OS/390

Resource Measurement Facility Diagnosis Guide

SC33-6592-01

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SC33-6592-01

Note

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

Second Edition, September 1998

This is a major revision of, and obsoletes, SC33-6592-00.

This edition applies to Version 2 Release 6 of OS/390 (5647-A01) and to all subsequent releases and modifications until otherwise indicated in new editions or technical newsletters.

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Programming Interface Information

This book is intended to help the customer to do diagnosis of RMF. This book documents information that is Diagnosis, Modification or Tuning Information provided by RMF.

Warning: Do not use this Diagnosis, Modification or Tuning Information as a programming interface.

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- MVS/ESA
- OS/390
- Resource Measurement Facility
- RMF

About This Book

This book will help you diagnose problems in OS/390* Resource Measurement Facility (RMF*). Using the book, you will be able to:

- Follow diagnostic procedures for each type of problem in RMF
- Collect and analyze data needed to diagnose the problem
- Develop a search argument to use for searching problem reporting data bases
- Know what problem data is needed before reporting the problem to IBM*.

The level of detail at which this book is written assumes that the reader:

- Understands commonly used diagnostic tasks and aids, such as those presented in the *OS/390 MVS Diagnosis: Procedures* book
- Codes in assembler language, and reads assembler and linkage editor output
- Understands basic system concepts and the use of system services
- Understands the externals for RMF.

How to Use this Book

Use this book to diagnose problems only in RMF. If the product name is not RMF, return to *OS/390 MVS Diagnosis: Procedures* to identify the component or product and use the appropriate diagnosis book.

Use this book to diagnose problems in RMF as follows:

1. Identify the problem
2. Collect problem data
3. Analyze the problem data to develop symptoms
4. Develop search arguments, search problem reporting data bases, and request the problem fix if the problem has been reported before
5. If not, collect additional data needed to isolate the problem
6. Fix the problem, if your installation has the source code for the module containing the problem
7. Otherwise, report the problem to IBM.

Before using this book, you need to understand the information in *OS/390 MVS Diagnosis: Procedures*, which helps you:

- Determine if the problem is caused by an IBM product
- Identify the type of problem
- Determine the source of the problem
  - Software
  - Hardware
  - User problem.
- Understand how to develop search arguments
- Obtain, format and analyze a dump.

The OS/390 RMF Library

This table shows the shortened titles, full titles, and order numbers of the books in the RMF library for OS/390. This book uses the shortened titles when referring to other books.

Table 0-1. RMF Library

Short Title Used in This Book	Title	Order Number
Books available as Hardcopy and Softcopy		
RMF User's Guide	*OS/390 RMF User's Guide*	SC28-1949
RMF Report Analysis	*OS/390 RMF Report Analysis*	SC28-1950
RMF Performance Management Guide	*OS/390 RMF Performance Management Guide*	SC28-1951
RMF Programmer's Guide	*OS/390 RMF Programmer's Guide*	SC28-1952
RMF Reference Summary	*OS/390 RMF Reference Summary*	SX22-0044
RMF Messages and Codes	*OS/390 RMF Messages and Codes*	GC28-1948
Softcopy documentation as part of the *OS/390 Collection* (SK2T–6700)		
RMF Diagnosis Guide	*OS/390 RMF Diagnosis Guide*	SC33-6592
RMF NewsFLASH	*OS/390 RMF NewsFLASH*	SC28-1986

Related Information

For additional information on OS/390, see the *OS/390 Information Roadmap*, GC28-1727.

Summary of Changes

What's New in OS/390 Version 2 Release 6

Summary of Changes
for SC33-6592-01
OS/390 Version 2 Release 6

This book contains information previously presented in *RMF Diagnosis Guide*, SC33-6592-00, which supports the Resource Measurement Facility.

Chapter 3, “Obtaining Trace Data from PM of OS/390” on page 3-1 has been updated to describe the modified process on how to create trace data in case of a programming error or a communication error in PM of OS/390.

