Systems

**OS/VS Message
Library: VS2
System Codes**

IBM

Preface

This publication lists and describes:

- The completion codes issued by the MVS/370 operating system when it uses an ABEND macro instruction to terminate abnormally a task or address space.

- The wait state codes placed in the program status word (PSW) when the system begins a wait state.

- Causes of uncoded wait states.

- The wait state codes placed in the last four bytes of the PSW when the stand-alone dump program (SADMP) enters a wait state.

- Causes of loops.

The descriptions suggest responses by the operator and, where appropriate, by the programmer. Many descriptions state that an error record is written to the SYS1.LOGREC data set. This error record is described in *OS/VS2 MVS System Programming Library: SYS1.LOGREC Error Recording*, GC28-0677, and in *OS/VS2 System Programming Library: Debugging Handbook*, Volume 1, GC28-1047.

The description of most codes ends with a problem determination paragraph, which lists suggested actions as items in tables; the problem

determination tables are at the back of the publication. You should perform the actions for the items listed in the code description before asking your IBM branch office for programming or hardware support.

The sections on system completion codes and wait state codes begin with information useful to those receiving these codes. Remember to read these introductions.

The appendix lists the modules that detect and issue system completion codes and wait state codes.

Who Should Use this Publication

This publication is needed by operators, system programmers, and applications programmers.

Associated Publications

Many system completion and wait state codes refer to messages. See *MVS/370 Message Library: System Messages*, Volume 1, GC28-1374, and Volume 2, GC28-1375. These volumes give the message text and explanation for many system messages and list the publications containing all other system messages.

Publications cited in this book or containing procedures or concepts mentioned include:

Order Number	Title
GA22-7000	*IBM System/370 Principles of Operation*
GA24-3343	*IBM 3203/3211 Printer and 3811 Control Unit Component Descriptions*
LC28-1371	*JES3 System Programming Library: User Modifications and Macros*
GC26-3792	*OS/VS2 System Generation Reference*
SH35-0060	*Print Services Facility Messages*
SC33-0143	*IBM Graphics Access Method/System Product: Messages and Codes*
GC27-6995	*VTAM Macro Language Reference*
GC28-0674	*OS/VS2 MVS System Programming Library: Service Aids*

GC28-1029	*OS/VS2 MVS System Programming Library: Initialization and Tuning Guide*
GC28-0683	*OS/VS2 MVS Supervisor Services and Macro Instructions*
SY28-1133	*OS/VS2 System Programming Library: MVS Diagnostic Techniques*
GC28-1031	*Operator's Library: OS/VS2 MVS System Commands*
GC28-1046	*OS/VS2 System Programming Library: Supervisor*
SC30-3152	*ACF/TCAM Version 2 Support for IBM Subsystems*
SH20-9028	*IMS/VS V1 Operator's Reference*
SY26-3823	*OS/VS2 Input/Output Supervisor Logic*
LYB8-1051	*OS/VS2 Data Areas (JES2)*
LYB8-1055	*OS/VS2 Data Areas (JES3)*

Contents

Contents Directory

Summary of Amendments

| This revision supports MVS/System Product - JES3
| Version Release 1.3.4 program number 5740-XYN.

| Changes to the system completion codes issued by
| JES3 include: 1FB, 2FB, 3FB, 4FB, 5FB, 6FB,
| 722, 7FB, 8FB, 9FB, AFB, BFB, and CFB.

| This revision also includes the addition of one new
| code: DFB.

Summary of Amendments
for GC38-1008-8
as updated September 14, 1984

The technical changes and additions in this revision
are:

- New system completion codes 024 and 027 to
  support the Print Services Facility (PSF).

- New system completion codes 0A1, 0A2, 0A3,
  0A4, 0A5, 147, 149, 14A, 14B and 247 to
  support the Graphics Access Method/System
  Product.

- Service updates.

In addition to the technical information, the
following changes have been made to the format of
this manual:

- This edition is printed in ten-point type, rather
  than the smaller eight-point type used in
  previous editions.

- The seven separate sections listed in the
  Contents Directory now have separate paging.

- The text following each system completion code
  and each wait state code is indented to offset
  the code number and make them easier to find.

- Dictionary-type headings appear at the top of
  each page in the system completion codes and
  wait state codes sections of the manual. The
  headings indicate which code or codes are
  documented on the given page.

All of these changes have been made to improve the
usability of this manual. Most of the changes were
made in response to user requests. If you have any
comments or suggestions to further improve this
manual please feel free to use the form for reader's
comments provided at the back of the manual.

Summary of Amendments
for GC38-1008-7
as updated December 30, 1983
by TNL GN28-0873

This TNL contains:

- A new system completion code, 02C, issued to
  support MVS/System Product - JES2 Version 1
  Release 3.4 program number 5740-XYS.

- Service updates.

The OS/VS Message Library is designed so that you can have the messages and codes documentation that fits your specific needs. You no longer have to maintain an enormous manual; instead, you can tailor message documentation to meet your particular needs. See Figure 1 for an overview of how to customize your OS/VS Message Library.

If you are a system programmer or installation manager, you may want to have all the books in the Message Library in a consolidated document.

If you are an operator, you may want to include *System Messages* and *System Codes* in your Operator's Library.

If you are an assembler language programmer, you may want to have *System Messages, System Codes, Linkage Editor and Loader Messages,* and the message section from the *Assembler Language Programmer's Guide* in a consolidated document.

If you are a COBOL programmer, you may want *VS1 Utilities Messages* or *VS2 Utilities Messages* added to your COBOL programmer's guide.

In any case, you can select the appropriate books to build a Message Library to meet your needs. For a list of the books containing documentation for OS/VS messages and codes, see Figure 2. Figure 3 can be used to locate the documentation for a specific message.

