator Response: Report the message to the programmer responsible for the application *applname* in message EPW0401I.

Programmer Response: The response depends on the reason:

- ONLY A PARTIAL DUMP IS AVAILABLE-Correct the cause for the partial dump. If it is a SDUMP data set, it may be too small to contain a full dump.
- NO DUMP IS AVAILABLE BECAUSE OF A DUMP ERROR-Correct the cause for the I/O error to the dump data set.
- PAGE OF STORAGE NOT ACCESSIBLE FOR COPYING-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- INSUFFICIENT STORAGE TO COPY PAGE OF STORAGE-Report this problem to the IBM support center.
- ERROR OCCURRED DURING WRITE TO DUMP DATA SET-Correct the cause for the I/O error to the dump data set.
- ABEND OCCURRED IN PRE-EXIT-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- PROBE ABSTRACT VALUE WAS TRUNCATED-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- SYMPTOM STRING VALUE WAS TRUNCATED-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- GENERIC ALERT TEXT OVERRIDE VALUE WAS TRUNCATED-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- ABEND0C4-PROBE ABSTRACT NOT AVAILABLE-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- GENERIC ALERT DESCRIPTOR NAME NOT FOUND IN DST-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- GENERIC ALERT CAUSE NAME NOT FOUND IN DST-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- GENERIC ALERT TRUNCATED-EXCEEDS 512 BYTES-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- NOT AUTHORIZED TO ACCESS ALTERNATE ASID-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- ALESERV ADD FAILED FOR PASSED DATASPACE TOKEN-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- ABEND0C4-INVALID POINTER FOUND DURING DATA COLLECTION-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- NOT ENOUGH AVAILABLE SPACE IN THE WORK AREA TO CONTINUE-Report this problem to the IBM support center.
- DATA STRUCTURE NAME NOT FOUND IN THE DST-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.

- ABEND0C4-INVALID POINTER FOUND DURING SYMREC BUILD-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- DUMP HAS BEEN SUPPRESSED-This is not a problem. Duplicate dump suppression has caused the dump to be suppressed.
- LEVELS NOT FOUND IN SYMPTOM STRING-SET TO 999-This is not a problem. LVLS has been set to a default value.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, message log.

EPW0412I *epw0403ereason*

Explanation: Message EPW0403E has been issued to indicate that an FFST function has failed. This message will identify the reason for the failure, where *epw0403ereason* can be:

- DYNAMIC ALLOCATION RETURN CODE = *retcode* - Dynamic allocation of a dump data set failed, and *retcode* is the return code.
- DYNAMIC UNALLOCATION RETURN CODE = *retcode* - Dynamic unallocation of a dump data set failed, and *retcode* is the return code.
- SMS DYNAMIC ALLOCATION FAILURE (97XX), REASON CODE = *retcode* - Dynamic allocation of a dump data set failed, and *retcode* is the SMS reason code.
- NO DUMP INDEX NUMBER AVAILABLE.- No dump numbers are available.
- FAILURE TO OPEN DYNAMICALLY ALLOCATED DUMP DATA SET-FFST is not able to open the dynamically allocated dump data set.
- SDUMP SUPPRESSED-ANOTHER SDUMP IN PROGRESS-An SVC dump was suppressed because the capture phase of another SVC dump was in progress.
- SDUMP SUPPRESSED-REQUESTED BY INSTALLATION-An SVC dump was suppressed by a request by the installation (for example, DUMP=NO at IPL or CHNGDUMP SET,NODUMP).
- SDUMP SUPPRESSED-SLIP NODUMP COMMAND-An SVC dump was suppressed by a SLIP NODUMP command.
- SDUMP SUPPRESSED-SYS1.DUMP DATA SET NOT AVAILABLE-An SVC dump was suppressed because a SYS1.DUMP data set was not available.
- SDUMP SUPPRESSED BY MVS DAE-An SVC dump was suppressed by MVS DAE processing.
- SDUMP FAILURE-PROGRAM NOT AUTHORIZED-An SVC dump failed because the application program was not authorized.
- NetView RECEIVER IS NOT ACTIVE-The specified NetView alert receiver is not active.
- NetView IS AVAILABLE TO PROCESS USER REQUESTS-NetView is now available to process generic alert requests.
- NetView RECEIVER PROGRAM IS ACTIVE-The specified NetView alert receiver program is active.
- NetView RECEIVER PROGRAM IS INACTIVE-The specified NetView alert receiver program is inactive.
- NetView RECEIVER PROGRAM IS ALREADY ACTIVE-The specified NetView alert receiver program is already active.
- NetView RECEIVER ECB IS NOT ZERO-The specified NetView alert receiver event control block (ECB) is not zero.
- INVALID REQUEST TYPE-Invalid NetView alert receiver request type.
- PROGRAM NOT EXECUTING IN PRIMARY ADDRESSING MODE-The program issuing the generic alert is not executing in primary addressing mode.
- USER PROGRAM IS NOT AUTHORIZED-The program issuing the generic alert is not running in authorized mode.

- NetView SUBSYSTEM IS NOT ACTIVE-The NetView generic alert subsystem is not active.
- ASCB ADDRESS IS NOT CORRECT-The specified ASCB address is not correct.
- RECEIVER PROGRAM IS NOT DEFINED-The specified NetView receiver program is not defined.
- NetView RELEASE DOES NOT SUPPORT USER REQUEST-The specified NetView release does not support the generic alert request.
- NO DATA BUFFER IN THE RECEIVER BUFFER QUEUE-No available buffer in the receiver buffer queue.
- RECEIVER BUFFER SIZE TOO SMALL FOR INCOMING DATA-The specified NetView receiver buffer size is too small for the incoming data.
- NO NetView STORAGE IS AVAILABLE-No available storage in NetView for the generic alert.
- INVALID BUFFER LENGTH-The network management vector transport (NMVT) buffer length is invalid.
- NMVT BUFFER LENGTH EXCEEDS 512 BYTES-The NMVT buffer length is greater than 512 bytes.
- RECEIVER BUFFER QUEUE IS FULL-The specified NetView receiver buffer queue is full.
- ESTAE RECOVERY CANNOT BE ESTABLISHED-An ESTAE recovery cannot be established as requested.
- INVALID SENDER-ID OR RECEIVER-ID-The NMVT buffer contains an invalid send or receiver identification.
- NetView PROCESSING ERROR-A NetView processing error occurred.
- DELIMITER NOT FOUND BETWEEN SDB KEYWORDS-No blank delimiter was found between the structure database keywords.
- WRITE OF SECTION 1 FAILED-The input symptom record was successfully copied. However, an attempt to write section 1 information from the complete symptom record failed. The area was found nonaccessible to a write request.
- SYMPTOM RECORD EXCEEDS MAXIMUM LENGTH-The total length of the input symptom record exceeds the maximum.
- OPTIONAL SYMPTOM RECORD SEGMENTS INACCESSIBLE-Optional segments of the input symptom record were found nonaccessible. The record includes the accessible entries of the input symptom record.
- SR NOT IN THE FIRST 2 BYTES OF SYMPTOM RECORD-The first 2 bytes of the input symptom record do not contain the SR operand.
- INCOMPLETE SECTION 2 OF THE SYMPTOM RECORD-The input symptom record does not contain the required entries for section 2.
- INCOMPLETE SECTION 2.1 OF THE SYMPTOM RECORD-The input symptom record does not contain the required entries for section 2.1.
- INCOMPLETE SECTION 3 OF THE SYMPTOM RECORD-The input symptom record does not contain the required entries for section 3.
- SYMPTOM RECORD SEGMENTS INACCESSIBLE-Portions of the input symptom record were found nonaccessible to a write request.
- SYMPTOM RECORD REQUIRED SEGMENTS INACCESSIBLE-Required portions of the input symptom record were found nonaccessible to a write request.
- SYMPTOM RECORD IN INACCESSIBLE STORAGE-The input symptom record is in nonaccessible storage.
- PROGRAM NOT AUTHORIZED TO ISSUE SYMREC MACRO-The program issuing the SYMREC macro is not authorized.
- INSUFFICIENT SPACE IN LOGREC BUFFER-Space in the LOGREC buffer is insufficient to accommodate the symptom record.

- INSTALLATION PREVENTED UNAUTHORIZED USE OF SYMREC-The installation prevented the unauthorized caller from writing the symptom record to SYS1.LOGREC.
- INSUFFICIENT STORAGE FOR SYMREC SERVICES-The SYMREC macro service routine could not acquire storage for its work area and for a copy of the symptom record.
- MOVE OF SYMPTOM RECORD TO LOGREC FAILED-Failure occurred while moving the symptom record to the LOGREC buffer.
- LOGIC ERROR IN SYMREC MACRO SERVICES-The SYMREC macro service routine has a logic error.
- SYMPTOM RECORD COMPONENT NOT OPERABLE-The symptom record component is not operable.

System Action: System processing and FFST probe processing continue.

Operator Response: Report the message to the programmer responsible for the application *applname* in message EPW0401I.

Programmer Response: The response depends on the reason:

- DYNAMIC ALLOCATION RETURN CODE = *retcode* - Report this problem to the IBM support center.
- DYNAMIC UNALLOCATION RETURN CODE = *retcode* - Report this problem to the IBM support center.
- SMS DYNAMIC ALLOCATION FAILURE (97XX), REASON CODE = *retcode* - Report this problem to your MVS system programmer.
- NO DUMP INDEX NUMBER AVAILABLE.- Report this problem to your MVS system programmer. Any previous dumps that are no longer needed should be deleted.
- FAILURE TO OPEN DYNAMICALLY ALLOCATED DUMP DATA SET- Report this problem to the IBM support center.
- SDUMP SUPPRESSED-ANOTHER SDUMP IN PROGRESS-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- SDUMP SUPPRESSED-REQUESTED BY INSTALLATION-If an SVC dump is desired, change the IPL start parameter or issue a CHNGDUMP command to allow dumps.
- SDUMP SUPPRESSED-SLIP NODUMP COMMAND-If an SVC dump is desired, issue a command to reset the SLIP NODUMP command.
- SDUMP SUPPRESSED-SYS1.DUMP DATASET NOT AVAILABLE-If an SVC dump is desired, clear out a SYS1.DUMP data set.
- SDUMP SUPPRESSED BY MVS DAE-If an SVC dump is desired, report this problem to your MVS system programmer.
- SDUMP FAILURE-PROGRAM NOT AUTHORIZED-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- NetView RECEIVER IS NOT ACTIVE-The specified NetView alert receiver is not active.
- NetView IS AVAILABLE TO PROCESS USER REQUESTS-None.
- NetView RECEIVER PROGRAM IS ACTIVE-None.
- NetView RECEIVER PROGRAM IS INACTIVE-Activate the NetView alert receiver program.
- NetView RECEIVER PROGRAM IS ALREADY ACTIVE-None.
- NetView RECEIVER ECB IS NOT ZERO-Report this problem to the IBM support center.
- INVALID REQUEST TYPE-Report this problem to the IBM support center.
- PROGRAM NOT EXECUTING IN PRIMARY ADDRESSING MODE-Report this problem to the IBM support center.
- USER PROGRAM IS NOT AUTHORIZED-Report this problem to the IBM support center.
- NetView SUBSYSTEM IS NOT ACTIVE-Verify that the NetView subsystem has been started.
- ASCB ADDRESS IS NOT CORRECT-Report this problem to the IBM support center.

- RECEIVER PROGRAM IS NOT DEFINED-Verify that the NetView receiver program has been defined to NetView.
- NetView RELEASE DOES NOT SUPPORT USER REQUEST-Report this problem to the IBM support center.
- NO DATA BUFFER IN THE RECEIVER BUFFER QUEUE-Report this problem to the IBM support center.
- RECEIVER BUFFER SIZE TOO SMALL FOR INCOMING DATA-Report this problem to the IBM support center.
- NO NetView STORAGE IS AVAILABLE-Report this problem to the IBM support center.
- INVALID BUFFER LENGTH-Report this problem to the IBM support center.
- NMVT BUFFER LENGTH EXCEEDS 512 BYTES-Report this problem to the IBM support center.
- RECEIVER BUFFER QUEUE IS FULL-Report this problem to the IBM support center.
- ESTAE RECOVERY CANNOT BE ESTABLISHED-Report this problem to the IBM support center.
- INVALID SENDER-ID OR RECEIVER-ID-Report this problem to the IBM support center.
- NetView PROCESSING ERROR-Report this problem to the IBM support center.
- DELIMITER NOT FOUND BETWEEN SDB KEYWORDS-Report this problem to the IBM support center.
- WRITE OF SECTION 1 FAILED-Report this problem to the IBM support center.
- SYMPTOM RECORD EXCEEDS MAXIMUM LENGTH-Report this problem to the IBM support center.
- OPTIONAL SYMPTOM RECORD SEGMENTS INACCESSIBLE-Report this problem to the IBM support center.
- SR NOT IN THE FIRST 2 BYTES OF SYMPTOM RECORD-Report this problem to the IBM support center.
- INCOMPLETE SECTION 2 OF THE SYMPTOM RECORD-Report this problem to the IBM support center.
- INCOMPLETE SECTION 2.1 OF THE SYMPTOM RECORD-Report this problem to the IBM support center.
- INCOMPLETE SECTION 3 OF THE SYMPTOM RECORD-Report this problem to the IBM support center.
- SYMPTOM RECORD SEGMENTS INACCESSIBLE-Report this problem to the IBM support center.
- SYMPTOM RECORD REQUIRED SEGMENTS INACCESSIBLE-Report this problem to the IBM support center.
- SYMPTOM RECORD IN INACCESSIBLE STORAGE-Report this problem to the IBM support center.
- PROGRAM NOT AUTHORIZED TO ISSUE SYMREC MACRO-Report this problem to the IBM support center.
- INSUFFICIENT SPACE IN LOGREC BUFFER-Report this problem to the IBM support center.
- INSTALLATION PREVENTED UNAUTHORIZED USE OF SYMREC-Report this problem to your MVS system programmer.
- INSUFFICIENT STORAGE FOR SYMREC SERVICES-Report this problem to the IBM support center.
- MOVE OF SYMPTOM RECORD TO LOGREC FAILED-Report this problem to the IBM support center.
- LOGIC ERROR IN SYMREC MACRO SERVICES-Report this problem to the IBM support center.
- SYMPTOM RECORD COMPONENT NOT OPERABLE-Report this problem to your MVS system programmer.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, message log.

EPW0413I *procname*: **PROBEID probeid FAILED -** *reason*

Explanation: The software probe with the probe identifier *probeid* failed for one of the following reasons:

- INVALID PARAMETERS-MORE THAN 25 CHARACTERS-More than 25 characters were found in the first parameter passed by the software probe.
- INVALID PARAMETERS-FIRST CHARACTER NOT *-The first character of the first parameter passed by the software probe does not contain an asterisk.
- INVALID PARAMETERS-DST NAME LONGER THAN 8-The DST name passed by the software probe was more than 8 characters long.
- INVALID PARAMETERS-PROBEID LONGER THAN 8-The probe identifier passed by the software probe was more than 8 characters long.
- INVALID PARAMETERS-COMMA DOES NOT FOLLOW FLAGS-A comma does not follow the flags passed by the software probe.
- INVALID PARAMETERS-COUNT LONGER THAN 3-More than 3 input parameter were passed by the software probe.
- INVALID PARAMETERS-CRC VALUE LONGER THAN 7-The CRC value passed by the software probe was more than 7 characters long.
- FFST INITIALIZATION OF PRODUCT NOT COMPLETE-The initialization of the product issuing the software probe has not completed.
- NO WORK AREA AVAILABLE-No FFST work areas are available to process the software probe.
- SETFRR FAILED-FFST was not able to establish an FRR recovery routine.
- ESTAE FAILED-FFST could not run its abnormal exit routine.
- SPECIFIED DST NOT FOUND-The DST specified by the software probe could not be found in the available libraries.
- SPECIFIED DST INCOMPATIBLE WITH PRESENT RELEASE-The DST specified by the software probe is not compatible with the current release of FFST.
- INVALID DST SPECIFIED-The DST specified by the software probe is invalid.
- PROBE ENTRY NOT FOUND IN SPECIFIED DST-The software probe entry could not be found in the DST specified by the software probe.
- PROBE INCOMPATIBLE WITH ENTRY IN DST-The software probe entry is not compatible with the entry in the DST specified by the software probe.
- ENTRY IN SPECIFIED DST IS NOT A PROBE-The software probe entry in the DST specified by the software probe is not a software probe entry.
- PROBE DOES NOT MATCH AR MODE OF PROBE IN DST-The access Register (AR) mode of the software probe entry of the DST specified by the software probe, does not match the AR mode of the issuing software probe.
- PROBE SDBSTR VALUE IS INVALID-The SDBSTR value specified by the software probe is invalid.
- PROBE ISSUER IN SECONDARY MODE-The software probe is being issued while running in secondary mode.
- PROBE DISABLED - INVOKED TOO MANY TIMES-The symptom string for the probe has been seen by FFST more often than the threshold value allows. Therefore, FFST disabled this probe so no outputs will be generated for it.
- UNEXPECTED ABEND OCCURRED-An unexpected abend occurred while processing a software probe.