History of Changes

What's New in OS/390 Version 2 Release 4

Summary of Changes
for SC33-6592-00
OS/390 Version 2 Release 4

This book contains information previously presented in *RMF Diagnosis Guide*, LY28-1132, which supports the Resource Measurement Facility.

Chapter 3, “Obtaining Trace Data from PM of OS/390” on page 3-1 is new to describe how to create trace data in case of a programming error or a communication error in PM of OS/390.

Chapter 1. Diagnosing Problems in RMF

Before using this book, you should:

- Be familiar with RMF. See *RMF User's Guide* for specific information about RMF sessions.
- Understand the information in the *OS/390 MVS Diagnosis: Procedures*.

Identifying Problems

The following table lists each problem type and its meaning. The table directs you to a diagnostic procedure for that problem type or to another book.

Table 1-1. Problem Types

For these problem types:	See the following:
Abend X'0D5': RMF detected an address space identifier (ASID) that was not valid.	"Diagnosing Abend 0D5" on page 1-2
Abend X'0FE': An error occurred, ending the Monitor I ZZ session.	"Diagnosing Abend 0FE" on page 1-3
Abend unexpected by RMF: A module with the prefix ERB abnormally ended with a system completion code other than the codes listed above.	"Diagnosing an Abend Unexpected by RMF" on page 1-4
Message with ERB prefix.	"Diagnosing a Message with an ERB Prefix" on page 1-6
Message with CEE or EDC prefix.	"Diagnosing a Message with a CEE/EDC Prefix" on page 1-7
Abend with a user completion code issued by a module with an ERB prefix.	*RMF Messages and Codes*
Incorrect output: Unusually large or small numbers appeared in an RMF report.	"Diagnosing Incorrect Output" on page 1-8
Documentation error: An error in RMF documentation was detected.	"Diagnosing a Documentation Error" on page 1-9
Empty Monitor III JES delays report: A Monitor III JES delays report was displayed that contained no data. The headings appeared, but the fields were blank.	"Diagnosing an Empty Monitor III JES Delays Report" on page 1-10

Diagnosing Abend 0D5

Use this procedure when a module with the prefix ERB abnormally ends with the system completion code X'0D5'. RMF detected an ASID that was not valid.

Table 1-2. Diagnostic Procedure for Abend 0D5

Diagnostic Procedure	References
1. Obtain the SYS1.LOGREC error record and format it with EREP to obtain a detail edit report.	*EREP User's Guide* for EREP formatting *OS/390 MVS Diagnosis: Tools and Service Aids* to read the SYS1.LOGREC record *OS/390 MVS Diagnosis: Tools and Service Aids*
2. Check the SYS1.LOGREC error record to determine if the abend occurred in module ERBMFPVS. If the abend did not occur in module ERBMFPVS, continue with step 4. Otherwise proceed with the next step.	*OS/390 MVS Diagnosis: Tools and Service Aids* to read the SYS1.LOGREC record *OS/390 MVS Diagnosis: Tools and Service Aids*
3. Obtain the SVC dump for the abend.	*OS/390 MVS Diagnosis: Procedures*
4. Format the dump with the IPCS VERBEXIT LOGDATA subcommand to see the system diagnostic work area (SDWA) and the search argument. In the dump, find the offset of the failing instruction into the module. If analyzing the dump at a terminal, use the IPCS WHERE subcommand to locate the failing instruction and to find its offset into the module.	*OS/390 MVS IPCS Commands* for the VERBEXIT LOGDATA and WHERE subcommands
5. Determine if the ASID is not valid. Either: • The address space does not exist • The address space is swapped out. Correct the problem and reinitialize RMF. If you cannot determine why the ASID is not valid, continue with the next step.	
6. Develop a search argument consisting of: • Programmer identifier: IDS/566527404 • System abend code: AB/S00D5 • CSECT name: RIDS/cccccccc • Load module name: RIDS/cccccccc#L Use the search argument to search problem reporting data bases. If the search finds that the problem has been reported before, request the problem fix. If not, continue with the next step.	Chapter 4, Developing a Search Argument for RMF *OS/390 MVS Diagnosis: Procedures*
7. Report the problem to IBM. Provide the following problem data: • Load module name and level • CSECT name and level • Offset of the failing instruction into the module • SVC dump (softcopy) • Search argument • Current RMF Monitor I options • RMF version and release • Name and level of the operating system with a list of program temporary fixes (PTF) applied at the time of the problem and all installation modifications, exits, and products with other than Class A service.	Chapter 5, Reporting a Problem to IBM