Basic Books
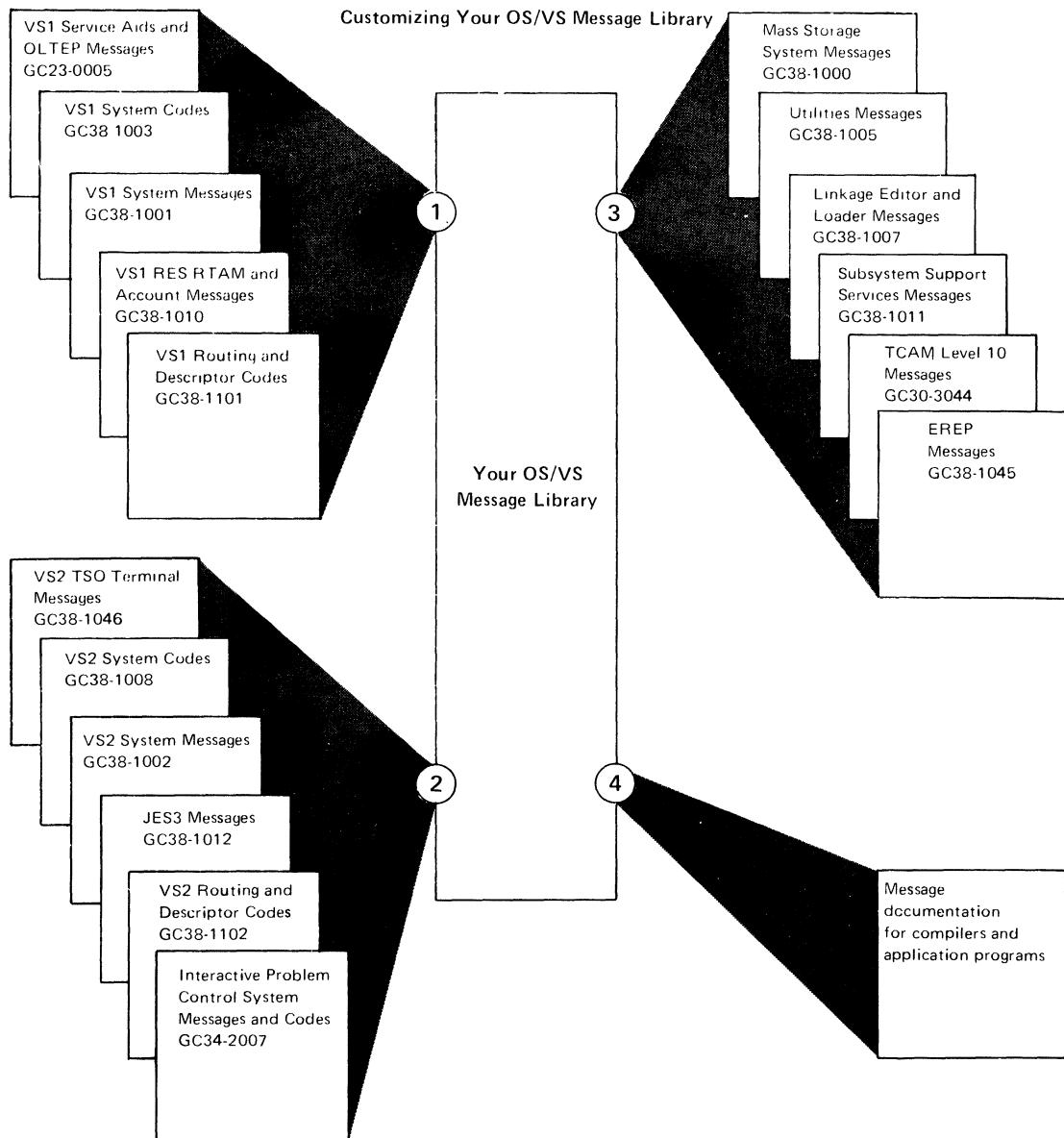
Each installation will require at least one copy of *VS1 System Messages* or *VS2 System Messages.* You will receive at the console or in your output listings, some subset of the messages in these books, no matter which options have been included in your operating system. All programming personnel, especially operations personnel, will require access to these books; although it may not be necessary for applications-oriented personnel to have their own copies.

Each installation must have at least one copy of *VS1 System Codes* or *VS2 System Codes,* which contains the system completion codes and wait state codes. All programming personnel, especially operations personnel, will require access to one of these books, although applications-oriented personnel may not need to have their own copies.

Optional Books

Routing and Descriptor Codes contains routing and descriptor codes for all messages that have these codes. Your installation's system programmer will need this book, especially if your operating systems have multiple console support (MCS).

Depending on your requirements, you may want to have copies of *VS1 Utilities Messages* or *VS2 Utilities Messages* or *Linkage Editor and Loader Messages.* Select the books that you need, and keep them either in the appropriate System Library Manual or in your customized Message Library.

VS1 Service Aids and
OLTEP Messages
GC23-0005

VS1 System Codes
GC38 1003

VS1 System Messages
GC38-1001

VS1 RES RTAM and
Account Messages
GC38-1010

VS1 Routing and
Descriptor Codes
GC38-1101

Mass Storage
System Messages
GC38-1000

Utilities Messages
GC38-1005

Linkage Editor and
Loader Messages
GC38-1007

Subsystem Support
Services Messages
GC38-1011

TCAM Level 10
Messages
GC30-3044

EREP
Messages
GC38-1045

Your OS/VS
Message Library

VS2 TSO Terminal
Messages
GC38-1046

VS2 System Codes
GC38-1008

VS2 System Messages
GC38-1002

JES3 Messages
GC38-1012

VS2 Routing and
Descriptor Codes
GC38-1102

Interactive Problem
Control System
Messages and Codes
GC34-2007

Message
documentation
for compilers and
application programs

(1) Select the VS1 publications that are compatible with your system.

(2) Select the VS2 publications that are compatible with your system.

(3) Select the shared supplementary messages publications that fit the needs of your installation.

(4) If your installation uses a particular compiler or application program, you may want to append the program's messages to your message library. These messages are located in the associated programmer's guides, user's guides, installation reference manuals, or messages books.

Figure 1. Customizing Your OS/VS Message Library

Publication	Order Number	Contents
VS1 Utilities Messages	GC26-3919	IBC, IEB, IEH messages
VS2 Utilities Messages	GC26-3920	IBC, IEB, IEH messages
TCAM Level 10 Messages	GC30-3044	IED messages (for TCAM level 10 and above)
OS/VS Display Exception Monitoring Facility (DEMF) User's Guide	GC34-2003	BNG messages
Interactive Problem Control System (IPCS) Messages and Codes	GC34-2007	BLS messages
Mass Storage System Messages	GC38-1000	ICB, ICG, ISDA messages
VS1 System Messages	GC38-1001	HHL, HMA, HMB, HMD, ICF, ICT, ICU, IDA, IDC, IEA, IEC, IEE, IEF, IEI, IFA, IFB, IFC messages for IFCDIP00, IFD, IGF, IHB, IHJ, IHK, IMC, ISDA, IST messages
VS2 System Messages	GC38-1002	AHL, AMx, ERB, HASP, ICF, ICP messages for operator, ICT, ICU, IDA, IDC, IEA, IEC, IED, IEE, IEF, IEI, IFA, IFB, IFC, IFD, IGF, IHJ, IKJ, IKM, IKT, ILR, IPD, IRA, IRB, IST messages
VS1 System Codes	GC38-1003	all VS1 completion and wait state codes
Linkage Editor and Loader Messages	GC38-1007	IEW messages
VS2 System Codes	GC38-1008	all VS2 completion and wait state codes
VS1 RES RTAM and Account Messages	GC38-1010	IFS and IKJ messages
Subsystem Support Services Messages	GC38-1011	BQB messages
JES3 Messages	GC38-1012	IAT messages
EREP Messages	GC38-1045	IFC messages for IECEREP0 and IFCEREP1 only
VS2 TSO Terminal Messages	GC38-1046	IKJ and IKT messages
VS1 Routing and Descriptor Codes	GC38-1101	all VS1 routing and descriptor codes
VS2 Routing and Descriptor Codes	GC38-1102	all VS2 routing and descriptor codes
In other publications:		
Emulator publications	See: *IBM System/370 Bibliography,* GC20-0001	emulator messages
IBM 3790 Communication System: Messages	GA27-2789	BQI messages
OS/VS MVS VPSS Installation and Operation Guide	GC24-5124	IGT messages
OS/VS1 and OS/VS2 MVS VPSS Programmer's Guide	GC24-5125	IGT messages
OS/VS and DOS/VS Analysis Program-1 (AP-1) User's Guide	GC26-3855	IAP messages
IBM 3600 Finance Communication System: Host Service Programs Reference	GC27-0005	BQK messages
IBM 3600 Finance Communication System: Instructions and Macros Reference	GC27-0003	BQK messages
Problem Determination Aids and Messages and Codes for Graphic Programming Services (GPS) and Graphic Subroutine Package (GSP)	GC27-6974	IFF messages
DOS/VS and OS/VS TOLTEP for VTAM	GC28-0663	ITA messages
OS/VS System Modification Program (SMP)	GC28-0673	HMA messages
OS/VS2 MVS and Stand-Alone Versions: Input/Output Configuration Program User's Guide and Reference	GC28-1027	ICP messages