System Action: System processing continues and FFST probe processing continues.

Operator Response: Report the message to the programmer responsible for the application *applname* in message EPW0401I.

Programmer Response: The response depends on the reason:

- INVALID PARAMETERS-MORE THAN 25 CHARACTERS-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- INVALID PARAMETERS-FIRST CHARACTER NOT *-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- INVALID PARAMETERS-DST NAME LONGER THAN 8-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- INVALID PARAMETERS-PROBEID LONGER THAN 8-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- INVALID PARAMETERS-COMMA DOES NOT FOLLOW FLAGS-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- INVALID PARAMETERS-COUNT LONGER THAN 3-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- INVALID PARAMETERS-CRC VALUE LONGER THAN 7-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- FFST INITIALIZATION OF PRODUCT NOT COMPLETE-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- NO WORK AREA AVAILABLE-Report this problem to the IBM support center.
- SETFRR FAILED-Report this problem to the IBM support center.
- ESTAE FAILED-Determine why FFST could not run the ESTAE.
- SPECIFIED DST NOT FOUND-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- SPECIFIED DST INCOMPATIBLE WITH PRESENT RELEASE-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- INVALID DST SPECIFIED-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- PROBE ENTRY NOT FOUND IN SPECIFIED DST-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- PROBE INCOMPATIBLE WITH ENTRY IN DST-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- ENTRY IN SPECIFIED DST IS NOT A PROBE-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- PROBE DOES NOT MATCH AR MODE OF PROBE IN DST-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- PROBE SDBSTR VALUE IS INVALID-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- PROBE ISSUER IN SECONDARY MODE-Report this problem to the support organization responsible for the application *applname* in message EPW0401I.
- PROBE DISABLED - INVOKED TOO MANY TIMES-Report this problem to the IBM support center.
- UNEXPECTED ABEND OCCURRED-Report this problem to the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, message log.

EPW0414I PROBEID *probeid* **FOR** *applname* **HAS BEEN ISSUED**

Explanation: The software probe with the probe identifier *probeid* has been issued for application *applname*. This message is issued only for a FFST/VM GCS application. It is issued to the virtual machine which is running.

System Action: System processing continues and probe processing continues.

Operator Response: Refer to the FFST console or FFST probe message log to determine the results.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Product's GCS Console

EPW0501I *procname*: **MESSAGE LOG TEMPORARILY DISABLED -** *reason*

Explanation: FFST temporarily disabled the message log for one of the following reasons:

- GETMAIN FAILED FOR LOG CONTROL BLOCK-FFST attempted to allocate storage for a control block to handle the probe message logs, which failed.
- NO DATA SETS CAN BE USED-DD name FFSTLOG1 was not defined.
- UNEXPECTED ABEND OCCURRED-An unexpected abend occurred during message log processing. After determining and correcting the problem, the operator can enable the log with the MODIFY LOG command.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: The response depends on the reason for the failure:

- I/O ERROR OCCURRED-Correct the problem that caused the I/O error. When the problem is corrected, the operator can enable the message log with the MODIFY LOG command.
- MESSAGE LOG IS FULL-Either copy the message log to another data set or print the message log. After the log is copied or printed, the operator can enable and clear the message log with the MODIFY LOG,CLEAR command.
- OPEN FAILED FOR *ddname* -Correct the problem that caused the failure. When the problem is corrected, the operator can enable the message log with the MODIFY LOG command.
- BLOCKSIZE NOT A MULTIPLE OF 80-Correct the problem that caused the failure. When the problem is corrected, the operator can enable the message log with the MODIFY LOG command.
- UNEXPECTED ABEND OCCURRED-Report this problem to the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0502I *procname*: **CHECKPOINT FUNCTION UNAVAILABLE -** *reason*

Explanation: *reason* may be:

- OPEN DCB FAILED-During checkpoint processing, an open request for the DCB for the checkpoint data set failed.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: The response depends on the reason for the failure:

- OPEN DCB FAILED-Report this problem to the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0503E *procname*: **CHECKPOINT PROCESSING FAILED -** *reason*

Explanation: *reason* may be:

- OPEN DCB FOR OUTPUT FAILED-During checkpoint processing, an open request for output failed for the checkpoint data set.
- ALLOCATION OF WORK BUFFER FAILED-During checkpoint processing, the allocation of a work buffer failed.
- DATA SET FULL-RECOVERY ACTION REQUIRED-The data set is not big enough to hold all the required checkpoint data.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: The response depends on the reason for the failure:

- OPEN DCB FOR OUTPUT FAILED-Report this problem to the IBM support center.
- ALLOCATION OF WORK BUFFER FAILED-Report this problem to the IBM support center.
- DATA SET FULL-RECOVERY ACTION REQUIRED-Delete and reallocate a larger FFST checkpoint data set.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0504I *procname*: **FFSTPARM MEMBER** *memname* **READ SUCCESSFULLY**

Explanation: FFST read member *memname* from the FFSTPARM data set successfully. This message is issued to confirm that the member read is the one that is desired.

System Action: System processing continues, and member *memname* is interpreted.

Operator Response: None, unless *memname* is not the member that was intended to be used.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0505I *procname*: **FFSTPARM MEMBER** *memname* **NOT FOUND**

Explanation: FFST could not find member *memname* in the FFSTPARM data set. This message may not indicate an error, as there are default names for the members that can be read, and they may be optional.

System Action: Processing continues.

Operator Response: None, unless member *memname* should have been found, or is mis-spelled. In this case, recycle FFST after the system programmer corrects the problem.

Programmer Response: None, unless the member should have been found.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0506E *procname*: **I/O ERROR OCCURRED ATTEPTING TO READ FFSTPARM MEMBER** *memname.*

Explanation: FFST attempted to read member *memname* from the FFSTPARM data set, but an I/O error occurred during the attempt.

System Action: System processing continues, but FFST processing of member *memname* is bypassed.

Operator Response: Recycle FFST after the I/O error has been corrected.

Programmer Response: Correct the I/O error and have the operator recycle FFST.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0507E *procname*: **LOGID** *ddname* **MARKED DISABLED -** *reason*

Explanation: FFST found an error with the message log *ddname*. *reason* may be:

- I/O ERROR OCCURRED-An I/O error other than an out of space condition occurred.
- OPEN FAILED-An OPEN request for *ddname* failed.
- DATA SET HAS INVALID ATTRIBUTES-The data set defined on DD *ddname* is not defined as fixed, logical record length 80, or block size a multiple of 80.

System Action: Processing continues, but FFST will not use the log data set defined on DD *ddname* until the problem is corrected and an ACTION=ENABLE modify command is issued.

Operator Response: Report the message to the system programmer, and issue a modify command with ACTION=ENABLE for *ddname* when the problem has been corrected.

Programmer Response: The response depends on the reason for the failure:

- I/O ERROR OCCURRED-An I/O error other than an out of space condition occurred.
- OPEN FAILED-An OPEN request for *ddname* failed.
- DATA SET HAS INVALID ATTRIBUTES-The data set defined on DD *ddname* is not defined as fixed, logical record length 80, or block size a multiple of 80.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0508I *procname*: **LOGID** *ddname* **FULL - ATTEMPTING NEXT LOG**

Explanation: FFST attempted writing messages to log data set *ddname*, but it encountered an out-of-space condition. Message log processing is switching to the next enabled log data set.

System Action: FFST attempted writing messages to log data set *ddname*, but it encountered an out-of-space condition. Message log processing is switching to the next enabled log data set.

Operator Response: None, unless REUSE is not enabled, and case message EPW0510I will be issued. Also, issue a modify command with ACTION=CLEAR to logid *ddname* if REUSE is not enabled and when the data in the data set is no longer needed.

Programmer Response: If necessary, offload the data in the data set defined on DD *ddname* to a backup data set and request that the operator clear the data set.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0509I *procname*: **NOW USING LOGID** *ddname*

Explanation: FFST is writing messages to the data set defined on DD *ddname*. This message is issued during FFST initialization, after a log switch has taken place, and when a data set is again being used after being suspended.

System Action: FFST begins writing messages to the data set defined on DD *ddname*.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0510I *procname*: **MESSAGE LOG SUSPENDED - REUSE NOT ENABLED, AND LOGID** *ddname* **NOT EMPTY**

Explanation: A message log switch has taken place, and the REUSE function is disabled, but the data set defined on DD *ddname* still contains data and has been cleared.

System Action: FFST message log processing is temporarily suspended, and will resume when logid *ddname* has been cleared.

Operator Response: Issue a modify command with ACTIO=CLEAR for DD *ddname* when the data set can be reused.

Programmer Response: Determine if the data contained in the data set defined on DD *ddname* can be erased. If so, request that the operator clear the message log.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0601I *procname: cm* **COMMAND COMPLETE**

Explanation: FFST completed processing the command *cm*, where *cm* is one of the following commands:

```
DISABLE
ENABLE
CLEAR
DISPLAY
CHANGE
RESET
HALT
```

System Action: Processing continues.

Operator Response: This message is informational. It indicates that FFST completed processing the specified command.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0602I *procname: cm* **COMMAND CANCELLED**

Explanation: The system cancelled the command *cm* because the necessary resources are unavailable. (For example, FFST may not be able to obtain storage for a command control block.)

System Action: The system does not execute the command. Other processing continues.

Operator Response: Wait for the necessary resources to become available and reenter the command. If the message appears again, perform the problem determination action.

Programmer Response: Correct the problem as indicated in the problem determination output.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0603E *procname*: **INVALID PARAMETER** *parm* **ENTERED**

Explanation: FFST does not recognize parameter *parm*. This parameter is not valid on any FFST modify command.

System Action: The system does not execute the command. Other processing continues.

Operator Response: Try the command again with the correct parameter.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0604E *procname*: **REQUIRED PARAMETER** *parm* **MISSING**

Explanation: You did not include the required parameter *parm* in the command you entered.

System Action: The system does not execute the command. Other processing continues.

Operator Response: Try the command again with the required parameter.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0605E *procname*: **CONFLICTING PARAMETERS ENTERED**

Explanation: The command contains conflicting parameters.

System Action: The system does not execute the command. Other processing continues.

Operator Response: Try the command again without the conflicting parameters. For more information about FFST commands, see Chapter 2, “Controlling FFST Operation” on page 2-1.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0606E *procname*: **INVALID VALUE FOR PARAMETER** *parm*

Explanation: The value you used for parameter *parm* was not one of the allowed values for the command you entered.

System Action: The system does not execute the command. Other processing continues.

Operator Response: Try the command again with the correct parameter value.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0607E *procname*: **INVALID SYNTAX -** *reason*

Explanation: You entered a command using incorrect syntax. FFST could not process the command for one of the following reasons:

- MULTIPLE VALUES NOT ALLOWED ON PARAMETER *parm*—Parameter *parm* was entered with a value or values that were enclosed in parentheses. Multiple values are not allowed for this parameter.
- MISSING RIGHT PARENTHESIS—Multiple values were coded for a parameter (as indicated with a left parenthesis), but no matching right parenthesis was found.
- MISSING COMMA—Multiple values were coded for a parameter, but no comma separated the right parenthesis from the next parameter.
- VALUE CODED FOR PARAMETER *parm*—No value is allowed for parameter *parm*, but you coded one.
- MISSING VALUE FOR PARAMETER *parm*—FFST requires that parameter *parm* have a value to be coded with it, but no value was found.

System Action: The system does not execute the command. Other processing continues.

Operator Response: Try the command again using the correct syntax.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0608E *procname*: **MODIFY COMMAND FAILED -** *reason*

Explanation: You entered an FFST MODIFY command that failed for one of the following reasons:

- APPLID OR PROBEID REQUIRED WITH ACTION *action*—You entered a command with ACTION=*action*, but this command requires that either APPLID or PROBEID or both be coded.
- VENDOR REQUIRED IF FASTService NOT INSTALLED—FASTService is not installed, but you did not code the VENDOR parameter. VENDOR implies an FFST product; its absence implies FASTService.
- INVALID PROBEID—You coded the PROBEID parameter, but its value was invalid for one of the following reasons:
  - The value was less than 3 characters.
  - An asterisk (*) was found in an invalid position.
  - There were characters following an asterisk.
- UNKNOWN APPLID - USE "DEFINE" TO DEFINE—You coded the APPLID parameter, but the application was not defined to FFST at the time. If you want to define the application name, use the DEFINE parameter to do so.

- UNKNOWN PROBEID PREFIX—For a command with ACTION=DISPLAY, you coded PROBEID but not APPLID, and the prefix portion of the probe identifier was not known to FFST. If you know which APPLID is associated with this prefix, code APPLID also.
- VENDOR NOT ALLOWED—You entered a command and used the VENDOR parameter, but that parameter is not allowed with APPLID=FFST (for an ACTION of ENABLE, DISABLE, or CLEAR) or APPLID=FASTSERV (for any action).
- PROBEID NOT ALLOWED WITH APPLID=FFST or APPLID=FASTSERV—You entered a command with APPLID=FFST or APPLID=FASTSERV , but also coded PROBEID.
- OPTIONS NOT ALLOWED—You entered a MODIFY command with ACTION=DISPLAY, but also coded OPTIONS.
- DEFINE NOT ALLOWED–You entered a MODIFY command with ACTION=DISPLAY, but also coded DEFINE.
- UNKNOWN APPLID *applid*—You entered a MODIFY command with ACTION=DISPLAY and APPLID=*applid*, but *applid* is not known to FFST.
- UNKNOWN PROBEID *probeid*—You entered a MODIFY command with ACTION=DISPLAY and PROBEID=*probeid*, but FFST could not find any probe identifiers that match *probeid*.
- FASTService NOT INITIALIZED—You entered a MODIFY command with APPLID=FASTSERV or without the VENDOR parameter, but the FASTService product was not initialized.
- LOAD FAILED FOR MODULE *modname*—You specified ACTION=CHANGE and GAEXIT=*modname*, but module *modname* could not be loaded.
- GENERIC ALERT EXIT DOES NOT MATCH CURRENT-*gaexit*—You entered ACTION=RESET and the GAEXIT parameter with a name, but the name does not match the current generic alert exit name, *gaexit*.
- NO GENERIC ALERT EXIT CURRENTLY LOADED—You entered ACTION=RESET and the GAEXIT parameter, but a generic alert exit was not previously loaded.
- NetView RECEIVER ID DOES NOT MATCH CURRENT-*alrcvid*—You entered ACTION=RESET and the ALRCVID parameter with a name, but the name does not match the current NetView receiver identifier, *alrcvid*.
- DUMP VOLUME DOES NOT MATCH CURRENT -*dumpvol*—You entered ACTION=RESET and the DUMPVOL parameter with a name, but the name does not match the current dump volume, *dumpvol*.
- DUMP QUALIFIER DOES NOT MATCH CURRENT-*dumpqual*—You entered ACTION=RESET and the DUMPQUAL parameter with a name, but the name does not match the current qualifier, *dumpqual*.
- COMMAND TOO LONG—The command entered is too long in length.
- LOGID VALUE REQUIRED FOR ACTION=CLEAR—If you wish to clear a log data set, you must specify a log DD name.
- LOGID CANNOT BE REUSE WITH ACTION=CLEAR—The REUSE value may only be used on a modify command that specifies ACTION=ENABLE or ACTION=DISABLE.
- DDNAME NOT FOUND FOR *ddname*—You entered a modify command indicating LOGID=ddname, but the DD statement for this message log does not exist.

System Action: The system does not execute the command. Other processing continues.