Diagnosing Abend 0FE

Use this procedure when RMF ends with a system completion code X'0FE'. RMF detected an error while sampling data about the state of the system.

Table 1-3. Diagnostic Procedure for Abend 0FE

Diagnostic Procedure	References
1. Obtain the SYS1.LOGREC error record and format it with EREP to obtain a detail edit report.	*EREP User's Guide* for EREP formatting *OS/390 MVS Diagnosis: Tools and Service Aids* to read the SYS1.LOGREC record *OS/390 MVS Diagnosis: Tools and Service Aids*
2. Locate the 0FE entry in the SYS1.LOGREC error record. The entry preceding X'0FE' indicates the module that abended.	*OS/390 MVS Diagnosis: Tools and Service Aids*
3. Set a SLIP trap for the abend code preceding the X'0FE' entry in the SYS1.LOGREC error record. Request the SLIP to produce an SVC dump. If you cannot reproduce the situation, continue with step 5.	*OS/390 MVS Diagnosis: Procedures*
4. Format the dump produced by the SLIP trap with the IPCS VERBEXIT LOGDATA subcommand and keep as softcopy. In the dump, find the offset of the failing instruction into the module. If analyzing the dump at a terminal, use the IPCS WHERE subcommand to locate the failing instruction and to find its offset into the module.	*OS/390 MVS IPCS Commands* for the VERBEXIT LOGDATA and WHERE subcommands
5. Develop a search argument consisting of: • Program identifier: PIDS/566527404 • Load module name: RIDS/ccccccccc#L • CSECT name: RIDS/ccccccccc • System abend code: AB/S00FE • SLIP trap abend code: AB/S0xxx Use the search argument to search problem reporting data bases. If the search finds that the problem has been reported before, request the problem fix. If not, continue with the next step.	Chapter 4, Developing a Search Argument for RMF *OS/390 MVS Diagnosis: Procedures*
6. Report the problem to IBM. Provide the following problem data: • Load module name and level • CSECT name and level • Offset of the failing instruction into the module • Registers at time of abend • SVC dump produced by the SLIP trap (softcopy) • SYS1.LOGREC (softcopy) • Search argument • Current RMF Monitor I options • RMF version and release • Console log of this situation including related ERBxxxI messages • Name and level of the operating system with a list of program temporary fixes (PTF) applied at the time of the problem and all installation modifications, exits, and products with other than Class A service.	Chapter 5, Reporting a Problem to IBM

Diagnosing an Abend Unexpected by RMF

Use this procedure when a module with the prefix ERB abnormally ends with a system completion code other than the codes listed in the table under “Identifying Problems” on page 1-1.