Figure 2. OS/VS Message Library (Part 1 of 2)

Publication	Order Number	Contents
IBM 3704 and 3705 Control Program Generation and Utilities Guide and Reference Manual	GC30-3008	IFL messages
IBM System 370 Subsystem Support Services User's Guide	GC30-3022	BQB messages
IBM 3705 Advanced Communication Function for Network Control Program/VS Generation and Utilities Reference Manual	SC30-3116	IFL messages
OS/VS — VM/370 Assembler Programmer's Guide	GC33-4021	IFO messages
IBM 3790 Communication System: Data Entry Configuration Batch Transfer Program OS/VS1 — OS/VS2 User's Guide	GC33-5901	BQM messages
Device Support Facilities	GC35-0033	ICK messages
Document Composition Facility Messages	LYB0-8070	DSM messages
Document Library Facility	LYB0-8071	DSM messages
OS Assembler H Messages	SC26-3770	IEV messages
Network Communications Control Facility: Messages	SC27-0431	DSI messages
OS/VS2 MVS TSO 3270 Extended Display Support — Session Manager User's Guide and Reference	SC28-0912	ADF messages
IBM OS Full American National Standard COBOL Compiler and Library, Version 4 Programmer's Guide	SC28-6456	IKF messages
IBM OS/VS COBOL Compiler and Library Programmer's Guide	SC28-6483	IKF messages
IBM System/360 OS/TSO Terminal User's Supplement for FORTRAN IV (G1) Processor and TSO Fortran Prompter	SC28-6855	IGI, IHN messages
IBM OS FORTRAN IV (H Extended) Compiler and Library (Mod II) Messages	SC28-6865	IFE, IHO messages
OS PL/I Optimizing Compiler: Messages	SC33-0027	IBM, IEL, IKJ messages
OS PL/I Checkout Compiler: Messages	SC33-0034	DMS, IEN, IKJ messages
OS/VS Sort/Merge Programmer's Guide	SC33-4035	ICE messages
CICS/MS Version 1, Release 3 Messages and Codes	SC33-0081	DFH messages
Network Problem Determination Application: Messages and Codes	SC34-2021	BNH messages
ACF/VTAM Messages and Codes	SC38-0271	IST messages
OS/VS2 MVS Resource Access Control Facility (RACF) Messages and Codes	SC38-1014	ICH messages
IMS/VS Version 1: Messages and Codes	SH20-9030	DBD, DFS, DBF messages
VSPC FORTRAN Terminal User's Guide	SH20-9062	AFP messages
VS APL Installation Reference Material	SH20-9065	APLL, APLP messages
VS APL for CMS: Terminal User's Guide	SH20-9067	APL messages
VS Personal Computing (VSPC): Installation Reference Material	SH20-9072	ASU messages
DB/DC Data Dictionary: Terminal User's Guide and Command Reference	SH20-9083	DBD messages
VS TSIO Guide and Reference	SH20-9107	DSGB messages
OS/MVT and OS/VS DASDR User's Guide	SH20-9111	DRU, DRW messages
OS/VS2 MVS Hierarchical Storage Manager: Messages	SH35-0025	ARC messages
OS/VS Mass Storage System Extensions Messages	SH35-0041	ICB, ICG messages

Figure 2. OS/VS Message Library (Part 2 of 2)

Prefix	Component	Publication Title	Order Number
ADF	TSO Session Manager	OS/VS2 MVS TSO 3270 Extended Display Support - Session Manager User's Guide and Reference	SC28-0912
AFP	VSPC FORTRAN	VSPC FORTRAN Terminal User's Guide	SH20-9062
AHL	Generalized Trace Facility	VS2 System Messages	GC38-1002
AMA	AMAPTFLE AMASPZAP	VS2 System Messages	GC38-1002
AMB	AMBLIST	VS2 System Messages	GC38-1002
AMD	AMDPRDMP AMDSADMP	VS2 System Messages	GC38-1002
APL	VS APL under CMS	VS APL for CMS: Terminal User's Guide	SH20-9067
APLL	VS APL Library Service Program	VS APL Installation Reference Material	SH20-9065
APLP	VS APL under VSPC	VS APL Installation Reference Material	SH20-9065
ARC	Hierarchical Storage Manager	OS/VS2 MVS Hierarchical Storage Manager Messages	SH35-0025
ASU	VSPC	VS Personal Computing (VSPC): Installation Reference Material	SH20-9072
BLS	IPCS	OS/VS2 MVS Interactive Problem Control System (IPCS) Messages and Codes	GC34-2007
BNG	DEMF	OS/VS Display Exception Monitoring Facility (DEMF) User's Guide	GC34-2003
BNH	Network Problem Determination Application	Network Problem Determination Application: Messages and Codes	SC34-2012
BQB	Subsystem Support Services	IBM System/370 Subsystem Support Services Messages IBM System/370 Subsystem Support Services User's Guide	GC38-1011 GC30-3022
BQI	3790 Communication System	IBM 3790 Communication System: Messages	GA27-2789
BQK	3600 Finance Communication System	IBM 3600 Finance Communication System: Host Service Programs Reference IBM 3600 Finance Communication System: Instructions and Macros Reference	GC27-0005 GC27-0003

Figure 3. OS/VS Message Directory (Part 1 of 5)

Prefix	Component	Publication Title	Order Number
BQM	Batch Transfer	IBM 3790 Communication System: Data Entry Configuration Batch Transfer Program OS/VS1 - OS/VS2 User's Guide	GC33-5901
DBD	DB/DC Data Dictionary	DB/DC Data Dictionary Installation Guide DB/DC Data Dictionary Terminal User's Guide and Command Reference IMS/VS Version 1: Messages and Codes	SH20-9084 SH20-9083 SH20-9030
DBF	Fastpath	IMS/VS Version 1: Messages and Codes	SH20-9030
DFH	CICS/VS	CICS/VS Version 1, Release 4 Messages and Codes	SC33-0081
DFS	IMS/VS	IMS/VS Version 1: Messages and Codes	SH20-9030
DMS	PL/I Checkout Compiler	OS PL/I Checkout Compiler: Messages	SC33-0034
DRU/ DRW	DASDR	OS/MVT and OS/VS DASDR User's Guide	SH20-9111
DSGB	VS TSIO	VS TSIO Guide and Reference	SH20-9107
DSI	Network Communications Control Facility	Network Communications Control Facility: Messages	SC27-0431
DSM	Document Composition Facility Document Library Facility	Document Composition Facility Messages Document Library Facility Messages	LYB0-8070 LYB0-8071
ERB	Resource Measurement Facility (RMF)	VS2 System Messages	GC38-1002
HASP	JES2 Network Job Entry Facility for JES2	VS2 System Messages	GC38-1002
HHL	Generalized Trace Facility	VS1 System Messages	GC38-1001
HMA	HMAPTFLE HMASPZAP HMASMP	VS1 System Messages System Modification Program	GC38-1001 GC28-0673
HMB	HMBLIST	VS1 System Messages	GC38-1001
HMD	HMDPRDMP HMDSADMP	VS1 System Messages	GC38-1001
IAP	Analysis Program-1	OS/VS and DOS/VS Analysis Program-1 (AP1) User's Guide	GC26-3855

Figure 3. OS/VS Message Directory (Part 2 of 5)