Operator Response: Determine the reason for the failure, and either enter the command correctly or correct the reason for the failure.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0610I *procname*: **DISPLAY FOR** *applprobid applprobname* **FOLLOWS:**

Explanation: This message is the first in a group of messages that are the result of a MODIFY ACTION=DISPLAY command. Additional messages follow this message, where *applprobid* is either APPLID or PROBEID and *applprobname* is the application name or software probe identifier.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0611I *applprobeid* **COUNTS PROBE DUMP SYMRC GENAL SYMST SUPDP**

Explanation: This message is part of a group of messages that are the result of a MODIFY ACTION=DISPLAY command. This message displays the following fields:

applprobeid This field contains either APPLID or PROBEID

COUNTS Total and unique count of software probes.

PROBE Status of software probe for the application.

DUMP Status of dumps for an application.

SYMRC Status of symptom records for an application.

GENAL Status of generic alerts for an application.

SYMST Status of symptom string message EPW0402I for an application.

SUPDP Status of dump suppression for an application.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0612I *apprbid totct/prbct stat stat stat stat stat stat*

Explanation: This message is part of a group of messages that are the result of a MODIFY ACTION=DISPLAY command. This message displays the following fields:

apprbid Application name or software probe identifier.

totct Number from 0 to 65535 representing the total number of times software probes have been triggered.

prbct Number from 0 to 65535 representing the number of different symptom strings generated for triggered software probes.

stat Status of the probe or function. An EN as the status indicates that the probe or function is enabled. A DIS as the status indicates that the probe or function is disabled.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0613I

Explanation: This message is part of a group of messages that are the result of a MODIFY ACTION=DISPLAY command. This message displays as a blank separator line.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0614I APPLID PRODUCT NAME VENDOR

Explanation: This message is part of a group of messages that are the result of a MODIFY ACTION=DISPLAY command. This message displays the following fields:

APPLID	Application name
PRODUCT NAME	Product name
VENDOR	Vendor name

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0615I *applid productname vendorname*

Explanation: This message is part of a group of messages that are the result of a MODIFY ACTION=DISPLAY command. This message displays the following fields:

applid	Application name
productname	Product name
vendorname	Vendor name

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0616I NO *applprobeid* **TO DISPLAY**

Explanation: This message is part of a group of messages that are the result of a MODIFY ACTION=DISPLAY command. This message appears if no application or probe identifiers are known to FFST, where *applprobeid* is either APPLICATION NAMES or PROBEIDS.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0617I THE FOLLOWING PROBEIDS HAVE TRIPPED AT LEAST ONCE:

Explanation: This message is part of a group of messages that are the result of a MODIFY ACTION=DISPLAY command and is issued if software probe identifiers are available to display.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0618I *probeid probeid probeid probeid probeid*

Explanation: This message is part of a group of messages that are the result of a MODIFY ACTION=DISPLAY command and is issued if software probe identifiers are available to display, where *probeid* is the software probe identifier.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0620I DUM DESTINATION GA EXIT ALRT RCV MSG LOG /STATUS

Explanation: This message is part of a group of messages that are the result of a MODIFY ACTION=DISPLAY command. This message displays the following fields:

DUMP DESTINATION CMS User id which will be the receiver of all FFST CMS dumps
GA EXIT Generic alert exit name
ALRT RCV NetView alert receiver name
MSG LOG Software probe message log DD name
STATUS Software probe message log status

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0621I DUMPQUAL DUMPVOL GA EXIT ALRT RCV MSG LOG/LOGREUSE

Explanation: This message is part of a group of messages that is the result of a MODIFY ACTION=DISPLAY command, and acts as a header message for message EPW0622I. This message displays the following fields:

DUMPQUAL High-level dump data set qualifier
DUMPVOL Dump data set volume serial number
GA EXIT Generic alert exit name
ALRT RCV NetView alert receiver name

MSG LOG Software probe message log status
LOGREUSE Status of the REUSE message log function

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0622I *dumpqual dumpvol gaextnm alrtcvnm msglogst/reusest*

Explanation: This message is part of a group of messages that is the result of a MODIFY ACTION=DISPLAY command. This message displays the following fields:

dumpqual High-level dump data set qualifier
dumpvol Dump data set volume serial number
gaextnm Generic alert exit name
alrtcvnm NetView alert receiver name
msglogst Software probe message log status, where status can be:

- ENABLED FFST message logging function is enabled.
- DISABLED FFST message logging function is disabled.
- GETMFAIL A storage allocation request had failed for a log control block.
- SUSPEND FFST message logging function is not enabled, and the current log data set is not empty.
- NODSAVL No available log data set DD name was found.

reusest Status of the REUSE message log function, where status can be:

- ENABLED FFST message log REUSE function is enabled.
- DISABLED FFST message log REUSE function is disabled.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0623I THE FOLLOWING APPLICATIONS ARE STILL ACTIVE TO FFST

Explanation: You issued a MODIFY ACTION=HALT command or a STOP command, and one or more applications still have an active interface to FFST. This message is the first in a group of messages. The messages that follow list the applications that still have an active interface.

System Action: None.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0624I APPLID PRODUCT NAME VENDOR ASID

Explanation: This message is a part of a group of messages that is the result of a MODIFY ACTION=HALT command or a STOP command. It provides a header for one or more messages to follow.

System Action: None.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0625I *applid productname vendor asid*

Explanation: This message is part of a group of messages that is the result of a MODIFY ACTION=HALT command or a STOP command. It specifies the name of an application that still has an active interface to FFST, where:

- *applid* is the application name.
- *productname* is the name of the product.
- *vendorid* is the vendor name.
- *asid* is the address space in which the application is active to FFST(MVS only).

System Action: None.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console. **********

EPW0626I MSG LOG - STATUS

Explanation: This message is part of a group of messages that is the result of a MODIFY ACTION=DSIPLAY command, and acts as a header for message EPW0627I. This message displays the following fields:

MSG LOG A list of DD names used by the message log function
STATUS The corresponding status of the message log data set.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0627I *logddnam - logstat*

Explanation: This message is part of a group of messages that is the result of a MODIFY ACTION=DSIPLAY command. This message displays the following fields:

logddnam A DD name used for the message log function
logstat The corresponding status of the message log data set, where status can be:

ENABLED, CURRENT The message log is enabled, and currently being written to.

ENABLED, AVAILABLE The message log is enabled, and may be used in the future.

ENABLED, FULL The message log is enabled, but it has filled up. REUSE is disabled, so it must be cleared before it can be reused.

ENABLED, TO BE CLEARED The message log is enabled, and a modify command with ACTION=CLEAR has been issued for it. REUSE is disabled, but this log may now be reused.

ENABLED, USED The message log is enabled, and is not the current log, but it has been written to in the past. REUSE is enabled, so this data set may be reused in the future.

DISABLED BY OPERATOR The operator has issued a modify command with ACTION=DISABLE for this message log.

DISABLED - I/O ERROR An I/O error has been encountered for this message log.

DISABLED - INVALID ATTRIBUTES The data set defined for this DD statement was allocated with attributes that are not acceptable for a log data set.

SUSPENDED - DATA SET NOT EMPTY This message log is the current data set, but REUSE is DISABLED, and the data set is not empty. Message logging is temporarily suspended until the log data set is cleared.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Console.

EPW0701I END OF MESSAGE GROUP

Explanation: This message marks the end of a message group. For more information, see the information for the other messages in the group.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0702E INVALID REPLY

Explanation: You replied to an outstanding FFST message, but your response was invalid.

System Action: The response is ignored.

Operator Response: Look for another iteration of the message for which your response was invalid, and reply to that message with a valid response.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW0799I *procname*: **MESSAGE** *nnnn* **ISSUED BUT NOT FOUND**

Explanation: FFST issues this message whenever a message unknown to FFST is issued. The *nnnn* variable represents the number of the unidentified message.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: The FFST/FFDC process should have been invoked. Gather the required documentation and contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1001I FFSTCICS: EPWTRUE IS NOW ACTIVE

Explanation: FFST/CICS initialized a task related user exit (TRUE).

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1002E LOAD OF EPWCSTUB FAILED, LOAD RESPONSE WAS *abendcode retcode*

Explanation: CICS could not load the EPWCSTUB module. The operating system returns *abendcode* in register 1 and *retcode* in register 15 after the load fails.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: Verify that this module is available for CICS to load.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1003E *cicscmd* **COMMAND FOR** *truename* **FAILED -** *reason*

Explanation: CICS could not initialize a task related user exit (TRUE). The associated CICS command was *cicscmd*, the TRUE was *truename*, and the reason for the failure was *reason*. The CICS transaction issued one of the following commands:

DISABLE
ENABLE
EXTRACT
LOAD

The failure occurred for one of the following reasons:

- ALREADY ENABLED—CICS already enabled the program identified by *truename*.
- CURRENTLY INVOKED BY ANOTHER TASK—Another CICS task is currently using the program identified as *truename*.
- EPWTRUE HAS NO WORK AREA—CICS did not allocate any save area for EPWTRUE before *truename* issued the CICS command.
- EPWTRUE IS NOT ENABLED—CICS did not enable EPWTRUE before *truename* issued the CICS command.

- EXIT=YES NOT SPECIFIED IN DFHSIT—The DFHSIT being used by CICS does not specify EXIT=YES.
- MODULE NOT FOUND OR DISABLED—*truename* is not in the primary program operator interface task (PPT) or the load library, or its PPT is disabled.
- PROGRAM IS NOT ENABLED—CICS did not enable *truename* before a task issued the CICS command.
- PROGRAM NOT AUTHORIZED—CICS failed *truename* during CICS resource security checking.
- UNKNOWN EIBRCODE *eibrcode*—CICS did not recognize the external interrupt block (EIB) return code *eibrcode*.
- UNKNOWN EIBRESP *eibresp*—CICS did not recognize the EIB response code *eibresp*.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: The response depends on the reason for the failure:

- ALREADY ENABLED—Gather the required documentation and contact the IBM support center.
- CURRENTLY INVOKED BY ANOTHER TASK—Gather the required documentation and contact the IBM support center.
- EPWTRUE HAS NO WORK AREA—Gather the required documentation and contact the IBM support center.
- EPWTRUE IS NOT ENABLED—Gather the required documentation and contact the IBM support center.
- EXIT=YES NOT SPECIFIED IN DFHSIT—Specify EXIT=YES in the scanner interface trace (SIT) to be used by CICS.
- MODULE NOT FOUND OR DISABLED—Verify that *truename* has been defined in the PPT, CICS can locate the program, and its PPT is enabled.
- PROGRAM IS NOT ENABLED—Gather the required documentation and contact the IBM support center.
- PROGRAM NOT AUTHORIZED—Verify that *truename* can be loaded by CICS.
- UNKNOWN EIBRCODE *eibrcode*—Gather the required documentation and contact the IBM support center. Refer to the CICS problem determination manual for your level of CICS for information about *eibrcode*.
- UNKNOWN EIBRESP *eibresp*—Gather the required documentation and contact the IBM support center. Refer to the CICS problem determination manual for your level of CICS for information about *eibresp*.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1011I FFSTCICS: EPWTRUE IS NOT ACTIVE

Explanation: CICS is closing the task related user exit (TRUE). CICS returns control to the program that issued the probe statement.

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1012E EPWTRUE CALL WAS NOT FROM AN APPLICATION PROGRAM

Explanation: An application was not the requester for FFST/CICS. CICS returns control to the program that issued the request.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: Verify that the FFST/CICS function is installed correctly.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1013E UNEXPECTED EPWTRUE CALL

Explanation: The request for FFST/CICS was not for a Task Related User Exit (TRUE). CICS returns control to the program that issued the request.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: Verify that the FFST/CICS function is installed correctly.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1014E CICS WAIT EVENT FAILED - *reason*

Explanation: The operating system failed the event for which CICS was waiting for one of the following *reasons*:

- EIBRESP WAS *eibresp*—The EIB response code was *eibresp*.
- INVALID INTERVAL CONTROL COMMAND—The application issued an invalid interval command.
- TIME HAS EXPIRED—FFST did not return control to CICS within one minute.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: The response depends on the reason for the failure:

- EIBRESP WAS *eibresp*—Gather the required documentation and contact the IBM support center. Refer to the CICS problem determination manual for your level of CICS for information about *eibresp*.
- INVALID INTERVAL CONTROL COMMAND—Gather the required documentation and contact the IBM support center.
- TIME HAS EXPIRED—Determine why FFST is not responding to CICS requests.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1015E EPWCSTUB ATTACH FAILED - ATTACH RESPONSE WAS *respcode*

Explanation: CICS could not attach EPWCSTUB, where *respcode* is the return code from the attach.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: Use the *respcode* value to determine why the attach failed. For more information about attach return codes, refer to either *MVS/ESA Application Development Reference* (GC28-1647) or *OS/390 MVS Assembler Services Reference* (GC28-1910).

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1021I FFSTCICS: EPWTRUE NOW INACTIVE

Explanation: CICS terminated a task related user exit (TRUE).

System Action: Processing continues.

Operator Response: None.

Programmer Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1022E DELETE OF EPWCSTUB FAILED - RETURN CODE WAS *retcode*

Explanation: During termination of the FFST/CICS Task Related User Exit (TRUE), CICS could not delete EPWCSTUB.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: None.

Programmer Response: Use the *retcode* value to determine why the delete failed. For more information about delete return codes, refer to either *MVS/ESA Application Development Reference* (GC28-1647) or *OS/390 MVS Assembler Services Reference* (GC28-1910).

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1023E FFSTCICS: START FOR TRANSID EPWT FAILED - *reason*

Explanation: CICS could not complete the CICS START command for transaction EPWT for one of the following reasons:

- EIBRESP WAS *eibresp*—The EIB response code was *eibresp*.
- INPUT/OUTPUT ERROR—An I/O error occurred during the execution of the CICS START command.
- INVALID INTERVAL CONTROL COMMAND—The application issued an invalid interval control command.
- PROGRAM NOT AUTHORIZED—CICS failed the FFST program EPWTRUET during CICS resource security checking.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: The response depends on the reason for the failure:

- EIBRESP WAS *eibresp*—Gather the required documentation and contact the IBM support center. Refer to the CICS problem determination manual for your level of CICS for information about *eibresp*.
- INPUT/OUTPUT ERROR—Check to see whether the temporary storage data set is full.
- INVALID INTERVAL CONTROL COMMAND—Gather the required documentation and contact the IBM support center.
- PROGRAM NOT AUTHORIZED—Verify that CICS can load the FFST program EPWTRUET.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1024E *cicscmd* **COMMAND FOR** *truename* **FAILED -** *reason*

Explanation: CICS could not successfully terminate a Task Related User Exit (TRUE). The task issued the CICS command *cicscmd* for the TRUE *truename*, where *cicscmd* is one of the following values:

DISABLE
EXTRACT

The command failed for one of the following reasons:

- CURRENTLY INVOKED BY ANOTHER TASK—*truename* is currently being used by another CICS task.
- EPWTRUE HAS NO WORK AREA—CICS could not allocate the work area for EPWTRUE when *truename* issued the CICS command.
- EXIT=YES NOT SPECIFIED IN DFHSIT—The DFHSIT being used by CICS does not have EXIT=YES specified.
- MODULE NOT FOUND OR DISABLED—*truename* is not in the PPT or the load library, or CICS disabled its PPT entry.
- PROGRAM IS NOT ENABLED—CICS did not enable *truename* before the task issued the CICS command.
- UNKNOWN EIBRCODE *eibrcode*—FFST did not recognize the EIB return code *eibrcode*.
- UNKNOWN EIBRESP *eibresp*—FFST did not recognize the EIB response code *eibresp*.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: The response depends on the reason for the failure:

- CURRENTLY INVOKED BY ANOTHER TASK—Gather the required documentation and contact the IBM support center.
- EPWTRUE HAS NO WORK AREA—Gather the required documentation and contact the IBM support center.
- EXIT=YES NOT SPECIFIED IN DFHSIT—Specify EXIT=YES in the SIT to be used by CICS.
- MODULE NOT FOUND OR DISABLED—Verify that you defined *truename* in the PPT, CICS can locate the program, and CICS did not disable its PPT.
- PROGRAM IS NOT ENABLED—Verify that CICS did not invoke the transaction EPWT.
- UNKNOWN EIBRCODE *eibrcode*—Gather the required documentation and contact the IBM support center. Refer to the CICS problem determination manual for your level of CICS for information about *eibrcode*.
- UNKNOWN EIBRESP *eibresp*—Gather the required documentation and contact the IBM support center. Refer to the CICS problem determination manual for your level of CICS for information about *eibresp*.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1031I FFSTCICS: GLOBAL USER EXIT *exitname* **IS NOW ACTIVE**

Explanation: CICS initialized a global user exit. The exit is *exitname*.