Table 1-4 (Page 1 of 2). Diagnostic Procedure for an Abend Unexpected by RMF

Diagnostic Procedure	References
1. Look at the explanation for the abend code and any accompanying reason code. Take the recommended actions.	*OS/390 MVS System Codes* for an explanation of the abend code
2. Obtain messages accompanying the abend. Look at their explanations and take any recommended actions.	*OS/390 MVS System Messages, Vol 2 (ASB-EWX)* for explanations of the messages
3. Obtain the SYS1.LOGREC error record, the dump, or both for the abend (softcopy).	*OS/390 MVS Diagnosis: Tools and Service Aids*
4. Format the dump or SYS1.LOGREC record to see the SDWA and the search argument: • Format an SVC dump or SYSMDUMP ABEND dump with the IPCS VERBEXIT LOGDATA subcommand. • Format a SYS1.LOGREC record with EREP to obtain a detail edit report. Find the heading VARIABLE RECORDING AREA (SDWAVRA). Note the SDWAVRA keys, lengths, and contents.	*OS/390 MVS IPCS Commands* for the VERBEXIT LOGDATA subcommand *EREP User's Guide* for EREP formatting *OS/390 MVS Diagnosis: Tools and Service Aids* *OS/390 MVS Diagnosis: Tools and Service Aids*
5. In the dump, find the offset of the failing instruction within the CSECT of the load module. If analyzing the dump at a terminal, use the IPCS WHERE subcommand to locate the failing instruction and to find its offset into the module.	*OS/390 MVS IPCS Commands* for the WHERE subcommand
6. Use the WRITELOG system command to print the system log (keep as softcopy). The system log shows all system messages and commands issued. Make sure you print the log for the time period when the abend occurred.	*OS/390 MVS System Commands* for the WRITELOG command
7. Develop a search argument consisting of: • Program identifier: PIDS/566527404 • System abend code: AB/S0xx • Abend reason code: PRCS/xxxxxxxx • Message identifier: MS/cccnnns • CSECT: RIDS/cccccccc • Load module name: RIDS/cccccccc#L Use the search argument to search problem reporting data bases. If the search finds that the problem has been reported before, request the problem fix. If not, continue with the next step.	Chapter 4, Developing a Search Argument for RMF *OS/390 MVS Diagnosis: Procedures*

Table 1-4 (Page 2 of 2). Diagnostic Procedure for an Abend Unexpected by RMF

Diagnostic Procedure	References
8. Report the problem to IBM. Provide the following problem data: • Accompanying messages • The dump, SYS1.LOGREC error record, or both (softcopy) • SDWAVRA keys, lengths, and contents • Hardcopy (or better softcopy) of console log • Search argument • Offset of the failing instruction into the module • Current RMF options for session running • RMF version and release • Load module name and level • CSECT name and level • Name and level of the operating system with a list of program temporary fixes (PTF) applied at the time of the problem and all installation modifications, exits, and products with other than Class A service.	Chapter 5, Reporting a Problem to IBM

Diagnosing a Message with an ERB Prefix

Use this procedure when you receive a message with an ERB prefix.

Table 1-5. Diagnostic Procedure for a Message with an ERB Prefix

Diagnostic Procedure	References
1. Determine which session was running when the message was issued. • If the message was issued within an RMF ISPF reporter session, use the help facility RMF supplies for an explanation of the message and user response. • If the message was received on the main operator console, it is a system message. If you need assistance with a message, continue with the next step.	Press the HELP key (PF1) for an explanation of the message. These message explanations are also listed in the *RMF Messages and Codes* book. See *OS/390 MVS System Messages, Vol 2 (ASB-EWX)* for an explanation and an appropriate operator response for system messages.
2. Report the problem to IBM. Provide the following problem data: • Message number • RMF version and release • RMF session: Monitor I, II, III or Postprocessor • Name and level of the operating system with a list of program temporary fixes (PTF) applied at the time of the problem and all installation modifications, exits, and products with other than Class A service.	Chapter 5, Reporting a Problem to IBM

Diagnosing a Message with a CEE/EDC Prefix

Use this procedure when you receive a message with a CEE or EDC prefix.

These message are created by integrated LE/370 routines during a Postprocessor session.

Table 1-6. Diagnostic Procedure for a Message with a CEE/EDC Prefix

Diagnostic Procedure	References
1. Increase the region size for the Postprocessor job. If the problem is not solved, continue with the next step.	See the *RMF User's Guide* for details. See *OS/390 Language Environment Debugging Guide and Run-Time Messages* for an explanation of the message.
2. Report the problem to IBM. Provide the following problem data: • Message number • RMF version and release • RMF session: Postprocessor • Name and level of the operating system with a list of program temporary fixes (PTF) applied at the time of the problem and all installation modifications, exits, and products with other than Class A service.	Chapter 5, Reporting a Problem to IBM

Diagnosing Incorrect Output

Use this procedure when unusually large or small numbers appear in any RMF reports. Inaccurate input might have been given to RMF from another system component.