Prefix	Component	Publication Title	Order Number
IAT	JES3	JES3 Messages	GC38-1012
IBC	Independent Utility	VS1 Utilities Messages VS2 Utilities Messages	GC26-3919 GC26-3920
IBM	PL/I Transient Library	PL/I Optimizing Compiler: Messages	SC33-0027
ICB	Mass Storage System Communicator	Mass Storage System (MSS) Messages Mass Storage System Extensions Messages	GC38-1000 SH35-0041
ICE	Sort/Merge	OS/VS Sort/Merge Programmer's Guide	SC33-4035
ICF	Power Warning Feature	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
ICG	Mass Storage Control Table Create and Trace Reports	Mass Storage System (MSS) Messages Mass Storage System Extensions Messages	GC38-1000 SH35-0041
ICH	RACF	OS/VS2 MVS Resource Access Control Facility (RACF) Messages and Codes	SC38-1014
ICK	Device Support Facilities	Device Support Facilities	GC35-0033
ICP	IOCP (messages for operator) IOCP (messages for programmer)	VS2 System Messages OS/VS2 MVS and Stand-Alone Versions: Input/Output Configuration Program User's Guide and Reference	GC38-1002 GC28-1027
ICT	Programmed Cryptographic Facility	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
ICU	Cryptographic Unit Support	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
IDA	VSAM Control Block Expansion	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
IDC	Access Method Services	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
IEA	Supervisor	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
IEB	Data Set Utility	VS1 Utilities Messages VS2 Utilities Messages	GC26-3919 GC26-3920
IEC	Data Management	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
IED	TCAM Level 9 and below TCAM Level 10 ACF/TCAM	VS2 System Messages TCAM Level 10 Messages ACF/TCAM Messages	GC38-1002 GC30-3044 SC30-3120
IEE	Master Scheduler	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002

Figure 3. OS/VS Message Directory (Part 3 of 5)

Prefix	Component	Publication Title	Order Number
IEF	Job Scheduler	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
IEH	System Utility	VS1 Utilities Messages VS2 Utilities Messages	GC26-3919 GC26-3920
IEI	System Generation	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
IEL	PL/I Optimizing Compiler	OS PL/I Optimizing Compiler: Messages	SC33-0027
IEN	PL/I Checkout Compiler	OS PL/I Checkout Compiler: Messages	SC33-0034
IEV	Assembler H	OS Assembler H Messages	SC26-3770
IEW	Loader and Linkage Editor	Linkage Editor and Loader Messages	GC38-1007
IFA	SMF Dump Program	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
IFB	Environment Recording	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
IFC	IFCDIP00 (SYS1.LOGREC initialization) IFCEREP0 and IFCEREP1	VS1 System Messages VS2 System Messages EREP Messages	GC38-1001 GC38-1002 GC38-1045
IFD	Online Test Executive	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
IFE	FORTRAN IV (H Extended)	IBM OS FORTRAN IV (H Extended) Compiler and Library (MOD II) Messages	SC28-6865
IFF	Graphic Programming Services	OS/VS Problem Determination Aids and Messages and Codes for GPS and GSP	GC27-6974
IFL	Network Control Program ACF for Network Control Program	IBM 3704 and 3705 Control Program Generation and Utilities Guide and Reference Manual IBM 3705 Advanced Communications Function for Network Control Program/VS Generation and Utilities Reference Manual	GC30-3008 SC30-3116
IFO	Assembler	OS/VS - VM/370 Assembler Programmer's Guide	GC33-4021
IFS	Remote Terminal Access Method (RTAM)	VS1 RES RTAM and Account Messages	GC38-1010
IGF	Recovery Management	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
IGI	FORTRAN IV (G1)	IBM System/360 OS/TSO Terminal User's Supplement for FORTRAN IV (G1) Processor and TSO FORTRAN Prompter	SC28-6855
IGT	Vector Processing Subsystem	OS/VS2 MVS VPSS Installation and Operation Guide OS/VS1 OS/VS2 MVS VPSS Programmer's Guide	GC24-5124 GC24-5125

Figure 3. OS/VS Message Directory (Part 4 of 5)

Prefix	Component	Publication Title	Order Number
IHB	Macro Expansion (documented for VS1 only)	VS1 System Messages	GC38-1001
IHJ	Checkpoint/Restart	VS1 System Messages VS2 System Messages	GC38-1001 GC38-1002
IHK	Conversational Remote Job Entry (CRJE)	VS1 System Messages	GC38-1001
IHO	FORTRAN IV Library (Mod II)	IBM OS FORTRAN IV (H Extended) Compiler and Library (Mod II) Messages	~~SC38-6865~~ (SC28-6865)
IKF	Full American National Standard COBOL	IBM OS Full American National Standard COBOL Compiler and Library, Version 4 Programmer's Guide IBM OS/VS COBOL Compiler and Library Programmer's Guide	SC28-6456 SC28-6483
IKJ	Time Sharing Option Account Facility PL/I Prompter	VS2 System Messages VS2 TSO Terminal Messages VS1 RES RTAM and Account Messages OS PL/I Optimizing Compiler: Messages OS PL/I Checkout Compiler: Messages	GC38-1002 GC38-1046 GC38-1010 SC33-0027 SC33-0034
IKM	PL/I Syntax Checker	VS2 System Messages	GC38-1002
IKT	TSO/VTAM ACF/VTAM	VS2 System Messages VS2 TSO Terminal Messages ACF/VTAM Messages and Codes, Release 1 ACF/VTAM Messages and Codes, Release 2	GC38-1002 GC38-1046 SC38-0271 SC27-0470
ILR	Auxiliary Storage Management	VS2 System Messages	GC38-1002
IMC	IMCJOBQD IMCOSJCD	VS1 System Messages	GC38-1001
IPD	FORTRAN Syntax Checker	VS2 System Messages	GC38-1002
IRA	System Resources Manager	VS2 System Messages	GC38-1002
IRB	MF/1	VS2 System Messages	GC38-1002
ISDA	ISDASDAO	VS1 System Messages Mass Storage System (MSS) Messages Mass Storage System Extensions Messages	GC38-1001 GC38-1000 SH35-0041
IST	ACF/VTAM VTAM	ACF/VTAM Messages and Codes, Release 1 ACF/VTAM Messages and Codes, Release 2 VS1 System Messages VS2 System Messages	SC38-0271 SC27-0470 GC38-1001 GC38-1002
ITA	DOS/VS and OS/VS TOLTEP	TOLTEP for VTAM	GC28-0663

Figure 3. OS/VS Message Directory (Part 5 of 5)

System Completion Codes

Completion codes are issued by the system or by a problem program when either uses an ABEND macro instruction. The ABEND macro abnormally terminates a task or address space. The code indicates why the task or address space was terminated.

The system issues an ABEND when it determines that a task or address space cannot continue processing and produce valid results. For example, a task may try an invalid operation. Or, an input/output operation may fail.

A problem program issues an ABEND when it determines that it cannot continue processing and produce valid results. For example, a problem program may be calculating a total by successive additions. After each addition, the new total is checked against a limit. If the total exceeds the limit, the problem program issues an ABEND macro instruction to terminate abnormally and, perhaps, to ask for a diagnostic dump.

Completion Code Format

The system and user completion codes appear together in the task completion code field (TCBCMP) of the task control block (TCB) for the terminated task.

For abnormal termination by the system, the system completion code is a three-digit hexadecimal number, which is listed in this publication, and the user code is 0000.

For abnormal termination by the problem program, the system completion code is 000 and the user code is supplied by the problem program as a four-digit decimal number coded in the ABEND macro instruction.