System Action: Processing continues.

Operator Response: None

Programmer Response: None

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1032I FFSTCICS: START FOR TRANSID GUET FAILED - *reason*

Explanation: CICS could not complete the CICS start command for transaction GUET (Global User Exit Transaction) for one of the following reasons:

- EIBRESP WAS *eibresp* - The EIB response code was *eibresp*.
- INPUT/OUTPUT ERROR - An I/O error occurred during the execution of the CICS start command.
- INVALID INTERVAL CONTROL COMMAND - The application issued an invalid interval control command.
- PROGRAM NOT AUTHORIZED - CICS failed the FFST program EPWCGUET during CICS resource security checking

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: The response depends on the reason for the failure:

- EIBRESP WAS *eibresp* - Gather the required documentation and contact the IBM support center. Refer to the CICS problem determination manual for your level of CICS for information about *eibresp*.
- INPUT/OUTPUT ERROR - Check to see if the temporary storage data set is full.
- INVALID INTERVAL CONTROL COMMAND - Gather the required documentation and contact the IBM support center.
- PROGRAM NOT AUTHORIZED - Verify that CICS can load the FFST program EPWCGUET.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1033I FFSTCICS: GLOBAL USER EXIT *exitname* **IS NOT INACTIVE**

Explanation: CICS terminated a global user exit. The exit is *exitname*.

System Action: Processing continues.

Operator Response: None

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1034I *cicscmd* **COMMAND FOR** *exitname* **FAILED -** *reason*

Explanation: CICS could not initialize or terminate a global user exit. The associated CICS command was *cicscmd*, the global user exit was *exitname*, and the reason for the failure was *reason*. The CICS transaction issued one of the following commands:

```
DISABLE
ENABLE
EXTRACT
LOAD
```

The failure occurred for one of the following reasons:

- ALREADY ENABLED - CICS already enabled the program identified by *exitname*.
- CURRENTLY INVOKED BY ANOTHER TASK - Another CICS task is currently using the program identified by *exitname*.
- EPWCGUE HAS NO WORK AREA - CICS did not allocate any save area for EWPCGUE before *exitname* issued the CICS command.
- EPWCGUE IS NOT ENABLED - CICS did not enable EPWCGUE before *exitname* issued the CICS command.
- EXIT=YES NOT SPECIFIED IN DFHSIT - The DFHSIT being used by CICS does not specify EXIT=YES.
- EXITID IS NOT VALID - *exitname* is invalid.
- GALENGTH VALID ON FIRST ENABLE - GALENGTH parameter is valid only on the first enable command.
- MODULE NOT FOUND OR DISABLED - *exitname* is not in the PPT or the load library, or its PPT is disabled.
- PROGRAM ALREADY ACTIVE - EPWCGUE is already active.
- PROGRAM IS NOT ENABLED - CICS did not enable *exitname* before a task issued the CICS command.
- PROGRAM NOT AUTHORIZED - CICS failed *exitname* during CICS resource security checking.
- UNKNOWN EIBCODE *eibcode* - CICS did not recognize the EIB return code *eibcode*.
- UNKNOWN EIBRESP *eibresp* - CICS did not recognize the EIB response code *eibresp*.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: The response depends on the reason for the failure.

- ALREADY ENABLED - Gather the required documentation and contact the IBM support center.
- CURRENTLY INVOKED BY ANOTHER TASK - Gather the required documentation and contact the IBM support center.
- EPWCGUE HAS NO WORK AREA - Gather the required documentation and contact the IBM support center.
- EPWCGUE IS NOT ENABLED - Gather the required documentation and contact the IBM support center.
- EXIT=YES NOT SPECIFIED IN DFHSIT - Specify EXIT=YES in the SIT to be used by CICS.
- EXITID IS NOT VALID - Gather the required documentation and contact the IBM support center.
- GALENGTH VALID ON FIRST ENABLE - Gather the required documentation and contact the IBM support center.
- MODULE NOT FOUND OR DISABLED - Verify that EPWCGUE has been defined in the PPT, CICS can locate the program, and its PPT is enabled.
- PROGRAM ALREADY ACTIVE - Gather the required documentation and contact the IBM support center.

- PROGRAM IS NOT ENABLED - Gather the required documentation and contact the IBM support center.
- PROGRAM NOT AUTHORIZED - Verify the EPWCGUE can be loaded by CICS.
- UNKNOWN EIBCODE *eibcode* - Gather the required documentation and contact the IBM support center. Refer to the CICS problem determination manual for your level of CICS for information about *eibcode*.
- UNKNOWN EIBRESP *eibresp* - Gather the required documentation and contact the IBM support center. Refer to the CICS problem determination manual for your level of CICS for information about *eibresp*.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1035I FFSTCICS: EPWCGUE IS NOT ACTIVE

Explanation: CICS is closing the global user exit. CICS returns control to the program that issued the request.

System Action: Processing continues.

Operator Response: None

Programmer Response: None

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW1036I FFSTCICS: EPWCGUE CALL WAS NOT FOR A GLOBAL USER EXIT

Explanation: The call to EPWCGUE was not a global user exit type request. CICS returns control to the program that issued the request.

System Action: Processing continues.

Operator Response: Report the message to the system programmer.

Programmer Response: Verify that the FFST/CICS function is installed correctly.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console.

EPW9000I *prgmname***: RETURN CODE WAS** *retcode - rctext*

Explanation: During the execution of the installation verification procedure (IVP), an FFST-invoked function did not complete successfully, where *retcode* is the return code received from the FFST function and *rctext* is the text associated with the return code. This message follows messages EPW9002I, EPW9004I, and EPW9006I. *rctext* can be one of the following:

Note: In the following text, the term 'the IVP probe' refers to the probe id in message EPW9004I and the term 'the config' refers to the configuration load module used for the IVP (EPWIVCE for FFST/MVS, and EPWIVC for FFST/VM).

- PROBE HAS BEEN DISABLED BY THE OPERATOR - The operator has issued an FFST modify command to disable the IVP probe.
- INVALID PARAMETERS - MORE THAN 25 CHARACTERS - The control string for the IVP probe was too long.
- INVALID PARAMETERS - FIRST CHARACTER NOT * - An invalid identifier was found on the control string for the IVP probe.

- INVALID PARAMETERS - DST NAME LONGER THAN 8 - The Data Structure Table name specified on the IVP probe was too long.
- INVALID PARAMETERS - PROBEID LONGER THAN 8 - The probe identifier for the IVP probe was too long.
- INVALID PARAMETERS - COMMA DOES NOT FOLLOW FLAGS - An invalid delimiter was found in the control string for the IVP probe.
- INVALID PARAMETERS - COUNT LONGER THAN 3 - The count value for the number of parameters passed for the IVP probe was too long.
- INVALID PARAMETERS - CRC VALUE LONGER THAN 7 - The correlator value used for the IVP probe was too long.
- FFST INITIALIZATION OF PRODUCT NOT COMPLETE - The FFST initialization of FFSTV1R2 has not yet completed.
- NO WORK AREA AVAILABLE - A GETMAIN of a 16K work area failed when attempting to trip the IVP probe.
- SETFRR FAILED - For FFST/MVS, the recovery environment setup failed when attempting to trip the IVP probe.
- ESTAE SETUP FAILED - For FFST/VM, the recovery environment setup failed when attempting to trip the IVP probe.
- SPECIFIED DST NOT FOUND - Data Structure Table EPWIVT could not be loaded.
- SPECIFIED DST INCOMPATIBLE WITH PRESENT RELEASE - Data Structure table EPWIVT does not indicate a level of release 2.
- INVALID DST SPECIFIED - Data Structure Table EPWIVT has been previously marked invalid.
- PROBE ENTRY NOT FOUND IN SPECIFIED DST - Data Structure Table EPWIVT did not contain an entry for the IVP probe.
- PROBE INCOMPATIBLE WITH ENTRY IN DST - The level of the IVP probe is not the same level in module EPWIVP as it is in Data Structure Table EPWIVT.
- ENTRY IN SPECIFIED DST IS NOT A PROBE - Entry name of the IVP probe was found in Data Structure Table EPWIVT, but it is not a probe entry.
- UNEXPECTED ABEND OCCURRED - Some unexpected ABEND occurred in FFST code when attempting to trip the IVP probe.
- MISMATCHING SHARED CONFIGURATION FOUND - For FFST/MVS, the level of configuration load module EPWIVCE does not match the level of the main FFST configuration load module, EPWTRNCF. For FFST/VM, config EPWIVC is marked as SHARED, and another SHARED config was found that did not match EPWIVC.
- MISMATCHING CONFIGURATION FOUND IN ADDRESS SPACE - Another config with a prefix of EPW was already loaded.
- CONFIGURATION LOAD MODULE LINK-EDIT AS REENTRANT - The config has an attribute of reentrant.
- NOT AUTHORIZED TO USE SHARED STORAGE - Module EPWIVP is requesting a service that requires shared storage, but it should not be.
- INVALID IDENTIFIER IN DST - Data Structure Table EPWIVT contains an invalid identifier in its first byte.
- DST IS SHARED, CONFIGURATION IS NOT - DST EPWIVT is marked as SHARED, but the config is not marked as SHARED.
- ALLOCATE FAILED FOR TEMPORARY AREA - The IVP probe failed because a GETMAIN for a temporary area failed.
- PROBE DISABLED - INVOKED TOO MANY TIMES - The IVP probe has been tripped more than 10 times in 10 minutes. It has been automatically disabled, since it exceeded criteria specified in the config.

- FFST SUBSYSTEM NOT DEFINED - The subsystem name of FFST has not been defined to MVS.
- FFST SHARED SEGMENT NOT DEFINED - The shared segment containing FFST/VM code has not been defined to VM.
- FFST STUB ADDRESS IS ZERO - The probe stub module, EPWSTUB, is not link-edited with load module EPWIVP.
- FFST INTERFACE MODULE NOT IN ACCESSIBLE LIBRARY - For FFST/MVS, module EPWPINIT, EPWPITSK, EPWPTERM or EPWSTUB cannot be found in an accessible library.
- FFST INTERFACE MODULE NOT ACCESSIBLE - For FFST/VM, module EPWPINIT, EPWPITSK, EPWPTERM or EPWSTUB cannot be found in the shared segment.
- LOAD OF CONFIGURATION MODULE FAILED - The config cannot be found in an accessible library.
- FFST ADDRESS SPACE IS NOT ACTIVE - For FFST/MVS, the FFST task is not started.
- FFST APPLICATION IS NOT ACTIVE - For FFST/VM, the FFST START command has not been issued in the FFST virtual machine.
- ALLOCATE OF TEMPORARY AREA FAILED - FFST interface initialization or termination failed because a GETMAIN for a temporary area failed.
- PREVIOUS INIT REQUEST HAD FAILED - FFST interface initialization failed because a previous interface initialization request failed.
- PRODUCT NOT INITIALIZED TO FFST - FFST interface termination failed because the interface initialization did not complete.
- CONFIGURATION LOAD MODULE NOT LINKED AS REUSABLE - The config does not have REUSE as a link-edit attribute.
- UNEXPECTED RETURN CODE RECEIVED - Return code *retcode* is not recognized by module EPWIVP.

System Action: System processing continues.

Operator Response: Give the FFST IVP output to the system programmer.

Programmer Response: The response depends on what rctext indicates:

- PROBE HAS BEEN DISABLED BY THE OPERATOR - Have the operator issue an FFST modify command to enable the IVP probe again and rerun the installation verification program.
- INVALID PARAMETERS - MORE THAN 25 CHARACTERS - Contact the IBM support center.
- INVALID PARAMETERS - FIRST CHARACTER NOT * - Contact the IBM support center.
- INVALID PARAMETERS - DST NAME LONGER THAN 8 - Contact the IBM support center.
- INVALID PARAMETERS - PROBEID LONGER THAN 8 - Contact the IBM support center.
- INVALID PARAMETERS - COMMA DOES NOT FOLLOW FLAGS - Contact the IBM support center.
- INVALID PARAMETERS - COUNT LONGER THAN 3 - Contact the IBM support center.
- INVALID PARAMETERS - CRC VALUE LONGER THAN 7 - Contact the IBM support center.
- FFST INITIALIZATION OF PRODUCT NOT COMPLETE - Contact the IBM support center.
- NO WORK AREA AVAILABLE - Make sure there is enough REGION size (FFST/MVS) or virtual storage (FFST/VM) available to the installation verification program. If there appears to be, contact the IBM support center.
- SETFRR FAILED - Contact the IBM support center.
- ESTAE SETUP FAILED - Contact the IBM support center.
- SPECIFIED DST NOT FOUND - Verify that module EPWIVT is in load library SEPWMOD3.
- SPECIFIED DST INCOMPATIBLE WITH PRESENT RELEASE - Contact the IBM support center.
- INVALID DST SPECIFIED - Look for a previous message EPW0253I for EPWIVT, and contact the IBM support center.
- PROBE ENTRY NOT FOUND IN SPECIFIED DST - Contact the IBM support center.

- PROBE INCOMPATIBLE WITH ENTRY IN DST - Contact the IBM support center.
- ENTRY IN SPECIFIED DST IS NOT A PROBE - Contact the IBM support center.
- UNEXPECTED ABEND OCCURRED - Look for messages EPW0304E, EPW0305E, EPW0306E and EPW0307E and then contact the IBM support center to report the ABEND.
- MISMATCHING SHARED CONFIGURATION FOUND - Make sure that the maintenance level of module EPWIVCE matches the level of EPWTRNCF.
- MISMATCHING CONFIGURATION FOUND IN ADDRESS SPACE - Contact the IBM support center.
- CONFIGURATION LOAD MODULE LINK-EDIT AS REENTRANT - Be sure that the config has been installed correctly, with the attribute of REUSE.
- NOT AUTHORIZED TO USE SHARED STORAGE - Contact the IBM support center.
- INVALID IDENTIFIER IN DST - Contact the IBM support center.
- DST IS SHARED, CONFIGURATION IS NOT - Contact the IBM support center.
- ALLOCATE FAILED FOR TEMPORARY AREA - Be sure there is enough REGION size (FFST/MVS) or virtual storage (FFST/VM) available for the installation verification program.
- PROBE DISABLED - INVOKED TOO MANY TIMES - Have the operator issue an FFST modify command to enable the IVP probe and rerun the installation verification program.
- FFST SUBSYSTEM NOT DEFINED - Follow the installation steps in the FFST program directory before running the installation verification program.
- FFST SHARED SEGMENT NOT DEFINED - Follow the installation steps in the FFST program directory before running the installation verification program.
- FFST STUB ADDRESS IS ZERO - Look at the latest results of applying maintenance to module EPWIVP to be sure that EPWSTUB is included in the load module.
- FFST INTERFACE MODULE NOT IN ACCESSIBLE LIBRARY - Be sure that modules EPWPINIT, EPWPITSK and EPWPTERM are in a LINKLIST library, and that EPWSTUB is in fixed LPA.
- FFST INTERFACE MODULE NOT ACCESSIBLE - Be sure that modules EPWPINIT, EPWPITSK, EPWPTERM and EPWSTUB are in the FFST/VM shared segment.
- LOAD OF CONFIGURATION MODULE FAILED - Make sure that the config is in load library SEPWMOD3.
- FFST ADDRESS SPACE IS NOT ACTIVE - Have the operator issue a START command for FFST before running the installation verification program.
- FFST APPLICATION IS NOT ACTIVE - Have the operator issue a START command for FFST in the FFST virtual machine before running the installation verification program.
- ALLOCATE OF TEMPORARY AREA FAILED - Be sure there is enough REGION size (FFST/MVS) or virtual storage (FFST/VM) available for the installation verification program.
- PREVIOUS INIT REQUEST HAD FAILED - Look at the previous failure of the interface initialization for the IVP.
- PRODUCT NOT INITIALIZED TO FFST - Look at the interface initialization failure.
- CONFIGURATION LOAD MODULE NOT LINKED AS REUSABLE - Be sure that the config has been installed correctly, with the attribute of REUSE.
- UNEXPECTED RETURN CODE RECEIVED - Contact the IBM support center.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, terminal.