Table 1-7. Diagnostic Procedure for Incorrect Output

Diagnostic Procedure	References
1. Obtain a hardcopy of the report that has unusual numbers. If the problem is a Monitor III JES delays report which has no data, see "Diagnosing an Empty Monitor III JES Delays Report" on page 1-10.	*RMF User's Guide*
2. If you are running a Monitor I or Monitor II session or the Postprocessor, and you are collecting SMF data, print the contents of the SMF records which generated *this* report (and keep them as softcopy). If you are running a Monitor III session, keep any VSAM data sets used to hold data during the session. If the problem is with a report produced by a Monitor III SMF record, print the contents of that SMF record (and keep it as softcopy).	*RMF User's Guide DFSMS/MVS Access Method Services for VSAM*
3. Report the problem to IBM. Provide the following problem data: • Hardcopy (or better softcopy) of the report • Accompanying messages • RMF version and release • RMF session: Monitor I, II, III or Postprocessor • SMF record contents • VSAM data set contents if running a Monitor III session • Current RMF options • Name and level of the operating system with a list of program temporary fixes (PTF) applied at the time of the problem and all installation modifications, exits, and products with other than Class A service.	Chapter 5, Reporting a Problem to IBM

Diagnosing a Documentation Error

Use this procedure when you find an error in RMF documentation.

Table 1-8. Diagnostic Procedure for a Documentation Error

Diagnostic Procedure	References
1. If you have a problem with an RMF publication use the Reader's Comment Form of that book to report the documentation error. Be specific when reporting the error. If there isn't a Reader's Comment Form, send your description of the documentation error to the address listed in the edition notice of the book. Include the following information: • Publication title • Publication order number • Page number containing the problem • Thorough description of the problem. If the problem is with a form of documentation other than a publication, continue with the next step.	See the Reader's Comment Form of this book for an example .
2. If the problem was with an RMF ISPF panel, type PANELID on the command line to display the panel ID. Use the Reader's Comment Form of *RMF Report Analysis* to report the problem. Include the following information: • RMF version and release • Panel ID • Thorough description of the problem.	See the Reader's Comment Form of this book for an example .
3. Report the problem to the IBM Support Center *only* in the following situations: • The correction to the documentation is needed to prevent a severe problem. • You are not sure if the problem is a documentation error or product error. If you report the problem to the IBM Support Center, provide the following data: • RMF version and release • The name and order number of the publication you are using and the page containing the error • If the error was on an online panel, provide the panel ID. Type PANELID on the command line to display the panel ID. • Name and level of the operating system with a list of program temporary fixes (PTF) applied at the time of the problem and all installation modifications, exits, and products with other than Class A service.	Chapter 5, Reporting a Problem to IBM

Diagnosing an Empty Monitor III JES Delays Report

Use this procedure when no data appears in a Monitor III JES delays report.

If there are no jobs delayed by JES, RMF generates an empty Monitor III JES delays report. In this case, an empty report is not considered a problem.

Table 1-9. Diagnostic Procedure for Empty Monitor III JES Delays Report

Diagnostic Procedure	**References**
1. Find out if the JES2 or JES3 control blocks have changed at your installation. If so, Monitor III modules might be affected.	For the RMF/JES interface module installation procedures, see *OS/390 Program Directory*
2. If the JES control blocks have changed, you must reassemble and link-edit the RMF source modules that map offsets to the JES control block fields sampled by Monitor III using the new JES macros. If the problem occurs again, continue with the next step.	
3. Report the problem to IBM. Provide the following problem data: • Accompanying messages • RMF version and release • Installed JES level • Hardcopy of the report • VSAM data set contents • Name and level of the operating system with a list of program temporary fixes (PTF) applied at the time of the problem and all installation modifications, exits, and products with other than Class A service.	Chapter 5, Reporting a Problem to IBM

Chapter 2. Obtaining a Dump from Monitor II or Monitor III

If an error occurs in the RMF Monitor II or Monitor III reporter session, you will be prompted whether you want to write a dump. Follow the steps below to obtain a dump.