Note: Only the system completion codes appear in this publication. User codes are meaningful only for the specific application.

Abnormal Termination of Subtasks

When the highest level task in a job step terminates abnormally, the job step will terminate abnormally.

When a subtask terminates abnormally, only the subtask itself and its subtasks are terminated. Subtask termination is indicated by the completion code in the event control block (ECB) specified when the subtask was attached and in the TCBCMP field of the TCB for the subtask.

A low level subtask that terminates abnormally can indirectly cause the entire job step to terminate abnormally. To do so, each subtask in the job step's task chain must terminate itself abnormally when it finds an ABEND completion code from one of its subtasks. To terminate the job step with the completion code indicating the error in the failing subtask, each subtask must use the completion code from its subtask as its own completion code.

A subtask can also cause abnormal termination of the entire job step if the STEP operand was specified in the ABEND macro instruction.

001

Explanation: An input/output error occurred during BDAM, BISAM, BPAM, BSAM, QISAM, or QSAM processing.

Refer to message IEC020I for information about the task that was terminated.

If message IEC020I was not issued, COBOL was running. CLOSE processing called end-of-volume (EOV), and EOV processing found insufficient space.

Programmer Response: Respond as indicated for message IEC020I.

Problem Determination: Table I, items 1, 2, 3, 5a, 15, 29.

002

Explanation: This system completion code is accompanied by message IEC036I. Refer to message IEC036I for information about the task that was terminated and for an explanation of the return code in register 15.

For all return codes except 2C, the error occurred while the control program was processing a sequential data set with BSAM or QSAM, or creating a direct organization data set.

For return code 2C, the error occurred while the control program was opening an ISAM data set for QISAM load mode. Too many tracks were specified for cylinder overflow, or DCB BLKSIZE was not a multiple of DCB LRECL, or DCB BLKSIZE was greater than the track size.

System Action: For all return codes except 2C, pertinent control blocks are written to the GTF trace data set, the user's DCB ABEND exit is taken, if provided, and message IEC036I is issued.

Programmer Response: See message IEC036I for responses to each return code except 2C. For return code 2C, change the CYLOFL operand of the DCB macro instruction to reflect the correct number of tracks, or correct the DCB BLKSIZE.

Problem Determination: Table I, items 1, 3, 5a, 15, 29. Table II, format 3.

003

Explanation: The error occurred during end-of-block processing using either BSAM or QSAM. The error occurred because the I/O macro instructions for a 3525-associated data set were not executed in the proper sequence.

Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
01	A READ sequence error
02	A PUNCH sequence error
03	A PRINT sequence error

System Action: The system terminates the task.

Programmer Response: Specify the I/O macro instructions in the proper sequence, and rerun the job.

Problem Determination: Table I, items 1, 5a, 15, 16, 29.

004

Explanation: The error occurred during OPEN processing using either BSAM or QSAM because a conflicting or invalid DCB parameter (FUNC or related parameter) is specified.

Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
01	Invalid DCB FUNC parameter specified.
02	Invalid combination of DCB FUNC parameter and CNTRL macro specified.
03	Conflicting access methods specified.
04	Invalid DCB specified for 3505 or 3525.
05	Invalid format card or an invalid device specified with Optical Mark Read (OMR).
06	Data protection image not found in the SYS1.IMAGELIB data set, volume containing SYS1.IMAGELIB not mounted, or SYS1.IMAGELIB data set not cataloged.

System Action: In all cases, the system terminates the task.

Programmer Response: In all cases, correct the invalid fields of the DCB macro instruction and rerun the job.

Problem Determination: Table I, items 1, 5a, 15, 16, 29.

005

Explanation: The error occurred because of an invalid DECB during READ processing using BSAM. This system completion code is accompanied by message IEC041I. Refer to message IEC041I for information about the task that was terminated and for an explanation of the return code, rc, in the message text.

System Action: The task is terminated.

Programmer Response: Make sure that the RBL type of read is used and that the area address and header address parameters are specified so that the DECB is valid.

Problem Determination: Table I, items 1, 5a, 15, 16, 29.

006

Explanation: The program had incorrect authorization to run a 1419. This completion code is accompanied by message IEC102I.

System Action: The task is terminated.

Programmer Response: See message IEC102I for the proper response.

Problem Determination: Table I, items 1, 17b, 29.

008

Explanation: The error occurred during execution of a SYNAD routine. The routine was given control following execution of a BSAM CHECK macro instruction.

The SYNAD routine returned control to the control program for the CHECK macro instruction.

Programmer Response: Correct the SYNAD routine so that the control program save area is not destroyed. Then execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

ABEND

013

Explanation: The error occurred during execution of an OPEN macro instruction. This system completion code is accompanied by message IEC141I. Refer to message IEC141I for information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC141I.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

014

Explanation: An error occurred during execution of a CLOSE macro instruction for a BDAM data set. This completion code is accompanied by message IEC208I. Refer to message IEC208I for information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC208I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

020

Explanation: The error occurred during execution of a BDAM OPEN macro instruction.

The control program found:

1. The DCBMACRF field of the data control block (DCB) did not contain an A, K, or I.

2. An attempt was made to open a BDAM data set that contained zero extents.

System Action: The system terminates the task.

Programmer Response: In the first case, make sure that A, K, or I is specified in the MACRF operand of the DCB macro instruction. Verify that the DCBMACRF field was not incorrectly modified by the problem program before the opening process. After making corrections, reassemble the program and execute the job step again.

In the second case, create the data set before attempting to open it as a BDAM file.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

021

Explanation: A caller of the ASCBCHAP routine passed to ASCBCHAP an ASCB address that had bits set to one in its high order byte.

System Action: Module IEAVEAC0 discovered that the bits in the high order byte of the ASCB address are set to one. The system terminates the caller of the ASCBCHAP routine with the 021 completion code.

Programmer Response: If you call the ASCBCHAP routine, make sure that the ASCB address you pass has the high order byte set to zero.

Problem Determination: Table I, item 18.

022

Explanation: The VPSS encountered a missing device end condition on control port 0. The VPSS cannot continue processing or respond to operator commands.

System Action: The VPSS missing interruption handler exit abnormally terminates the VPSS monitor address space. Message IGF991E

identifies the 3838 Array Processor that caused the VPSS monitor address space to terminate.

Programmer Response: Determine why the 3838 Array Processor is not responding with a device end. You may let the system operator restart the VPSS so that the operator may enter VPSS commands for other 3838 devices.

Problem Determination: Table I, items 2, 16, 18, and 30.

024

Explanation: Abnormal termination occurred in Print Services Facility (PSF). The PSF ESTAE routines determine whether PSF can be restarted and the recovery termination manager requests a PSF restart. This system completion code and a PSF abend reason code are contained in either message APS050I or APS521I. APS050I, APS521I, and the PSF abend reason codes are documented in *Print Services Facility Messages*.

Programmer Response: Respond as indicated for messages APS050I or APS521I.

Problem Determination: Table 1, items 2, 16, and 29.

027

Explanation: Abnormal termination occurred in Print Services Facility (PSF). The PSF ESTAE routines determine whether PSF can be restarted but the recovery termination manager does not request a PSF restart. This system completion code and a PSF abend reason code are contained in either message APS050I or APS521I. APS050I, APS521I, and the PSF abend reason codes are documented in *Print Services Facility Messages*.

Programmer Response: Respond as indicated for messages APS050I or APS521I.

Problem Determination: Table 1, items 2, 16, and 29.