EPW9001I *prgmname*: **CONTROL INIT SUCCESSFUL**

Explanation: During the execution of the installation verification procedure (IVP), the FFST control initialization received a return code of 0. This does not necessarily mean, however, that the initialization function completed successfully. Message EPW0250I indicates successful completion.

System Action: System processing continues.

Operator Response: Give the FFST IVP output to the system programmer.

Programmer Response: Verify that the FFST IVP completed successfully. Review the messages issued and ensure that message EPW9000I was not issued.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, terminal.

EPW9002I *prgmname*: **CONTROL INIT NOT SUCCESSFUL**

Explanation: During the execution of the installation verification procedure (IVP), the FFST control initialization function did not complete successfully. Message EPW9000I follows.

System Action: System processing continues.

Operator Response: Give the FFST IVP output to the system programmer.

Programmer Response: Check the return code in EPW9000I to determine why the FFST control initialization function failed. The return code might indicate an FFST installation failure.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, terminal.

EPW9003I *prgmname*: **PROBE** *probeid* **SUCCESSFUL**

Explanation: During the execution of the installation verification procedure (IVP), a probe was issued and completed successfully, where *probeid* is the probe identifier.

System Action: System processing continues.

Operator Response: Give the FFST IVP output to the system programmer.

Programmer Response: Verify that the FFST IVP completed successfully. Review the messages issued and ensure that message EPW9000I was not issued.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, terminal.

EPW9004I *prgmname*: **PROBE** *probeid* **NOT SUCCESSFUL**

Explanation: During the execution of the installation verification procedure (IVP), a probe was issued and did not complete successfully, where *probeid* is the probe identifier. Message EPW9000I follows.

System Action: System processing continues.

Operator Response: Give the FFST IVP output to the system programmer.

Programmer Response: Check the return code in EPW9000I to determine why the probe failed. The return code might indicate an FFST installation failure.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, terminal.

EPW9005I *prgmname*: **CONTROL TERM SUCCESSFUL**

Explanation: During the execution of the installation verification procedure (IVP), the FFST control termination function completed successfully.

System Action: System processing continues.

Operator Response: Give the FFST IVP output to the system programmer.

Programmer Response: Verify that the FFST IVP completed successfully. Review the messages issued and ensure that message EPW9000I was not issued.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, terminal.

EPW9006I *prgmname*: **CONTROL TERM NOT SUCCESSFUL**

Explanation: During the execution of the installation verification procedure (IVP), the FFST control termination function did not complete successfully. Message EPW9000I follows.

System Action: System processing continues.

Operator Response: Give the FFST IVP output to the system programmer.

Programmer Response: Check the return code in EPW9000I to determine why the FFST control termination function failed. The return code might indicate an FFST installation failure.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, terminal.

EPW9010I *prgmname*: **PROGRAM COMPLETE**

Explanation: The execution of the installation verification procedure (IVP) is complete.

System Action: System processing continues.

Operator Response: Give the FFST IVP output to the system programmer.

Programmer Response: Verify that the FFST IVP completed successfully. Review the messages issued and ensure that message EPW9000I was not issued.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Console, terminal.

EPW9501I PRODUCT NAME: *prodname*

Explanation: *prodname* is the name of the product or application that triggered the software probe.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9502I *type* **PROGRAM**

Explanation: The product or application that triggered the software probe is a *type* program, where *type* is either IBM or NON-IBM.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9503I COMPONENT/PROGRAM ID: *compid***, LEVEL:** *level*

Explanation: The component or program identifier of the product or application that triggered the software probe is *compid*, and its level is *level*.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9504I TYPE OF FAILURE: *type*

Explanation: The triggered software probe is defined with a category of *type*.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the SYMPTOM STRING DATA option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9505I PROBE PRIMARY SYMPTOM STRING:

Explanation: The primary symptom string specified by the triggered software probe immediately follows this message.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the SYMPTOM STRING DATA option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9506I PROBE SECONDARY SYMPTOM STRING:

Explanation: The secondary symptom string specified by the triggered software probe immediately follows this message.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the SYMPTOM STRING DATA option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9507I REGISTER SECONDARY SYMPTOM STRING:

Explanation: The secondary symptom string built by FFST that contains the values of all general registers at the time the software probe was triggered immediately follows this message.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the SYMPTOM STRING DATA option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9508I DATA COLLECTION WORK AREA:

Explanation: The 16KB work area used to process the triggered software probe immediately follows this message.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the FFST WORK AREA option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9509I *dsttype* **DATA STRUCTURE TABLE:**

Explanation: A DST used during processing of the triggered software probe immediately follows this message, where *dsttype* is either SPECIFIED or DEFAULT.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the DATA STRUCTURE TABLE(S) option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9510I AREA AROUND REGISTER *regnum* **-** *regval***:**

Explanation: An area of up to 400 hexadecimal bytes before and after general register *regnum* which contains the value *regval* immediately follows this message. If the software probe was triggered in AR mode under MVS/ESA, the general register along with its corresponding access register are used to access the storage.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the AREA AROUND REGISTERS option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9511I NUMBER OF DATA STRUCTURES OF THIS TYPE EXCEEDED MAX

Explanation: The value specified as the maximum count on the definition of the data structure being formatted was exceeded. This data structure was dumped more times than the definition allows.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the DATA STRUCTURES option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9512I EXIT ROUTINE CALLED FOR NEXT

Explanation: The DST exit routine specified on the data structure definition was called for processing of the next data structure in a chain.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the DATA STRUCTURES option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9513I EXIT ROUTINE CALLED FOR REF

Explanation: The DST exit routine specified on the data structure definition was called for processing of a referenced data structure.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the DATA STRUCTURES option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9514I EXIT ROUTINE CALLED FOR DATA STRUCTURE

Explanation: The DST exit routine specified on the data structure definition was called on initial processing of the data structure.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the DATA STRUCTURES option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9515I ID CHECKING FAILED FOR DATA STRUCTURE

Explanation: When dumping the data structure, the field specified for identifier checking contained a different value than the one specified in the DST. As a result, FFST dumped up to 800 hexadecimal bytes beginning at the data structure address, and no further REF and NEXT processing occurred.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the DATA STRUCTURES option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9516I LENGTH WAS FOUND TO BE ZERO

Explanation: When dumping the data structure, FFST determined that the length of the data structure was zero. As a result, FFST dumped up to 800 hexadecimal bytes beginning at the data structure address, and no further REF and NEXT processing occurred.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the DATA STRUCTURES option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9517I STORAGE UNAVAILABLE DUE TO INACCESSIBILITY

Explanation: When dumping the data structure, FFST determined that, for one of the following reasons, all or part of the storage was not accessible to the program that triggered the software probe:

- The storage in the primary address space is not allocated.
- An alternate ASID was specified, but the program did not have access to it.
- An alternate dataspace was specified, but the program did not have access to it.
- An invalid ASID or dataspace was specified.
- The program was not authorized to use an alternate ASID.

As a result, no storage is dumped, and because this error was encountered, no further REF and NEXT processing occurs. Message EPW9518I follows this message.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the DATA STRUCTURES option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9518I INVALID ADDRESS WAS *address*

Explanation: This message follows message EPW9517I. The storage at address *address* was inaccessible at the time the software probe was triggered.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the DATA STRUCTURES option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9519I WARNING: *warn*

Explanation: The exception condition *warn* occurred while FFST was processing the probe, where *warn* is one of the following values:

INVALID POINTER FOUND WHEN BUILDING PARMLIST
INVALID POINTER FOUND WHEN BUILDING SYMREC
DATA STRUCTURE NAME NOT FOUND IN TABLE
RAN OUT OF ROOM DURING DATA COLLECTION
INVALID POINTER FOUND DURING DATA COLLECTION
LOAD OF EXIT ROUTINE FAILED
GENERIC ALERT CAUSE NAME NOT FOUND
GENERIC ALERT DESCRIPTOR NAME NOT FOUND

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the FFST WORK AREA option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9520I DATA STRUCTURE DEFINED IN DEFAULT DST

Explanation: The data structure was defined in the default DST, not in the specified DST.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the DATA STRUCTURES option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9521I DUMP DATA SET NAME=*dsname*

Explanation: The original data set to which the dump was written is named *dsname*.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9522I TITLE FROM DUMP=*title*

Explanation: The dump's title is *title*. This title was received from one of the following:

- The abstract from the software probe
- The default abstract from the configuration table or DST
- A default abstract built by FFST

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9523I DATE FROM DUMP=*date*, TIME FROM DUMP=*time.*

Explanation: The dump data set was written to on *date* at *time*.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9524I NO DATA STRUCTURE TITLE - ENTRY NOT FOUND IN DST

Explanation: The data structure may have been dumped, but the specified entry was not found in either the specified DST or the default DST.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: Suppressed when the DATA STRUCTURES option is N.

Blank Suppression: No.

Destination: Terminal, output data set.

EPW9550E UNEXPECTED RETURN CODE *retcode* **RECEIVED**

Explanation: The dump formatter did not have an error message set up for the error condition that was encountered. A return code of *retcode* was received for the operation that failed.

System Action: The dump formatter stops processing and redisplays the last panel displayed.

Operator Response: None.

Programmer Response: Report this error to FFST support.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9551E RETURN CODE *retcode* **ATTEMPTING TO ALLOCATE** *dataset*

Explanation: The dump formatter attempted to allocate a *dataset*, where *dataset* is the name of a data set or TEMP DUMP DATASET. The ALLOCATE request failed with a return code of *retcode*.

System Action: The dump formatter stops processing and redisplays the last panel displayed.

Operator Response: Report the message to the system programmer.

Programmer Response: Determine the reason for the allocation failure, and correct the problem.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9552E IEBGENER FAILED WITH RETURN CODE *retcode*

Explanation: The dump formatter attempted to copy the specified member of the partitioned dump data set to a temporary sequential dump data set using the IEBGENER utility. This process failed with return code *retcode*.

System Action: The dump formatter stops processing and redisplays the last panel displayed.

Operator Response: Report the message to the system programmer.

Programmer Response: Determine the reason for the failure. IEBGENER might not be in an available link library.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9553E NO OPTIONS ARE SELECTED

Explanation: You entered N for every option on panel EPWFDFMN. To produce any output, you must choose at least one option for the dump formatter.

System Action: None.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9554E DATA SET *dsname* **ALREADY EXISTS**

Explanation: You selected NEW for the disposition of the output data set on dump formatter panel EPWFDFOD, but the data set name already exists.

System Action: The dump formatter stops processing and redisplays panel EPWFDFOD.

Operator Response: Either change the disposition to MOD or OLD, or change the name of the selected output data set.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9555E DATA SET *dsname* **DOES NOT EXIST**

Explanation: You selected OLD for the disposition of the output data set on dump formatter panel EPWFDFOD, but the data set does not exist.

System Action: The dump formatter stops processing and redisplays panel EPWFDFOD.

Operator Response: Either change the disposition to MOD or NEW, or change the name of the selected output data set to an existing data set.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9556E *attr* **IS REQUIRED FOR A NEW DATA SET**

Explanation: The name specified for an output data set is new, and you did not specify one of the required attributes. The missing attribute is *attr*, where *attr* is either VOLUME, PRIMARY SPACE, or SECONDARY SPACE.

System Action: The dump formatter stops processing and redisplays panel EPWFDFOD.

Operator Response: Specify a value for the missing attribute.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9557E RETURN CODE *retcode* **ATTEMPTING TO DEFINE IPCS DUMP DIRECTORY** *dirname*

Explanation: The dump formatter attempted to allocate a new VSAM dump directory with a name of *dirname*, and it failed with return code *retcode*.

System Action: The dump formatter stops processing and redisplays panel EPWFDFDD.

Operator Response: Report the message to the system programmer.

Programmer Response: Determine the reason for the allocation failure, and correct the problem.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9558E RETURN CODE *retcode* **ON ENTRY TO IPCS**

Explanation: You were not already in IPCS, so the dump formatter attempted to enter IPCS with the IPCS NOPARM command. This process failed with return code *retcode*.

System Action: The dump formatter stops processing and redisplays panel EPWFDFMN.

Operator Response: Report the message to the system programmer.

Programmer Response: Determine the reason for the failure. The user might not be authorized to access or use IPCS.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9559E RETURN CODE *retcode* **ATTEMPTING TO USE DUMP DATA SET**

Explanation: The dump formatter entered IPCS successfully and issued the IPCS SETDEF command to define the dump data set as the default. This command failed with return code *retcode*.

System Action: The dump formatter stops processing and redisplays panel EPWFDFMN.

Operator Response: Report the message to the system programmer.

Programmer Response: Determine the reason for the failure, and correct the problem.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9560E *macro* **FAILED ATTEMPTING TO ACCESS DUMP**

Explanation: The dump formatter attempted to issue the specified macro, but the macro failed, where *macro* is one of the following values:

GETMAIN
OPEN
READ

System Action: The dump formatter stops processing and redisplays panel EPWFDFMN.

Operator Response: Report the message to the system programmer.

Programmer Response: Determine the reason for the failure, and correct the problem. If *macro* is READ, you may have used a partitioned data set without specifying a member name.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9561E NOT A VALID FFST DUMP. CANNOT FIND WORK AREA POINTER

Explanation: The dump formatter looked at the dump header for the pointer to the FFST work area, but found it to be invalid. The dump formatter requires this address to continue dump formatting.

System Action: The dump formatter stops processing and redisplays panel EPWFDFMN.

Operator Response: Verify that the data set used as the dump data set actually contains an FFST raw dump.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9562E WORK AREA NOT IN DUMP

Explanation: The dump formatter could not locate the FFST work area in the dump data set.

System Action: The dump formatter stops processing and redisplays panel EPWFDFMN.

Operator Response: Verify that the data set used as the dump data set actually contains an FFST raw dump.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9563E DUMP FORMATTING CANCELLED - PASSWORD MISMATCH

Explanation: The password you typed on panel EPWFDFMN does not match the password in the dump.

System Action: The dump formatter stops processing and redisplays panel EPWFDFMN.

Operator Response: Get the correct password from the product's support group.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9564E UNSUPPORTED PF KEY

Explanation: While using the EPWDMPFV dump formatter for VM, you pressed a function key that is not supported. The only supported keys are **F1**, **F3**, and **Enter**.

System Action: The dump formatter redisplays the FFST DUMP FORMATTER screen.

Operator Response: Press a supported key (**F1**, **F3**, or **Enter**).

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Terminal.

EPW9565E SPECIFY Y OR N FOR *option*

Explanation: While using the EPWDMPFV dump formatter for VM, you did not use a valid value for *option*, where *option* is one of the following values:

```
SYMPTOM STRING DATA
FFST WORK AREA
DATA STRUCTURE TABLE(S)
AREA AROUND REGISTERS
DATA STRUCTURES
```

System Action: The dump formatter redisplays the FFST DUMP FORMATTER screen.

Operator Response: Type either a Y (for yes) or an N (for no) beside the specified option.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: Yes.

Destination: Terminal.

EPW9570I ALLOCATING TEMPORARY SEQUENTIAL DATA SET

Explanation: You entered a member name for a partitioned dump data set. Because IPCS requires sequential dump data sets, the dump formatter is attempting to allocate a temporary sequential data set to copy the member into.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9571I COPYING DUMP TO TEMPORARY DATA SET

Explanation: You entered a member name for a partitioned dump data set, and the dump formatter is copying the dump to the temporary sequential data set that it allocated.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9572I IPCS DUMP DIRECTORY *dirname* HAS BEEN DEFINED

Explanation: You are allocating a new dump directory named *dirname* entered on panel EPWFDFDD. The allocation of the VSAM cluster was successful.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9573I ENTERING IPCS

Explanation: You were not already in an IPCS session. The dump formatter is temporarily entering an IPCS session to complete the dump formatting.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9574I DUMP FORMATTING IN PROGRESS

Explanation: Setup completed successfully, and dump formatting has begun.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9575I DUMP FORMATTING COMPLETE

Explanation: All requested output options have been sent to the requested output destination.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9576I EXITING IPCS

Explanation: You were not already in an IPCS session when the dump formatter was invoked. The formatter entered the IPCS session temporarily (see message EPW9573I) to format the dump, and now is terminating the IPCS session.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

EPW9577I DELETING TEMPORARY DATA SET

Explanation: You entered a member name of a partitioned dump data set, so the dump formatter allocated a temporary sequential data set (see message EPW9570I) and copied the dump into it (see message EPW9571I). The dump formatter is now deleting this temporary data set because it is no longer needed.