Table 2-1. Procedure for Obtaining a Dump

Diagnostic procedure	**References**
1. Enter in the command line: **TSO FREE FI(SYSUDUMP SYSABEND)** You can ignore messages, for example: *IKJ56247I FILE xxxxxxxx NOT FREED, IS NOT ALLOCATED*	
2. Enter in the command line: **TSO ALLOC FI(SYSMDUMP) DA(dsname) NEW SP(5 5) CYL REUSE**	
3. Then answer "Y" in the dump request panel: *Would you like a dump? Enter Y or N. ===>***Y**	
4. The system now writes an unformatted dump to the data set just allocated. This may take some time. When it is finished, the system issues message: *IEA993I SYSMDUMP TAKEN TO dsname*	
5. The dump can now be processed with IPCS.	

Chapter 3. Obtaining Trace Data from PM of OS/390

If a programming error or a communication error occurs in a PM of OS/390 session, a corresponding message will ask you to create a host trace and a workstation trace for further investigation. Follow the steps below to obtain a dump.

Table 3-1. Procedure for Obtaining Trace Data

Diagnostic procedure	References
1. Allocate a trace data set on your host system: You have to change the GPMSERVE procedure on your host system by replacing the `SYSOUT DD DUMMY` statement with an allocation of a trace data set that has the following DCB attributes: `DSORG=PS,RECFM=FBA,LRECL=121,BLKSIZE=0`.	See chapter "Preparations on your OS/390 Host System" in the *RMF User's Guide*.
2. Start the PWS trace: Press **Start PWS Trace** from the context menu of the **PM of OS/390** application in the Performance Monitoring Main Window. All trace data will be written to data set `ipm.err`. You can stop the trace by pressing **Stop PWS Trace** from the same context menu.	
3. Start the host trace with the command: **MODIFY GPMSERVE,TRACEON** All trace data will be written to the data set that is allocated as `SYSOUT` in the GPMSERVE procedure. You can stop the trace with the command **MODIFY GPMSERVE,TRACEOFF**.	
4. Report the problem to IBM. Provide the following problem data: • PWS trace data set • Host trace data set • Description of the problem including the message number that asked you for the trace data.	

Chapter 4. Developing a Search Argument for RMF

You or IBM can use a search argument to search a problem reporting data base to look for a problem similar to the one you encountered. If the problem was reported previously, a problem reporting data base contains information about the problem and, possibly, a fix. See *OS/390 MVS Diagnosis: Procedures* for detailed descriptions of formatting search arguments and searching data bases.

The following table shows symptoms for RMF search arguments. The table summarizes the symptoms recommended in the diagnostic procedures in Chapter 1, Diagnosing Problems in RMF.

Use the **free-format** if your installation has a free-format search tool, such as INFO/System with the INFO/MVS data base.

Use the **structured** format if your installation has a structured format search tool, such as INFO/Management or INFO/Access.

Table 4-1. Search Arguments from Diagnostic Procedures

Description	Free Format	Structured Format	Examples
System abend code	abendhhh	AB/S0hhh	abend0D5 AB/S00D5
User completion code	abenddddd	AB/Udddd	abend1207 AB/U1207
Message identifier	msgcccccccc	MS/ccccccc	msgERB251I MS/ERB251I
Load module name	cccccccc	RIDS/cccccccc#L	ERB3GMFC RIDS/ERB3GMFC#L
CSECT name (object module)	cccccccc	RIDS/cccccccc	ERB3GISS RIDS/ERB3GISS
Return code	rchhhhhhhh	PRCS/hhhhhhhh	00000020 PRCS/00000020
Program identifier The first four characters identify the product MVS and the last five characters identify RMF.	ccccccccc	PIDS/ccccccccc	566527404 PIDS/566527404

Chapter 5. Reporting a Problem to IBM

The following tables identify the information you need to collect before calling IBM to report an RMF problem. When you report a problem, you need to describe your system and the problem you experienced. The IBM Support Center personnel uses this information to see if the problem is already known to IBM, check whether a fix is available, or determine how to correct the problem.