028

Explanation: A paging operation has not completed successfully because of one of the following:

- A permanent I/O error occurred while attempting a page-in or swap-in operation. The data being paged in or swapped in is lost.

- An address space referred to a pageable link pack area (PLPA) page that contains noncontiguous code or large constant areas. Paging initialization processing issued message IEA928I. For additional information, refer to message IEA928I.

- A real storage management (RSM) routine, or another system routine performing a service for RSM, suffered an indeterminate error. The function is terminated.

- An auxiliary storage management routine suffered a translation error while using the control register of another address space to update that address space's LSQA.

- The RSM window service routine (IEAVWND) issues an 028 ABEND if either (1) the requested window is already in use (such as when an exit routine invokes the window service), or (2) both of the input real addresses are less than 16Mb.

- Module IEAVPSI detected an internal RSM error. Register 15 contains reason code X'14'.

System Action: The system terminates the task or address space.

Programmer Response: If an 028 ABEND record exists in SYS1.LOGREC, determine the module and CSECT in control at the time of the error and continue problem determination at the component level. Lack of an 028 ABEND record usually indicates a hardware problem or an auxiliary storage manager (ASM) problem. A real storage management (RSM) 028 ABEND is usually caused by an unexpected error while RSM is in control. Consult *MVS Diagnostic Techniques* for a diagnostic approach.

ABEND

Problem Determination: Table I, items 1, 2, 5a, 15, 18, 29.

02A

Explanation: The error occurred during execution of a data management request for a spool data set. JES2 found that the data management control blocks were no longer valid or that the JES2 UBUF control block was no longer valid.

Programmer Response: Verify that the problem program did not modify data management control blocks or the JES2 UBUF control block. After making the correction, execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 16 29.

02B

Explanation: A user exit routine issued a return code that is higher than the maximum return code value specified in the &MAXRC parameter of the $EXITnnn macro instruction.

System Action: The system abnormally terminates the user task and writes a dump.

Operator Response: Use the $TEXIT command to disable EXITnnn.

Programmer Response: If the exit routine is issuing an incorrect return code, correct the routine. If the routine is issuing the correct return code, change the maximum return code value specified on the $EXITnnn macro instruction. Then rerun the job.

Problem Determination: Table I, items 13, 16.

02C

Explanation: An error occurred in JES2 support of a functional subsystem address space. This system completion code is accompanied by one of these messages:

$HASP413

During a hot start, JES2 did not reestablish the cross-memory interface required to support a functional subsystem address space. HASPWARM detected the error.

System Action: HASPWARM uses CALLRTM macros to terminate abnormally the functional subsystem and the functional subsystem application (FSA). The functional subsystem and FSA are in a separate address space. All devices associated with the functional subsystem are drained.

Operator Response: Notify the system programmer. To restart the functional subsystem, issue the $S PRT command. If the functional subsystem devices are also supported directly by JES2, restart them by issuing the $T command with MODE = JES and then starting the devices with the $S command.

Programmer Response: Determine why the ATSET system service failed. ATSET was invoked with an authorization index value in the $SVTAXV field of the subsystem vector table (SSVT). See *Supervisor Services and Macro Instructions* for a description of ATSET.

$HASP415

During a hot start, HASPWARM did not find a JES2 device with the same device name and device address as the device previously supported by the active functional subsystem application (FSA). $HASP415 gives the name and address of the previously supported device.

System Action: HASPWARM uses a CALLRTM macro to terminate abnormally the FSA task, which is in the functional subsystem address space.

Operator Response: Notify the system programmer.

Programmer Response: Probable cause is invalid JES2 initialization parameters. If necessary, change the parameters and stop and restart JES2.

$HASP750

A catastrophic error occurred in the JES2 module HASPFSSM, which consists of the functional subsystem interface (FSI) support routines; because of the error, JES2 issued a $ERROR macro. The $ERROR macro invoked the HASPFSSM catastrophic error routine, FSMCATER, which issued message $HASP750.

In the message, the CODE = cde field is one of the following:

cde	Explanation
$F00	A GETCELL services error occurred in the FSMGETQC routine of module HASPFSSM. Register 15 and the RC = rc filed in $HASP750 contain a hexadecimal reason code:

rc	Meaning
00000001	The number of cells requested via $GETQC in register 1 is less than or equal to 0 or greater than QCTLIMIT.
xxxx0002	A SETLOCK RELEASE request failed. xxxx is the return code from SETLOCK.
xxxx0003	The GETCELL service failed. xxxx is the return code from GETCELL, as follows:

0004	No available cells.
0008	Chain pointers destroyed.
000C	Invalid cell pool format.
0010	Invalid cell pool ID.

cde	Explanation
$F01	A FREECELL services error occurred in the FSMFREQC routine of module HASPFSSM. Register 15 and the RC = rc field of $HASP750 contain a hexadecimal reason code:

rc	Meaning
00000001	The number of cells requested via $FREQC in register 1 is less than or equal to 0 or greater than QCTLIMIT.

xxxx0002   The FREECELL service failed. xxxx
            is the return code from FREECELL,
            as follows:

    0004   The cell was not allocated
          from the subpool indicated
          by the specified cell pool ID.
    0008   Cell address is invalid.
    000C   No cell pool.
    0010   Invalid cell pool ID.

$F02 A GETCELL extension error occurred in the
FSMBLDQC routine of module HASPFSSM.
Register 15 and the RC = rc field of $HASP750
contain a hexadecimal reason code:

rc	Meaning
xxxx0005	The BLDCPOOL service failed. xxxx is the return code from BLDCPOOL, as follows:

    0004   GETMAIN failed.
    0008   Invalid cell pool ID.
    000C   Nonglobal subpool.
    0010   Cell size greater than pool
          size.
    0014   A DELETE subpool was in
          progress for the pool.

xxxx0006	The GETMAIN request for the additional cell pool failed. xxxx is the return code from GETMAIN.

$F03 A QUICKCELL initialization error occurred in the
FSMQCT routine of module HASPFSSM. Register
15 and the RC = rc field of $HASP750 contain a
hexadecimal reason code:

rc	Meaning
xxxx0001	A GETMAIN request failed. xxxx is the return code from GETMAIN.

$F04 An error occurred in a SJF request on GETDS; the
error was detected in the FSMSWBRD routine of
module HASPFSSM. Register 15 and the RC = rc
field of $HASP750 contain a hexadecimal reason
code:

rc	Meaning
xxxx0001	An SJF EXTRACT request in subroutine FSWBEXT failed. xxxx is the return code from the SJF request.
xxxx0002	An SJF UPDATE request failed. xxxx is the return code from the SJF request.
xxxx0004	An SJF TERMINATE request in subroutine FSMSJTER failed. xxxx is the return code from the SJF request.

$F05 An error occurred in a SJF request on RELDS; the
error was detected in the FSMSWBDL routine of
module HASPFSSM. Register 15 and the RC = rc
field of $HASP750 contain a hexadecimal reason
code:

ABEND

rc	Meaning
xxxx0001	The SJF DELETE request failed. xxxx is the return code from the SJF request.
xxxx0004	An SJF TERMINATE request in subroutine FSMSJTER failed. xxxx is the return code from the SJF request.

System Action: The functional subsystem
ESTAE recovery routine may attempt
recovery or may terminate the functional
subsystem address space. If the recovery is
successful, JES2 processing continues from
the point of recovery. If the address space
is terminated, JES2 processing continues
but the device operated by the failed
functional subsystem and FSA is drained.