System Action: Dump formatting continues.

Operator Response: None.

Programmer Response: None.

Suppression Level: UNSUP.

Blank Suppression: No.

Destination: Terminal.

Appendix B. FFST for MVS Transition Code Function

In order to enhance the value of FFST, system monitor functions haves been included within FFST. These monitor functions allow FFST to be involved in problems for which FFST is not directly called. Monitoring capability is provided through two user exit facilities in the MVS environment: MVS post dump exit (IEAVTSEL) and a CICS global user exit. Each allows FFST to be involved in situations where a dump is being requested.

The support provided by FFST for this function is limited to the generation of an SNA Generic Alert. The alert provides notification to a network operator that a dump was requested by a product. Each monitor function is fully controlled by an FFST filter. Details of these two monitoring functions are documented below.

MVS Post Dump Exit (IEAVTSEL)

PTF UN53954 (APAR PN40734) adds a new feature to FFST. It utilizes the MVS/ESA Post Dump Exit facility (IEAVTSEL) to trip an FFST software probe when this user exit is called by MVS. This new facility will provide FFST support when an SVC dump or SYSMDUMP is taken by an authorized product.

This new routine supports a parameter list for filtering in order to suppress the calling of FFST for dump situations of little interest. Filtering can be performed using the ABEND code (for ABEND conditions) and you can also specify whether or not a probe should be tripped if this new routine gets control even though the MVS Dump Analysis and Elimination (DAE) facility of MVS has suppressed the dump because it was found to be a duplicate problem.

When an authorized product issues an SDUMP or SYSMDUMP, an FFST routine gets control and extracts key information from the MVS dump header and system diagnostic work area (SDWA). This information is passed to FFST through one of eight FFST probes. See Figure B-1 on page B-4. FFST builds a Generic Alert which is passed to a network management product such as NetView* to inform network operations of a possible program problem.

To install and activate this new function, the following steps must be performed:

1. Install PTF UN53954. (The PTF cover letter also contains these instructions.)
2. Make the FFST dump exit code, EPWTRNDX, known to MVS by modifying the IEAVTSEL object code in SYS1.LINKLIB through the use of the SPZAP program or through SMP. The following entry must be placed in this module:

   ```
   C5D7E6E3 D9D5C4E7 80000000
   (EPWTRNDX)
   ```

   Note: 80000000 can also be 00000000

   See the "MVS/ESA Installation Exits", GC28-1637, for details on how to perform this task.
3. If you do not want a probe to trip for situations where DAE has suppressed the dump, update your FFST Transition Code parameter list with the following information:

   ```
   COL. # ====► ....|....1....|....2...
   S cccccccccc
   ```

   Where an 'S' in column 1 indicates that if DAE suppresses the dump, FFST should also suppress the probe; 'cccccccc' is the IBM 9-character component ID of the product for which the probe should be suppressed. An '*' in column 3 indicates that all products will have the probe suppressed if DAE suppresses the dump.

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Note: Another way to do this would be to use all zeros as the flag indicators in IEAVTSEL which would prevent this exit from being called when DAE suppresses a dump.

You may include as many of these statements as required. They may be intermixed with the 'I' and 'E' records currently supported by this parameter list.

4. Create one or more entries in the FFST Transition Code parameter list, member TRNSABCD of the EPWPARM data set, to suppress FFST from processing certain ABEND conditions for specific products. Each entry has the following format:

```
COLUMN(S) DESCRIPTION
--------- ------------------
1         I - Include only the specified ABEND codes for the
                specified Component ID
          E - Exclude only the specified ABEND codes for the
                specified Component ID.
          * - Interpreted as a comment record and the record is
                ignored.

2         Must be blank

3-11      The Component ID of the product.

12        Must be blank

13-x      One or more ABEND codes for which probe control is
          required. Each entry must have the format 'tcccc'
          where 't' is either an 'S' for system ABEND or a 'U'
          for user ABEND; 'cccc' is up to a four-character ABEND
          code. Each entry must be separated by a blank.
```

5. Re-IPL your system.

Note: Each time the FFST Transition Code parameter list is changed, FFST must be deactivated and then reactivated before the changes will take affect.

Examples of filter statements can be found in “Transition Code Parameter List” on page B-6.

Further probe control is available by using the MODIFY probe control facility of FFST. The probe identifier values utilized by the FFST Transition Code and a description of when they are tripped are listed below:

Probe ID Description

EPWTRN05 This probe is tripped when the Transition Code gets control from the post dump exit for a non-ABEND condition, a product component ID was found, and it was for a dump that DAE did not suppress.

EPWTRN06 This probe is tripped when the Transition Code gets control from the post dump exit for a non-ABEND condition, a product component ID was NOT found, and it was for a dump that DAE did not suppress.

EPWTRN07 This probe is tripped when the Transition Code gets control from the post dump exit for an ABEND condition, a product component ID was found, and it was for a dump that DAE did not suppress.

EPWTRN08 This probe is tripped when the Transition Code gets control from the post dump exit for an ABEND condition, a product component ID was NOT found, and it was for a dump that DAE did not suppress.

EPWTRN11 This probe is tripped when the Transition Code gets control from the post dump exit for a non-ABEND condition, a product component ID was found, and it was for a situation the DAE suppressed the dump.

EPWTRN12 This probe is tripped when the Transition Code gets control from the post dump exit for a non-ABEND condition, a product component ID was NOT found, and it was for a situation that DAE suppressed the dump.

EPWTRN13 This probe is tripped when the Transition Code gets control from the post dump exit for an ABEND condition, a product component ID was found, and it was for a situation that DAE suppressed the dump.

EPWTRN14 This probe is tripped when the Transition Code gets control from the post dump exit for an ABEND condition, a product component ID was NOT found, and it was for a situation that DAE suppressed the dump.

A quick summary of these Probe IDs and the conditions under which they are tripped follows:

CICS Dump Global Exit

APAR PN45724 adds a new feature to FFST. It utilizes a CICS global exit that gets control when a CICS transaction issues a dump. This new feature causes an FFST software probe to execute when this user exit is called by CICS.

This new routine supports a parameter list for filtering to suppress the calling of FFST for dump situations of little interest. Filtering can be performed using the ABEND code (for ABEND conditions).

To correctly install this update you will need to reference the program directory that was shipped with FFST and reference the "System Considerations - CICS" section, and perform the following steps:

- Define the FFST CICS global user exit, EPWCGUEI, in your initialization program list table (PLT). Add the following statement after the entry for EPWTRUEI:

  ```
  DFHPLT TYPE=ENTRY,
  PROGRAM=EPWCGUEI
  ```

- Define the FFST CICS global user exit, EPWCGUET, in your termination program list table (PLT). Add the following statement after the entry for EPWTRUET:

  ```
  DFHPLT TYPE=ENTRY,
  PROGRAM=EPWCGUET
  ```

- Define the FFST CICS global user exit programs EPWCGUE, EPWCGUEI, and EPWCGUET and transaction GUET as CICS resources. Define the programs and transaction using the CEDA transaction:

  ```
  CEDA DEFINE PROGRAM(EPWCGUE)
  LANGUAGE(ASSEMBLER)
  RESIDENT(YES)
  GROUP(EPWFFST)
  CEDA DEFINE PROGRAM(EPWCGUEI)
  LANGUAGE(ASSEMBLER)
  GROUP(EPWFFST)
  CEDA DEFINE PROGRAM(EPWCGUET)
  LANGUAGE(ASSEMBLER)
  GROUP(EPWFFST)
  CEDA DEFINE TRANSACTION(GUET)
  PROGRAM(EPWCGUET)
  ```

- Use FFST installation job EPW12011 as a model to correctly link edit modules EPWCGUE,

	not DAE suppressed		DAE suppressed	
	COMPID	no COMPID	COMPID	no COMPID
non ABEND	EPWTRN05	EPWTRN06	EPWTRN11	EPWTRN12
ABEND	EPWTRN07	EPWTRN08	EPWTRN13	EPWTRN14

Figure B-1. Illustration of the FFST probe IDs used by Transition Code

```
EPWCGUEI, and EPWCGUET. Modify this job as follows:

change EPWTRUEI to EPWCGUEI
change EPWTRUET to EPWCGUET
change EPWTRUE to EPWCGUE
add RENT to the link-edit parm options for each step
change RMODE=24 to RMODE=ANY in step3
```

Run this job.

In order to test the installation of this new function, run the FFST CICS installation verification program (CIVP). This program invokes the CICS dump facility which will drive this new function. When CIVP is run, an additional output will be produced because this transaction invokes the global user exit. The output is a primary and secondary symptom string.

The format of the primary and secondary symptom strings generated by this new function follows:

```
PRIMARY SYMPTOM STRING:

PIDS/programid LVLS/lvl RIDS/applid RIDS/moduleid AB/Uabcode
PCSS/transid
```

where:

```
programid = 9 character component ID OR 8 character application
name
lvl = 3 character release/level value
applid = 8 character application name
moduleid = 8 character detecting module name
abcode = 4 character transaction ABEND code
transid = 4 character transaction identifier

SECONDARY SYMPTOM STRING:

PCSS/date PCSS/time PCSS/dumpid PCSS/userid PCSS/termid
PCSS/systemid
```

where:

```
date = date of transaction dump
time = time of transaction dump
dumpid = transaction dump identifier
userid = user identifier or *USERID*
termid = terminal identifier
systemid = system identifier
```

Add entries in member TRNSABCD in the FFST EPWPARM data set to register CICS applications or filter CICS ABEND codes. This global user exit is given the transaction name GUET, which is used as the application name. For applications that are IBM-written, code a registration record to make a correlation between the given application name and the IBM program id (component ID). You should also code the long name and vendor ID for the application.

MVS Dump Frequency Threshold Support

APAR PN51328 adds a new feature to FFST/MVS. It utilizes the ENF LISTEN function for the x'47' record in MVS 5.2. After the PTF is installed and FFST is started, an exit gets control when MVS DAE detects that a threshold has been reached which pertains to a certain number of instances of a symptom string seen by DAE in a certain amount of time. When this threshold is reached, the FFST exit gets control, converts the MVS symptom string to its RETAIN equivalent, and executes an FFST software probe.

You may add entries in the transition code parameter list (default name TRNSABCD) to register products in the same way as described in “MVS Post Dump Exit (IEAVTSEL)” on page B-1. The probe identifier values utilized by this new function and a description of when they are tripped are listed below:

Probe ID Description

EPWTRN15 This probe is tripped when the Transition Code gets control via the MVS ENF 47 exit for a non-ABEND condition and a product component ID is found.

EPWTRN16 This probe is tripped when the Transition Code gets control via the MVS ENF 47 exit for a non-ABEND condition and a product component ID is not found.

EPWTRN17 This probe is tripped when the Transition Code gets control via the MVS ENF 47 exit for an ABEND condition and a product component ID is found.

EPWTRN18 This probe is tripped when the Transition Code gets control via the MVS ENF 47 exit for an ABEND condition and a product component ID is not found.

A quick summary of these probe IDs and the conditions under which they are tripped follows:

Specifying IBM Product Identification Information

Both the MVS post dump exit and the CICS dump exit contain most of the information FFST requires to perform its functions. Some of the information missing is the three-character REL number which indicates the release level of the product and a short descriptive name of the product (i.e., APPLID). In order to pass this information to FFST, the FFST parameter list supports a registration record which has the following format:

```
            MVS ENF 47 Support
         ┌──────────┬──────────┐
         │  COMPID  │no COMPID │
         ├──────────┼──────────┤
non      │          │          │
ABEND    │EPWTRN15  │EPWTRN16  │
         │          │          │
         ├──────────┼──────────┤
ABEND    │EPWTRN17  │EPWTRN18  │
         │          │          │
         └──────────┴──────────┘
```

Figure B-2. Illustration of the FFST probe IDs used by Transition Code

```
COLUMN(S) DESCRIPTION
--------- ------------------
1 R - Registration record - used to pass product
identification information to FFST for Transition
Code probe statements.
* - Interpreted as a comment record and the record is
ignored.

2 Must be blank

3-11 The component ID of the product. For CICS transactions,
this is the component id that FFST will use when a
matching application identifier is found.

12 Must be blank

13-15 The three-character REL number of the product which
indicates its release number or level.

16 Must be blank

17-24 Application identifier - short name (For CICS
transactions, this is the program name to match
against for registration).

25 Must be blank

26-55 Application identifier - long name

56 Must be blank

57-72 Vendor name
```

Examples of registration statements can be found in “Transition Code Parameter List.”

Transition Code Parameter List

The FFST Transition Code parameter list, (a member of the FFSTPARM data set, the default name being TRNSABCD) can be used to control the Transition Code function of FFST and assign identification information required by FFST. The following is an example of this parameter list:

```
**********************************************************************
**** THIS IS A SAMPLE PARAMETER LIST FOR FFST TRANSITION PROCESSING ****
**********************************************************************
**********************************************************************
* THE FOLLOWING RECORD TYPES ARE SUPPORTED                           *
*                                                                    *
* * - COMMENT RECORD                                                 *
* E - EXCLUDE RECORD                                                 *
* I - INCLUDE RECORD                                                 *
* R - REGISTRATION RECORD                                            *
*                                                                    *
**********************************************************************
************************* EXCLUDE RECORD FORMAT ************************
**********************************************************************
*                                                                    *
* COLUMN(S)                                                          *
*                                                                    *
* 1     - RECORD TYPE - 'E' FOR EXCLUDE                              *
* 2     - BLANK                                                      *
* 3-11  - PROGRAM IDENTIFIER                                         *
* 12    - BLANK                                                      *
* 13-72 - ABEND CODE(S)                                              *
*                                                                    *
**********************************************************************
* EXAMPLE:                                                           *
*                                                                    *
*....................................................................*
*This next record will exclude Transition Code support for all products*
*that don't pass MVS a valid component ID when the MVS dump facility is*
*called. (FFST defaults the component ID to '999999999').  This next   *
*statement is HIGHLY recommended.                                     *
*....................................................................*
E 999999999 * 1230008
*....................................................................*
*This next record will exclude Transition Code support for all products*
*from which a S0122 ABEND (operator cancel) occurred.                 *
*....................................................................*
E * S0122 1230008
*....................................................................*
*This next record will exclude Transition Code support for the product *
*with a component ID of 569511111 and ABEND codes S0FCA and S0FDA.    *
*....................................................................*
E 569511111 S0FCA S0FDA
*....................................................................*
*This next record will exclude Transition Code support for the CICS    *
*transaction 'TRN1' when any user ABEND starting with the value 'A'    *
*occurs.                                                              *
*....................................................................*
```

Figure B-3 (Part 1 of 2). Sample Parameter List for FFST Transition Processing

```
E TRN104402 UA*                                                        *
**************************************************************************
************************* INCLUDE RECORD FORMAT ************************
**************************************************************************
**
* COLUMN(S)                                                            *
*                                                                      *
* 1     - RECORD TYPE - 'I' FOR INCLUDE                                *
* 2     - BLANK                                                        *
* 3-11  - PROGRAM IDENTIFIER                                           *
* 12    - BLANK                                                        *
* 13-72 - ABEND CODE(S)                                                *
*                                                                      *
**************************************************************************
* EXAMPLE:                                                             *
*                                                                      *
**|-------|*|-------------------------------------------------------|
I 569504402 S00C4
**************************************************************************
********************** REGISTRATION RECORD FORMAT **********************
**************************************************************************
*                                                                      *
* COLUMN(S)                                                            *
*                                                                      *
* 1      - RECORD TYPE - 'R' FOR REGISTRATION                          *
* 2      - BLANK                                                       *
* 3-11   - PROGRAM IDENTIFIER                                          *
* 12     - BLANK                                                       *
* 13-15  - PROGRAM LEVEL                                               *
* 16     - BLANK                                                       *
* 17-24  - PROGRAM SHORT NAME (UP TO 8 CHARACTERS)                     *
* 25     - BLANK                                                       *
* 26-55  - PROGRAM LONG NAME (UP TO 30 CHARACTERS)                     *
* 56     - BLANK                                                       *
* 57-72  - VENDOR NAME (UP TO 16 CHARACTERS)                           *
*                                                                      *
**************************************************************************
* EXAMPLE:                                                             *
*                                                                      *
**|-------|*|-|*|------|*|----------------------------|*|--------------|
R TRN104402 001 TRANS001 CICS transaction 001           ABC CORPORATION
R FFST04402 101 EPWCIVP FFST CICS IVP                   IBM CORPORATION
**************************************************************************
```

Figure B-3 (Part 2 of 2). Sample Parameter List for FFST Transition Processing

Appendix C. S/390 Channel Attached Device Support

ServiceView is IBM's strategic approach to promote commonality in solutions for the support and service of both hardware and software products developed by the IBM Corporation. ServiceView implementations will be provided in a series of stages. Stage I addresses the centralized management of S/390 channel-attached devices through the use of the System Network Architecture (SNA) Generic Alert.