Table 5-1 lists the problem data you need to collect before calling IBM to report a problem with an abend X'0D5'.

Table 5-1. Checklist for Reporting a Problem with an Abend 0D5

Problem data	**Example or reference**	**Information collected**
Load module name and level[1]	ERB*xxxxx* U*nnnnnn*[2]	
CSECT name and level	ERB*xxxxx* U*nnnnnn*	
Offset of the failing instruction into the module	X'090AF'	
SVC dump (SYSMDUMP as softcopy) *OS/390 MVS Diagnosis: Procedures*		
Search argument	Chapter 4, Developing a Search Argument for RMF *OS/390 MVS Diagnosis: Procedures*	
Current RMF options	Use the RMF DISPLAY command to display the current options on the operator console. *RMF User's Guide*	
RMF version and release	OS/390 2.6.0 RMF	
Program temporary fix (PTF) numbers	U*nnnnnn*	
Other problem data developed while using the *OS/390 MVS Diagnosis: Procedures* book and the diagnostic procedures in Chapter 1		

Note:

1. The level can be U*nnnnnn*, HRM*nnnn*, or JRM*nnnn*.
2. *xxxxx* and *nnnnnn* are just placeholders. The actual data can be obtained from the dump.

Table 5-2 lists the problem data you need to collect before calling IBM to report a problem with an abend X'0FE'.

Table 5-2. Checklist for Reporting a Problem with an Abend 0FE

Problem data	**Example or reference**	**Information collected**
Load module name and level[1]	ERB*xxxxx* U*nnnnnn*[2]	
CSECT name and level	ERB*xxxxx* U*nnnnnn*	
Offset of the failing instruction into the module	X'090AF'	
SVC dump produced by the SLIP trap (softcopy)	*OS/390 MVS Diagnosis: Procedures*	
SYS1.LOGREC (softcopy)	*OS/390 MVS Diagnosis: Tools and Service Aids*	
Console log (softcopy)		
Search argument	Chapter 4, Developing a Search Argument for RMF *OS/390 MVS Diagnosis: Procedures*	
Current Monitor I options	Use the RMF DISPLAY command to display the current options on the operator console. *RMF User's Guide*	
RMF version and release	OS/390 2.6.0 RMF	
Program temporary fix (PTF) numbers	U*nnnnnn*	
Other problem data developed while using the *OS/390 MVS Diagnosis: Procedures* book and the diagnostic procedures in Chapter 1		

Note:

1. The level can be U*nnnnnn*, HRM*nnnn*, or JRM*nnnn*.
2. *xxxxx* and *nnnnnn* are just placeholders. The actual data can be obtained from the dump.

Table 5-3 lists the problem data you need to collect before calling IBM to report a problem with an unexpected abend.

Table 5-3. Checklist for Reporting a Problem with an Unexpected Abend

Problem data	Example or reference	Information collected
Load module name and level[1]	ERB*xxxxx* U*nnnnnn*[2]	
CSECT name and level	ERB*xxxxx* U*nnnnnn*	
Messages accompanying the problem, including the message identifier and variable data in the message text	Identifier: ERB259I Text: EXCEPTION REPORTING TERMINATED *RMF Messages and Codes OS/390 MVS System Messages, Vol 2 (ASB-EWX)*	
SVC dump (SYSMDUMP as softcopy)	*OS/390 MVS Diagnosis: Procedures*	
SYS1.LOGREC error record (softcopy)	*OS/390 MVS Diagnosis: Procedures*	
SDWAVRA keys, lengths, and contents	*OS/390 MVS Diagnosis: Procedures*	
System log to show system messages and commands (softcopy)	*OS/390 MVS System Commands* for WRITELOG command	
Search argument	Chapter 4, Developing a Search Argument for RMF *OS/390 MVS Diagnosis: Procedures*	
In case of a Monitor III error, provide the contents of the VSAM data set belonging to this problem		
Offset of the failing instruction into the module	X'090AF'	
Current RMF options for session running	Use the RMF DISPLAY command to display the current options on the operator console. *RMF User's Guide*	
RMF version and release	OS/390 2.6.0 RMF	
Program temporary fix (PTF) numbers	U*nnnnnn*	
Other problem data developed while using the *OS/390 MVS Diagnosis: Procedures* book and the diagnostic procedures in Chapter 1		