Operator Response: Notify the system
programmer. If the functional subsystem
address space is terminated and the device
drained, issue a $S command to try to
restart the device.

If the device does not restart or fails again
and if the device can be managed directly
by JES2, then issue a $Tdev,MODE = JES
command, followed by $Sdev commands,
to switch the device to JES mode.

If recovery is successful, no operator
response is needed.

Programmer Response: Analyze the
messages and dumps. If the reason code
15 indicates that insufficient storage was
available, provide more storage and restart
the device.

Problem Determination: Table 1, items 2, 7, 16.
For $HASP750, items 18 and 33 also.

030

Explanation: The error occurred during execution of a BISAM or QISAM OPEN macro instruction.

The control program found that the DCBMACRF field of the data control block (DCB) did not indicate a valid mode of operation for BISAM or QISAM. The DCBMACRF field is set up by the MACRF operand of the DCB macro instruction or by the problem program before the data control block is opened.

Programmer Response: Make sure that a valid mode of operation is specified in the MACRF operand of the DCB macro instruction. Verify that the DCBMACRF field was not incorrectly set up or modified by the problem program. After making corrections, reassemble the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

031

Explanation: An input/output error occurred during processing using QISAM. The control program attempted to pass control to an error analysis (SYNAD) routine, but found:

1. The DCBSYNAD field of the data control block (DCB) did not contain the address of a valid SYNAD routine.

2. The error occurred after a CLOSE macro instruction was executed by task termination. The problem program returned control to the supervisor without executing a CLOSE macro instruction.

The task was abnormally terminated. The DCBEXCD1 and DCBEXCD2 fields of the data control block indicate the possible causes of the original error:

DCBEXCD1:

Bit   Explanation

0   Record not found.
1   Invalid actual address for lower limit.
2   Space not found.

3   Invalid request.
4   Uncorrectable input error.
5   Uncorrectable output error.
6   Block could not be reached (input).
7   Block could not be reached (update).

DCBEXCD2:

Bit   Explanation

0   Sequence check.
1   Duplicate record.
2   DCB closed when error detected.
3   Overflow record.
4   PUT: length of field greater than length indicated in DCBLRECL field of the data control block.
5-7   (Reserved bits).

Programmer Response: Examine the DCBEXCD1 and DCBEXCD2 fields of the data control block to determine the cause of the error. Specify the address of an error analysis routine to be given control when an input/output error is detected and, for errors occurring during CLOSE, execute a QISAM CLOSE macro instruction prior to returning control to the supervisor. For errors occurring during the execution of a QISAM CLOSE macro instruction, respond as indicated by message IEC011I or IEC203I.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

032

Explanation: The error occurred during execution of a BISAM or QISAM OPEN macro instruction.

The control program found that the DCBMACRF field of the data control block (DCB) did not contain valid information for ISAM.

Programmer Response: Make sure that valid information is specified in the MACRF operand of the DCB macro instruction. Verify that the DCBMACRF field was not incorrectly modified by the problem program before the opening process.

After making corrections, reassemble the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

033

Explanation: The error occurred during execution of an OPEN macro instruction for an indexed sequential data set:

● An input/output error occurred while reading the highest level index.

● An input/output error occurred while searching for the end-of-file mark following the last data record in the prime and independent overflow areas. The DCBLPDA and DCBLIOV fields of the data control block (DCB) contain, respectively, the addresses of the last records in the prime and independent overflow areas.

● The DCBMSHI field of the data control block contained an address that either specified a location outside the boundaries of the virtual storage assigned to the task or had a storage protection key other than that specified in the task control block (TCB).

● An input/output error occurred while reading the last prime data block during open processing for resume load.

● All volumes of a multivolume ISAM data set were not mounted.

Programmer Response: Verify that the DCBLPDA, DCBLIOV, and DCBMSHI fields were not incorrectly specified or modified by the problem program. At the time of the abnormal termination, register 4 contains the address of the DCB. After making corrections, reassemble the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

034

Explanation: The error occurred during execution of a BISAM OPEN macro instruction. For variable length records, the control program found that the address in DCBMSWA was not valid. Either the address is outside the boundaries of virtual storage or the protection key of that address is not the same as the protection key in the TCB.

The control program found that the fields of the data control block (DCB) indicated a virtual storage area too small to contain the highest level index for the data set. The size of the virtual storage area that should be reserved for the highest level index is placed in the DCBNCBHI field of the data control block at .OPEN exit time.

Programmer Response: The error can be corrected by one of the following:

● Specify a valid address in the MSWA operand of the DCB. Verify that this field has not been incorrectly modified.

● Provide a sufficient virtual storage area by proper specification of the DCBSMSI and DCBMSHI fields.

● Provide no virtual storage area and either do not specify the contents of the DCBSMSI and DCBMSHI fields or set the fields to zero. The highest level index can then be processed without being loaded into virtual storage.

After making corrections, reassemble the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

035

Explanation: The error occurred during execution of a BISAM OPEN macro instruction.

The control program found that new records were to be added to the data set, but the DCBMSWA and DCBSMSW fields of the data control block (DCB) indicated a virtual storage area too small to contain one track from the prime area.

Programmer Response: The error can be corrected by one of the following:

● Provide a sufficient area by proper specification of the DCBMSWA and DCBSMSW fields. The minimum

DCBSMSW field must indicate one track capacity plus one record.

● For fixed-length records, provide no virtual storage area and either do not specify the contents of the DCBMSWA and DCBSMSW fields or set the fields to zero. A virtual storage work area is required only for variable-length records.

After making corrections, reassemble the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

036

Explanation: The error occurred during execution of a BISAM or QISAM OPEN macro instruction.

The control program found that no space was allocated on a direct access device as the prime area for the data set:

1. In QISAM load mode, during data set generation, the SPACE parameter of the DD statement did not specify a primary quantity.

2. The data set control block (DSCB) for the data set was incorrectly modified by the problem program.

Programmer Response: In the first case, the data set should be dumped sequentially and recreated using QISAM load mode. The job should be restarted with a primary quantity specified in the SPACE parameter of the DD statement. If the prime area is to span more than one volume, the number of volumes and the number of units required should be specified.

In the second case, verify that the data set control block was not incorrectly modified by the problem program. After making corrections, reassemble the program and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

037

Explanation: The error occurred during execution of a BISAM or QISAM OPEN macro instruction. The control program found that the buffers supplied by the programmer were inadequate for the records to be processed:

● If the buffers were acquired by use of the BUILD macro instruction, either the BUFNO operand of the DCB macro instruction was not specified or the BUFL operand specified too small a value.

● If the buffers were acquired by use of the GETPOOL macro instruction, the buffer length operand specified too small a value.

Programmer Response: Specify the buffers correctly. Then execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

038

Explanation: The error occurred during execution of an OPEN macro instruction for QISAM load mode.

The control program found that the space on a direct access device that had been allocated for the index area was either exhausted or occupied more than one volume. The index for an ISAM data set must reside on one volume.

Programmer Response: If a new data set is being created, the job must be restarted with more space allocated through the SPACE parameter of the DD statement.

If an old data set is being updated, the data set should be dumped sequentially, the old data set scratched, and the data set recreated from the sequential data set using QISAM load mode. The job should be restarted with more space allocated through the SPACE parameter of the DD statement.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

039

Explanation: The error occurred in scanning a data set using QISAM.

The end of the data set (EOD) was reached. The control program found that the DCBEODAD field of the data control block (DCB) did not contain an end-of-data-set exit routine address.