FFST provides this function through a Small Programming Enhancement (SPE) (PTF UN57519) called FFST S/390 Channel Attached Support which works with the IBM NetView program product to generate and processes these Generic Alerts. This SPE provides Generic Alert support for the following devices:

- DASD
  - 3990 - models 001, 002, 003, 006, 007
  - 9343 - models C02, C04, D04
  - 9341
  - 9393
  - 3390 - models 001, 002, 003, 009
  - 9035 - model 002
  - 9345 - models 001, 002
  - 9391 - models 001, 002
  - 9395 - model 001
- ESCON channels
- ESCON Director
  - 9032
  - 9033
- Printers
  - 3800
  - APF1 (e.g., 3825, 3827, 3835)

FFST provides this support through a new FFST module, EPWSVC76, loaded from LPALIB by NetView initialization and then called by NetView when a LOGREC record is generated to report an error for one of the above devices (PTF UW00254 and Netview Release 2.3 and higher). EPWSVC76 receives control from NetView and is passed the record. This module places the record on an FFST data queue where it is dequeued and processed by FFST. When FFST receives the record, it generates an SNA Generic Alert from its contents. Probable cause and recommended repair action information along with error sense data are placed in the Generic Alert which is then sent to NetView by FFST through the NetView Program to Program Interface (PPI).

FFST Controls

FFST provides two ways in which Generic Alert generation for a supported LOGREC record can be controlled. The following sections detail this control.

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FFST Probe Control

FFST creates Generic Alerts for host channel-attached devices through a series of FFST probes - one for each device type supported. Each one of these probes are shipped as active. To completely disable Generic Alert support for one or more of the supported device types, the following MODIFY command can be entered at the MVS console:

```
F ffstproc ,ACTION=DISABLE,PROBEID=EPWHWSxx,VENDOR=IBM
```

where 'xx' is:

- 'A3' for DASD devices
- 'A2' for ESCON channel
- 'ED' for ESCON Director
- 'PP' for printer devices (permanent errors)
- 'PT' for printer devices (temporary errors)

To enable the support, the following MODIFY command can be entered at the MVS console:

```
F ffstproc ,ACTION=ENABLE,PROBEID=EPWHWSxx,VENDOR=IBM
```

where 'xx' is:

- 'A3' for DASD devices
- 'A2' for ESCON channel
- 'ED' for ESCON Director
- 'PP' for printer devices (permanent errors)
- 'PT' for printer devices (temporary errors)

See “FFST MODIFY Command Overview” on page 2-3 for a complete description of the FFST MODIFY commands.

Parameter List Control

In order to provide a more granular filter criteria, the FFST S/390 Channel Attached Support SPE utilizes a parameter list to determine if a Generic Alert is to be generated for a specific device and/or for a specific type. This parameter list resides within the partitioned data set specified by the FFSTPARM DD card within the FFST start up procedure. The default name for the emeber containing this parameter list is EPWHWR01 (which can be overridden in the FFSTPARM start list) and each record within the member has the following format, as illustrated below.

Column	Description
1	Action code. One of the following values: **I** - (Include) generate the Generic Alert if the criteria data in this record matches the information in the LOGREC record. **E** - (Exclude) don't generate the Generic Alert if the criteria data in this record matches the information in the LOGREC record. ***** Comment record, all information in this record is ignored.
2	Blank

3-4 Record type.

- 'A3' - indicates that this record is to control an alert for a DASD device. (The LOGREC record generated for a DASD error is a type A3 record.)
- 'A2' - indicates that this record is to control an alert for an ESCON channel. (The LOGREC record generated for an ESCON channel error is a type A2 record.)
- '30' - indicates that this record is to control an alert for a problem reported by an OBR (type 30) LOGREC record. (The ESCON Director and printer devices report their problems through an OBR record and are currently the only device types supported.)

5 Blank

6-9 Machine type. One of the following values:

tttt - a four character machine type value (e.g., 3990, 9033) which indicates either the failing machine type value (when columns 3-4 are set to either 'A3' or '30') or the machine type value of the local device to which the ESCON channel is attached (when columns 3-4 are set to 'A2').

***** - indicates all machine types.

10 Blank

11-13 Model number. One of the following values:

mmm - a three character model number value (e.g., 001, 002) which indicates either the failing machine model number (when columns 3-4 are set to either 'A3' or '30') or the machine model number of the local device to which the ESCON channel is attached (when columns 3-4 are set to 'A2').

***** - indicates all model numbers or that a model number is not applicable.

14 Blank

15-21 Serial number. One of the following values:

sssssss - up to a seven character serial number which indicates either the failing machine serial number (when columns 3-4 are set to either 'A3' or '30') or the machine serial number of the local device to which the ESCON channel is attached (when columns 3-4 are set to 'A2').

***** - indicates all serial numbers.

22 Blank

The remaining data in the parameter list record is device type dependent. The format for each device type is illustrated below.

DASD Parameter List Record

23-26 Symptom Code. One of the following values:

ssss - a four hexadecimal character symptom code from offset 22-23 in the DASD 32-byte sense code.

***** - indicates all symptom codes or that a symptom code is not applicable.

27-80 Ignored, can be used for comments.

ESCON Channel Parameter List Record

23-26 One of the following values:

tttt - a four character machine type value (e.g., 3990, 9033) of the remote device to which the ESCON channel is attached.

***** - indicates all remote machine types.

cc - a two character CHPID value, followed by two blanks, which specifies the ESCON channel for which this parameter list record applies. If a CHPID value is specified, then the remaining fields do not apply and are ignored.

27 Blank

28-30 Model number. One of the following values:

mmm - a three character model number value (e.g., 001, 002) of the remote device to which the ESCON channel is attached.

***** - indicates all model numbers or that a model number is not applicable.

31 Blank

32-38 Serial number. One of the following values:

sssssss - up to a seven character serial number of the remote device to which the ESCON channel is attached.

***** - indicates all serial numbers.

39-80 Ignored, can be used for comments.

ESCON Director Parameter List Format

There are no additional fields utilized for an ESCON Director problem.

Printer Device Parameter List Format

There are no additional fields utilized for a printer problem.

Parameter List Control Logic

When FFST receives a LOGREC record for a device it supports, it uses the information from the parameter list to determine if the Generic Alert should be generated. If the criteria specified in a parameter list record (e.g., machine type, model number, symptom code) matches the data in the LOGREC record, then the Action code (position 1 in the record) is examined. If it is an 'I', then a Generic Alert is generated. If it is an 'E', then a Generic Alert is not generated. (A record with an asterisk in column 1 is ignored.) All records in the parameter list are searched for matching criteria. The last record with a matching criteria will be used by FFST to control the generation of the Generic Alert. If no match is found or if this parameter list does not exist, then the Generic Alert is generated.

The following is a sample parameter list:

```
************************************************************************
* THIS IS A SAMPLE START UP PARAMETER LIST FOR THE FFST CHANNEL        *
* ATTACHED SUPPORT FEATURE.                                            *
************************************************************************
********************                        *************************
******************** A2 (ESCON) RECORD CONTROL *************************
********************                        *************************
************************************************************************
* The following control records are examples of how to control the     *
* generation of an SNA Generic Alert for ESCON channel problems.       *
* If SNA Generic Alert support is to be completely disabled for any    *
* ESCON channel problem, enter the following MODIFY command at the MVS *
* console:                                                             *
*                                                                      *
*              F FFST,A=DIS,V=IBM,PROBEID=EPWHWSA2                     *
*                                                                      *
* Selective alert control for the A2 records is provided on a basis of *
* the machine type, model number, serial number of the machine that    *
* detected the problem (i.e., Incident node) and on the basis of the   *
* Attached node using either the machine type, model number, and serial*
* number, or the CHPID of the channel that had the error.              *
************************************************************************
* This first record is a control record that will stop an alert being  *
* generated for a problem with an ESCON link between a 9021 CPU, model *
* number 480, serial number 12082, and a 9033 switch, model 001, serial*
* number 0950002.                                                      *
************************************************************************
* Action  Record  Incident Incident Incident Attached Attached Attached
*  Code    Type    Machine  Model    Serial   Machine  Model    Serial
*                   Type    Number   Number    Type    Number   Number
*  (1)     (3)      (6)      (11)     (15)     (23)     (28)     (32)
*
*
*
*
*
*
*
*
*
*
*
*  V   V   V    V      V    V    V
E A2 9021 480 0040161 9033 001 0950002
*...|....1....|....2....|....3....|....4 <====column scale
```

Figure C-1 (Part 1 of 4). Sample Startup Parameter List for FFST Channel Attached Support

```
**********************************************************************
* This next record is a control record that will stop an alert being   *
* generated for a problem with an ESCON link between a 9021 CPU, model *
* number 480, serial number 0040161, and any device to which the CPU is*
* attached.                                                            *
**********************************************************************
E A2 9021 480 0040161 *    *   *
*...|....1....|....2....|....3....|....4 <====column scale
**********************************************************************
* This next record is a control record that will stop an alert being   *
* generated for a problem with an ESCON link between a 9021 CPU, model *
* number 480, serial number 0040161, on CHPID 2A.                      *
* (Note, the CHPID value must be 2 characters in length. This          *
*        distinguishes it from an Attached Machine Type value which is *
*        4 characters in length.)                                      *
**********************************************************************
E A2 9021 480 0040161 2A
*...|....1....|....2....|....3....|....4 <====column scale
**********************************************************************
******************** A3 (SIM) RECORD CONTROL **************************
**********************************************************************
* The following control records are examples of how to control the     *
* generation of an SNA Generic Alert for a problem occurring in a DASD *
* device. If SNA Generic Alert support is to be completely disabled    *
* for all DASD devices, enter the following MODIFY command at the MVS  *
* console:                                                             *
*                                                                      *
*              F FFST,A=DIS,V=IBM,PROBEID=EPWHWSA3                     *
*                                                                      *
* Selective alert control for DASD devices is provided on a basis of   *
* the machine type, model number, serial number of the machine that    *
* detected the problem.                                                *
**********************************************************************
* This first record is a control record that will stop an alert from   *
* being generated for a problem on a 3390 DASD, model number 003, with *
* a serial number of T3505 and a symptom code (byte 22-23 of the sense *
* field in the A3 record) of X'2313'.                                  *
**********************************************************************
* Action  Record   Machine  Model    Serial   Machine
*  Code    Type     Type    Number   Number    Type
*  (1)     (3)      (6)      (11)     (15)     (23) <=====Start column
*                                                        of value
*
*
*
*
*
*
*
*
*  V   V   V    V      V
E A3 3390 003 T3505   2313
*...0....1....1....2....2....3 (column scale)
*   5    0    5    0    5    0
```

Figure C-1 (Part 2 of 4). Sample Startup Parameter List for FFST Channel Attached Support

```
**********************************************************************
* This next record is a control record that will stop an alert from    *
* being generated for a problem on a 3990 DASD, model number 001, all  *
* serial numbers, all symptom codes (byte 22-23 of the sense field in  *
* the A3 record).                                                      *
**********************************************************************
E A3 3990 001 *        *
**********************************************************************
* This next record is a control record that will stop an alert from    *
* being generated for a problem on a 3990 DASD, all models, all serial *
* numbers, with a symptom code (byte 22-23 of the sense field in the   *
* A3 record) of X'9980'.                                               *
**********************************************************************
E A3 3990 *   *       9980
**********************************************************************
* These next two control records will stop the generation of Generic   *
* Alerts for problems on all 9343 DASD devices except for a model C04  *
* for which Generic Alerts will be generated.                          *
**********************************************************************
E A3 9343 *   *       *        Exclude all 9343 problems
I A3 9343 C04 *       *        Include all 9343 model C04 problems
**********************************************************************
*********************                            **********************
******************** (30) LONG OBR Record Control **********************
*********************                            **********************
**********************************************************************
* The following control records are examples of how to control the     *
* generation of an SNA Generic Alert for OBR records. If Generic       *
* Alert support is to be completely disabled for OBR records,          *
* enter the following MODIFY command:                                  *
*                                                                      *
*              F FFST,A=DIS,V=IBM,PROBEID=EPWHWSxx                     *
*                                                                      *
* where "x" is:                                                        *
*    'ED' - for ESCON Director problems                                *
*    'PP' - for printer problems (permanent errors)                    *
*    'PT' - for printer problems (temporary errors)                    *
*                                                                      *
* Selective alert control for Long OBR records is provided on a basis  *
* of the machine type, model number, and serial number of the machine  *
* that detected the problem.                                           *
**********************************************************************
* This first record is a control record that will stop an alert from   *
* being generated for an ESCON Director with a machine type of 9032, a *
* model number of 001, and a serial number of 0000324.                 *
**********************************************************************
```

Figure C-1 (Part 3 of 4). Sample Startup Parameter List for FFST Channel Attached Support

```
* Action  Record  Incident Incident Incident
*  Code    Type    Machine  Model    Serial
*                   Type    Number   Number
*  (1)     (3)      (6)      (11)     (15)
*
*
*
*
*
*
*
*
*
*
*
*| V   V   V    V
E 30 9032 001 0000324
*...|....1....|....2....|....3....|....4 <====column scale
**********************************************************************
* This next record is a control record that will stop an alert from    *
* being generated for any printer with a machine type of 3827 and a    *
* model number of 001.                                                 *
**********************************************************************
E 30 3827 001 *
*...|....1....|....2....|....3....|....4 <====column scale
```

Figure C-1 (Part 4 of 4). Sample Startup Parameter List for FFST Channel Attached Support

Glossary of Terms and Abbreviations

This glossary contains terms and definitions from the following publications:

- The IBM *Dictionary of Computing* (SC20-1699).
- The *American National Standard Dictionary for Information Systems*, ANSI X3.172-1990, copyright 1990 by the American National Standards Institute (ANSI). Definitions are identified by the symbol (A) after the definition.
- The *Information Technology Vocabulary*, developed by Subcommittee 1, Joint Technical Committee 1, of the International Organization for Standardization and the International Electrotechnical Committee (ISO/IEC JTC1/SC1). Definitions from published parts of this vocabulary are identified by the symbol (I) after the definition; definitions taken from draft international standards, committee drafts, and working papers being developed by ISO/IEC JTC1/SC1 are identified by the symbol (T) after the definition, indicating that final agreement has not yet been reached among the participating national bodies of SC1.

For acronyms and abbreviations, the definition usually consists only of the words represented by the acronym or abbreviation; for complete definitions, see the entries for the words.

Reference Words Used in the Entries

The following reference words are used in this glossary:

Synonymous with. Appears in the commentary of a preferred term and identifies less desirable or less specific terms that have the same meaning.

Synonym for. Appears in the commentary of a less desirable or less specific term and identifies the preferred term that has the same meaning.

Contrast with. Refers to a term that has an opposed or substantively different meaning.

See. Refers to multiple-word terms that have the same last word.

See also. Refers to related terms that have similar (but not synonymous) meanings.