Note:

1. The level can be U*nnnnnn*, HRM*nnnn*, or JRM*nnnn*.
2. *xxxxx* and *nnnnnn* are just placeholders. The actual data can be obtained from the dump.

Table 5-4 lists the problem data you need to collect before calling IBM to report a problem with an ERB or CEE/EDC message.

Table 5-4. Checklist for Reporting a Problem with an ERB CEE/EDC Message

Problem data	**Example or reference**	**Information collected**
Message number	ERB671I	
RMF version and release	OS/390 2.6.0 RMF	
RMF session	Monitor I, II, III or Postprocessor	
Program temporary fix (PTF) numbers	U*nnnnnn*[1]	
Other problem data developed while using the *OS/390 MVS Diagnosis: Procedures* book and the diagnostic procedures in Chapter 1		

Note:

1. *nnnnnn* is just a placeholder. The actual data can be obtained from the dump.

Table 5-5 lists the problem data you need to collect before calling IBM to report a problem with incorrect output.

Table 5-5. Checklist for Reporting a Problem with Incorrect Output

Problem data	Example or reference	Information collected
Hardcopy of report	*RMF User's Guide*	
Accompanying messages	*RMF Messages and Codes OS/390 MVS System Messages, Vol 2 (ASB-EWX)*	
RMF version and release	OS/390 2.6.0 RMF	
RMF session	Monitor I, II, III or Postprocessor	
SMF record contents	*RMF User's Guide*	
Unloaded VSAM data set contents if running a Monitor III session	*DFSMS/MVS Access Method Services for VSAM RMF User's Guide*	
Current RMF options	Copy from SYS1.PARMLIB	
Program temporary fix (PTF) numbers	U*nnnnnn*[1]	
Other problem data developed while using the *OS/390 MVS Diagnosis: Procedures* book and the diagnostic procedures in Chapter 1		

Note:

1. *nnnnnn* is just a placeholder. The actual data can be obtained from the dump.

Table 5-6 lists the problem data you need to collect before calling IBM to report a problem with documentation.

Table 5-6. Checklist for Reporting a Documentation Error

Problem data	**Example or reference**	**Information collected**
Publication title	*RMF Messages and Codes*	
Publication order number	GC28-1948	
Page number containing problem	3-45	
Panel ID	ERB3PRM	
RMF version and release	OS/390 2.6.0 RMF	
Program temporary fix (PTF) numbers	U*nnnnnn*[1]	
Thorough description of the problem.		
Other problem data developed while using the *OS/390 MVS Diagnosis: Procedures* book and the diagnostic procedures in Chapter 1		

Note:

1. *nnnnnn* is just a placeholder. The actual data can be obtained from the dump.

Table 5-7 lists the problem data you need to collect before calling IBM to report a problem with a Monitor III JES delays report.

Table 5-7. Checklist for Reporting a Problem with a Monitor III JES Delays Report

Problem data	Example or reference	Information collected
Accompanying messages	*RMF Messages and Codes OS/390 MVS System Messages, Vol 2 (ASB-EWX)*	
Installed JES level	JES3 Release 5.2	
Hardcopy of report	*RMF User's Guide*	
Unloaded VSAM data set contents	*DFSMS/MVS Access Method Services for VSAM RMF User's Guide*	
RMF version and release	OS/390 2.6.0 RMF	
Program temporary fix (PTF) numbers	U*nnnnnn*[1]	
Other problem data developed while using the *OS/390 MVS Diagnosis: Procedures* book and the diagnostic procedures in Chapter 1		

Note:

1. *nnnnnn* is just a placeholder. The actual data can be obtained from the dump.

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