A

abend. Abnormal end of task.

abnormal end of task (abend). Termination of a task before its completion because of an error condition that cannot be resolved by recovery facilities while the task is executing.

access. (1) The manner in which files or data are referred to by a computer. (2) To obtain data from or put data in storage.

activate. (1) To make a resource ready to perform its function. (2) To pass control to a program, procedure, or routine. Contrast with *deactivate*.

active. The state of a resource when it has been activated and is operational.

address. A character or group of characters that identifies a register, a particular part of storage, or some other data source or destination. (A)

address space identifier (ASI). A unique, system-assigned identifier for an address space.

alert. (1) In SNA, a record sent to a system problem management focal point to communicate the existence of an alert condition. (2) In the NetView program, a high-priority event that warrants immediate attention. This database record is generated for certain event types that are defined by user-constructed filters.

allocate. To assign a resource to perform a task.

application. A collection of software components used to perform specific types of work on a computer.

application program. A program written for or by a user that applies to the user's work, such as a program that does inventory control or payroll.

AR. Access register.

ASCB. Address space control block.

ASID. Address space identifier.

Automated Service Interface (ASI). A component of FFST that consists of an IBM-supplied AS/400* that provides automatic problem management through an electronic connection to Information/Management and the vendor support organization.

B

BCP. Base control program.

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C

call. (1) The action of bringing a computer program, routine, or subroutine into effect, usually by specifying the entry conditions and jumping to an entry point. (I) (A) (2) To transfer control to a procedure, program, routine, or subroutine.

character. (1) A member of a set of elements that is used for the representation, organization, or control of data. (T) (2) A letter, digit, or other symbol that is used as part of the organization, control, or representation of data. A character is often in the form of a spatial arrangement of adjacent or connected strokes. (A) (3) A data type indicating that the data is a character or a string of characters.

CICS. Customer Information Control System.

CLIST. Command list.

command. A statement used to request a function of the system. A command consists of the command name abbreviation, which identifies the requested function, and its parameters.

command line. On a display screen, a display line, usually at the bottom of the screen, in which only commands can be entered.

command list (CLIST). A list of commands and statements designed to perform a specific function for the user.

comment. In programming languages, a language construct for the inclusion of text in a program and having no impact on the execution of the program. Comments are used to explain certain aspects of the program. (I) ***Note:*** *Comments serve as documentation instead of as instructions. They are not processed by a compiler.*

communication scanner processor (CSP). A processor in the 3725 Communication Controller that contains a microprocessor with control code. The code controls transmission of data over links attached to the CSP.

component. Hardware or software that is part of a functional unit.

configuration. (1) The manner in which the hardware and software of an information processing system are organized and interconnected. (T) (2) The physical and logical arrangement of devices and programs that make up a data processing system.

console. A part of a computer used for communication between the operator or maintenance engineer and the computer. (A)

control block. A storage area used by a computer program to hold control information. (I)

CSA. Common storage area.

CSECT. Control section.

CSP. Communication scanner processor.

Customer Information Control System (CICS). An IBM licensed program that enables transactions entered at remote terminals to be processed concurrently by user-written application programs. It also includes facilities for building, using, and maintaining databases.

customized dump. A dump that contains only the data specified as necessary to diagnose and solve a specific software problem processed by FFST. Contrast with *full-address space dump*. See *raw customized dump* and *formatted customized dump*.

D

data set. A unit of data storage and retrieval, consisting of a collection of data in one of several prescribed arrangements and described by control information to which the system has access.

data structure. The syntactic structure of symbolic expressions and their storage allocation characteristics. (T)

database. A collection of data with a given structure for accepting, storing, and providing, on demand, data for multiple users. (T)

deactivate. To take a resource of a node out of service, rendering it inoperable, or to place it in a state in which it cannot perform the functions for which it was designed. Contrast with *activate*.

debugging. Acting to detect and correct errors in software or system configuration.

decimal. (1) Pertaining to a system of numbers to the base 10. Decimal digits range from zero through nine. (2) A data type indicating that the data is a decimal number.

disable. To make nonfunctional. Contrast with *enable*.

display. To present data visually. (I) (A)

DST. Data structure table.

dump. (1) Data that has been dumped. (T) (2) To record, at a particular instant, the contents of all or part of one storage device in another storage device. Dumping is usually for the purpose of debugging. (T)

dump data set. A data set that contains the data areas used by a program that has failed.

E

ECB. Event control block.

EIB. External interrupt block.

enable. To make functional. Contrast with *disable*.

ENF. Event notification facility.

entry. An element of information in a table, list, queue, or other organized structure of data or control information.

ESTAE. Extended specify task abnormal exit.

event. (1) In the NetView program, a record indicating irregularities of operation in physical elements of a network. (2) An occurrence of significance to a task.

event control block (ECB). A control block used to represent the status of an event.

extended architecture (XA). An extension to System/370* architecture that takes advantage of continuing high performance enhancements to computer system hardware.

extended specify task abnormal exit (ESTAE). An MVS macroinstruction that provides recovery capability and gives control to the user-specified exit routine for processing, diagnosing an abend, or specifying a retry address.

F

FFDC. First failure data capture.

FFST. First Failure Support Technology.

FFST/MVS. First Failure Support Technology for Multiple Virtual Storage.

FFST/VM. First Failure Support Technology for Virtual Machine.

field. On a data medium or a storage, a specified area used for a particular class of data; for example, a group of character positions used to enter or display wage rates on a screen. (T)

file. A named set of records stored or processed as a unit. (T)

first failure data capture (FFDC). An FFST function that processes internal FFST software probes.

First Failure Support Technology (FFST). Technology and software that provide first failure data capture (FFDC) in a complex environment.

First Failure Support Technology for Multiple Virtual Storage (FFST/MVS). The version of FFST designed to work with MVS.

First Failure Support Technology for Virtual Machine (FFST/VM). The version of FFST designed to work with VM.

focal point. (1) An entry point that provides centralized management and control for other entry points for one or more network management categories. (2) In the NetView program, the focal point domain is the central host domain. It is the central control point for any management services element containing control of the network management data.

formatted customized dump. A customized dump that has been formatted with the EPWDMPFM or EPWDMPFV program. Contrast with *raw customized dump*.

FRR. Functional recovery routine.

full-address space dump. A dump that contains the contents of all virtual storage at the time the dump was taken. Contrast with *customized dump*.

functional recovery routine (FRR). A recovery routine that is used by the locked programs, the service request blocks, and the supervisor control routines.

G

generic alert. Encoded alert information that uses code points (defined by IBM and possibly customized by users or application programs) stored at an alert receiver, such as the NetView program.

H

help panel. Information displayed by a system in response to a help request from a user.

hexadecimal. (1) Pertaining to a numbering system with base of 16. Valid numbers use the digits zero through nine and characters A through F, where A represents 10 and F represents 15. (2) A data type indicating that the data is a hexadecimal number.

I

incorrect output error. An error that occurs when an application processes invalid data. Errors in an interface between software components, routines, or application programs cause incorrect output.

input/output (I/O). Pertaining to input, output, or both.

installation verification procedure (IVP). A procedure distributed with a system that tests the newly generated system to verify that the basic facilities of the system are functioning correctly.

Interactive Problem Control System (IPCS). A component of VM that permits online problem management, interactive problem diagnosis, online debugging for disk-resident CP abend dumps, problem tracking, and problem reporting.

Interactive System Productivity Facility (ISPF). An IBM licensed program that serves as a full-screen editor and dialogue manager. Used for writing application programs, it provides a means of generating standard screen panels and interactive dialogues between the application programmer and terminal user.

interface. A shared boundary between two functional units, defined by functional characteristics, signal characteristics, or other characteristics, as appropriate. The concept includes the specification of the connection of two devices having different functions. (T)

I/O. Input/output.

IPCS. Interactive problem control system.

ISPF. Interactive System Productivity Facility.

IVP. Installation verification procedure.

J

JCL. Job control language.

job control language (JCL). A control language used to identify a job to an operating system and to describe the job's requirements.

K

KB. Kilobytes; 1024 bytes.

L

link pack area (LPA). An area of main storage containing reenterable routines from system libraries. Their presence in main storage saves loading time.

load module. All or part of a computer program in a form suitable for loading into main storage for execution. A load module is usually the output of a linkage editor. (T)

log. (1) A collection of messages or message segments placed in an auxiliary storage device for accounting or data collection purposes. (2) To record; for example, to log all messages issued when FFST probe statements are triggered.

LPA. Link pack area.

M

MB. Megabyte; 1 048 576 bytes.

member. A partition of a partitioned data set.

message. Information not requested by a user but displayed by an application in response to an unexpected event, or when something undesirable could occur.

module. In programming languages, a language construct that consists of procedures or data declarations and that can interact with other such constructs. (I)

Multiple Virtual Storage (MVS). Implies MVS/370, the MVS/XA product, and the MVS/ESA product.

Multiple Virtual Storage/Enterprise Systems Architecture (MVS/ESA).

Multiple Virtual Storage for Extended Architecture (MVS/XA). An IBM licensed program consisting of MVS/System Product Version 2 and the VMS/XA Data Facility Product, operating on a System/370 processor in the System/370 extended architecture mode. MVS/XA allows virtual storage addressing to 2 gigabytes. See also *MVS*.

MVS. Multiple Virtual Storage.

MVS/ESA. Multiple Virtual Storage/Enterprise Systems Architecture.

MVS/XA. Multiple Virtual Storage/Extended Architecture.

N

NetView. An S/370-based IBM licensed program used to monitor a network, manage it, and diagnose its problems.

network. A configuration of data processing devices and software connected for information interchange.

network management vector transport. A management services request/response unit (RU) that flows over an active session between physical unit management services and control point management services (SSCP-PU session).

NMVT. Network management vector transport.

O

offset. The distance from the beginning of an object to the beginning of a particular field.

operator. A person or program responsible for managing activities controlled by a given piece of software such as FFST.

output. (1) Data that has been processed. (2) Data transferred from storage to an output device.

P

page. In a virtual storage system, a fixed-length block that has a virtual address and is transferred as a unit between real storage and auxiliary storage. (I) (A)

partitioned data set. A data set in direct access storage that is divided into partitions, called members, each of which can contain a program, part of a program, or data.

pattern-matching character. A special character such as an asterisk (*) or a question mark (?) that can be used to represent one or more characters. Any character or set of characters can replace a pattern-matching character.

pointer. A data element that indicates the location of another data element. (T)

PPT. Primary program operator interface task.

primary program operator interface task (PPT). In NCCF, a subtask that processes all unsolicited messages received from the ACF/VTAM* program operator interface (POI) and delivers them to either the controlling operator or command processor. The primary POI task also processes the initial command specified to execute when NCCF is initialized and timer request commands scheduled to execute under the PPT.

primary symptom string. A 132-byte unit of SRA information containing information about a software problem. This information includes architected keywords, environmental data, and software program identification. See *secondary symptom string*.

probe identifier. A unique eight-character identifier used to identify a probe statement.

probe identifier prefix. The first three characters of a probe identifier.

probe statement. The part of an FFST software probe that calls the FFST PSI.

problem determination. The process of identifying the source of a problem; for example, a program component, a machine failure, telecommunication facilities, user or contractor-installed programs or equipment, an environment failure such as a power loss, or a user error.

problem management. (1) In SystemView, the discipline that encompasses the detecting, analyzing, correcting, and tracking of incidents and problems in system management. (2) The management discipline that manages a problem from its detection through its final resolution. Problem management is composed of the following functions:

- Problem determination
- Problem diagnosis
- Problem bypass and recovery
- Problem resolution
- Problem tracking and control

Problem Source Identifier (PSI). A component of FFST that consists of a software program running in the host system and invoked by probe statements to collect data, build symptom strings, and notify the system's operator and support group.

program identifier. A character string up to nine characters long that identifies a specific application program.

PSI. Problem Source Identifier.

R

raw customized dump. A customized dump that has not yet been formatted with the EPWDMPFM or EPWDMPFV program. Contrast with *formatted customized dump*.

record. A set of one or more related data items grouped for processing.

referenced data structure. A data structure that is logically linked to another data structure of a different type.

register. A part of internal storage having a specified storage capacity and usually intended for a specific purpose. (T)

release. A distribution of a new product or new function and APAR fixes for an existing product.

requester. A resource (for example, a software application) that requests a service from another resource. Contrast with *server*.

reset. To put all or part of a data processing device back into a prescribed state. (I) (A)

return code. A value returned to a program to indicate the results of an operation requested by that program.

S

scanner interface trace (SIT). A record of the activity within the communication scanner processor (CSP) for a specified data link between a 3725 Communication Controller and a resource.

SCP. System control programming.

scroll. To move all or part of the display image vertically to display data that cannot be observed within a single display image.

secondary symptom string. A unit of structured SRA information that provides information about a problem, including the general purpose registers and additional user-selected keywords. This information supplements the information in the primary symptom string. See *primary symptom string*.

server. A resource (for example, a software application) that provides a service to another resource. Contrast with *requester*.

SIT. Scanner interface trace.

SNA. Systems Network Architecture.

software probe. An FFST component embedded in application source code that checks for should-not-occur conditions and calls the FFST PSI.

source file. (1) A file that contains source statements for such items as high-level language programs and data description specifications. (2) A file of programming code that has not been compiled into machine language.

source file identifier. The three-characters that indicate the name of the application program's source file. This identifier is characters 4–6 of the unique probe identifier.

SRA. Symptom Record Architecture.

startup command list. A list of commands invoked at FFST initialization to establish the FFST operating environment.

statement. In programming languages, a language construct that represents a step in a sequence of actions or a set of declarations. (I)

subsystem. A secondary or subordinate system, usually capable of operating independent of, or asynchronously with, a controlling system. (T)

symptom record. An architectural design used to format data in multiple sections, including a symptom string and other customer-specified information. This symptom record is used to generate a generic alert and is logged in the ASI problem database.

Symptom Record Architecture (SRA). A multisection data logging format with each data section less than 64KB in size. This architecture is used by FFST with the exception of the 64KB size restriction for section 5 of the output record. NetView also uses this architecture for its generic alerts.

symptom string. A structured character string generated by the PSI when FFST processes a specific software problem. See *primary symptom string* and *secondary symptom string*.

system. A set of equipment and software that forms an autonomous whole capable of performing information processing and information transfer.

system control programming (SCP). IBM-supplied programming that is fundamental to the operation and maintenance of the system. It serves as an interface with licensed programs and user programs and is available without additional charge.

SystemView. IBM's system management strategy for planning, coordinating, and operating heterogeneous, enterprise-wide information systems. This strategy consists of the SystemView structure and SystemView-conforming products.

Systems Network Architecture (SNA). In IBM networks, the description of the layered logical structure, formats, protocols, and operational sequences that are used for transmitting information units through networks, as well as controlling the configuration and operation of networks.

T

Time Sharing Option (TSO). An operating system option. For S/370, the option provides interactive time sharing from remote terminals.

TRUE. Task related user exit.

TSO. Time Sharing Option.

U

user. A person who requires the services of a computing system.

user exit. A point in an IBM-supplied program at which a user routine can be given control.

V

value. A quantity assigned to a constant, variable, parameter, or symbol.

variable. In programming languages, a language object that can take different values, one at a time. The values of a variable are usually restricted to a certain data type. (I)

version. A separate IBM licensed program, based on an existing IBM licensed program, that usually has significant new code or function. Each version has its own license, terms, conditions, product type number, monthly charge, documentation, test allowance (if applicable), and programming support category. ***Note:*** *Numbering of versions starts with Version 2. The first release of an IBM licensed program is referred to as Release 1 with no indication of version number.*

virtual machine (VM). (1) A virtual data processing system that appears to be at the exclusive disposal of a particular user, but whose functions are accomplished by sharing the resources of a real data processing system. (T) (2) A functional simulation of a computer and its associated devices. Each virtual machine is controlled by a suitable operating system; for example, the conversational monitor system (CMS).

Virtual Machine/Enterprise Systems Architecture (VM/ESA). An IBM licensed program that manages the resources of a single computer so that multiple computing systems appear to exist. Each virtual machine is the functional equivalent of a "real" machine.

virtual storage. The storage space that can be regarded as addressable main storage by the user of a computer system in which virtual addresses are mapped into real addresses. The size of virtual storage is limited by the addressing scheme of the computer system and by the amount of auxiliary storage available, not by the number of main storage locations. (I) (A)

Virtual Telecommunications Access Method (VTAM). A set of programs that maintain control of the communication between terminals and application programs running under DOS/VS, OS/VS1, and OS/VS2 operating systems.

VM. Virtual Machine.

VM/ESA. Virtual Machine/Enterprise Systems Architecture.

VTAM. Virtual Telecommunications Access Method.

Program Number: 5645-001
5647-A01

Printed in U.S.A.

SC31-8604-01