Programmer Response: Make sure that the address of a routine to be given control when the end of the data set is reached is specified either in the EODAD operand of the DCB macro instruction or in the problem program before the end of the data set is reached. Then reassemble the program, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

03A

Explanation: The error occurred during execution of a BISAM or QISAM CLOSE macro instruction.

A format-2 data set control block (DSCB), read from a direct access device into virtual storage, was updated from the data control block (DCB). When an attempt was made to write the updated data set control block back to the direct access device, an input/output error occurred.

When the ISAM interface is used to process a VSAM data set, this system completion code can be accompanied by message IEC251I. If it is, refer to message IEC251I for information about the task that terminated.

Programmer Response: If this system completion code is accompanied by message IEC251I, respond as indicated by message IEC251I.

At abnormal termination, register 4 points to the OPEN/CLOSE/END-OF-VOLUME work area. X'64' in the work area contains the address of the job file control block (JFCB); the contents of the JFCB begin with the 44-character name of the data set involved in the input/output error. The address of the unit

control block (UCB), which contains the device address for the data set, is located at X'230' in the work area. The address of the user's DCB, which contains the address of the data event block (DEB), is located at X'238' in the work area.

Correct the problem with the data set, and rerun the job.

Problem Determination: Table I, items 1, 3, 5a, 15, 25b, 29.

03B

Explanation: The error occurred during execution of an OPEN macro instruction for an indexed sequential data set. No records could be processed because:

1. The format-2 data set control block (DSCB) indicated that the data set had not been created.

2. The format-2 DSCB indicated that the data control block (DCB) had not been closed after the data set had been created.

3. The DCBRKP field of the data control block was not valid.

4. The DCBKEYLE field of the data control block contained either zero or a value not equal to the value in the DS1KEYL field of the format-1 DSCB.

5. A QISAM data control block was being opened in preparation for a PUT operation, but the OPEN macro instruction had not been issued for output.

6. There is an error in specification of LRECL or BLKSIZE. Either:

    a. The block size (DCBBLKSI) is less than the logical record length (DCBLRECL).

    b. The logical record length (DCBLRECL) is zero.

    c. The block size (DCBBLKSI) is not a multiple of the logical record length (DCBLRECL).

d. The blocksize (DCBBLKSI) and/or the logical record length (DCBLRECL) differs from the DSCB blocksize and/or logical record length.

7. A QISAM data control block was being opened in preparation for a PUT operation and DISP = SHR was coded in the JCL.

8. RECFM was specified incorrectly. The value for the record format (DCBRECFM) is not the same as the value for the record format specified when the data set was created.

Register 2 contains the address of the DCB for which the abend was issued.

When the ISAM interface is used to process a VSAM data set, this system completion code can be accompanied by message IEC161I. If it is, refer to message IEC161I for information about the task that terminated. The ISAM interface of VSAM issues abend code 03B for one of the following reasons:

● The access method service's and DCB values for LRECL, KEYLE, RKP do not match.

● DISP = OLD was specified and the DCB was opened for output and the number of logical records is greater than zero (RELOAD is implied).

● An OPEN ACB error code 116 was returned for a request to open a VSAM structure.

Programmer Response: In cases 1 and 2, make sure that the data set has been properly created and that the creating task closes the data control block.

In case 3, make sure that the value of the DCBRKP field of the data control block, when added to the value in the DCBKEYLE field, does not exceed the value in the DCBLRECL field. If variable length records are used, make sure that the value of the DCBRKP field is not less than 4.

In case 4, make sure that the DCBKEYLE field in the data control block does not contain zero.

For an existing ISAM data set, omit the KEYLEN operand on the DCB macro instruction, allowing the data set control block to supply the key length value.

In case 5, make sure that OUTPUT is specified as option 1 in the OPEN macro instruction.

In case 6, make sure that the block size (BLKSIZE) and logical record length (LRECL) have been specified correctly and that they are compatible.

In case 7, code DISP = OLD in the JCL for a QISAM data control block being opened for a PUT operation.

In case 8, list the VTOC to determine the correct record format of the data set.

In cases when the ISAM interface issued an ABEND, make sure that a valid mode of operation is specified in the MACRF operand of the DCB macro. Additionally, make sure that the DCB is not being opened for load mode while there are records in the data set.

In all cases, execute the job step again.

If this system completion code is accompanied by message IEC161I, respond as indicated for the message.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

03D

Explanation: The error occurred during execution of an OPEN macro instruction.

For a QISAM or BISAM OPEN macro instruction, one of the following occurred:

● The DD statement did not specify an indexed sequential organization, which can be specified by the DSORG = IS or DSORG = ISU subparameter of the DCB parameter.

● If the data set resides on multiple volumes, either the volume serial numbers in the SER subparameter of the VOLUME parameter of the DD statement were not in proper

sequence, or not all volume serial numbers were specified. The serial number of the volume containing the index must be listed first. The number of volumes and the number of units allocated must be the same, and all volumes must be mounted.

For a BDAM OPEN macro instruction, one of the following occurred:

- The volume serial numbers in the SER subparameter of the VOLUME parameter of the DD statement were not in proper sequence.

- The DCB DSORG = DA, but the DD statement specified an indexed sequential data set name.

This system completion code is sometimes accompanied by message IEC156I. If so, refer to message IEC156I for information about the task that was terminated and for an explanation of the return code (rc in the message text) in register 15.

Programmer Response: Correct the DCB parameter or SER subparameter, as necessary, and execute the job step again.

If this system completion code is accompanied by message IEC156I, respond as indicated for the message.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

03E

Explanation: The error occurred during execution of a QISAM OPEN macro instruction. The position of the last prime data record indicated that there is no room to add records with resume load.

The loading of an indexed sequential data set must be completed during the initial OPEN/PUT/CLOSE cycle for that data set. An indexed sequential data set that has been opened and closed for loading may be subsequently loaded if no data was created.

Possibly, an attempt was made to add records with resume load to the prime area of an ISAM data set that had no space available for additional records.

Programmer Response: Either load the data set again with a larger space allocation, or add records using BISAM.

After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

040

Explanation: The error occurred during execution of an OPEN macro instruction for a TCAM line group data set.

System Action: An error code is inserted into register 0 if the user specified an address in the EXLST = operand of the line group DCB macro instruction. The user exit routine may examine the code in register 0. If no user exit was specified, the error type is indicated by console message IED008I.

Programmer Response: Respond as indicated for message IED008I.

041

Explanation: The error occurred during execution of an OPEN macro instruction for a TCAM message queue data set.

System Action: An error code is inserted into register 0 if the user specified an address in the EXLST = operand of the message queue DCB macro instruction. The user exit routine may examine the code in register 0. If no user exit was specified, the error type is indicated by console message IED008I.

Programmer Response: Respond as indicated for message IED008I. If your system has the ACF/TCAM program product installed refer to the appropriate ACF/TCAM messages book. Otherwise, refer to *System Messages*.

042

Explanation: An IPL command was issued for a 3705 for which one or more terminal entries indicate that the teleprocessing on-line test executive (TOTE) has control of the terminal as a control terminal, alternate printer, or test device.

System Action: All active on-line tests (OLTs) are forced to terminate. This forced cleanup is indicated on the system console by message IED284I OLT xx ABEND 042000, where xx is the OLT identification number.

Operator Response: Reenter the test request message after the initial program load (IPL) is complete.

043

Explanation: The error occurred during execution of an OPEN macro instruction for a TCAM application program data set.

Register 0 contains a hexadecimal reason code:

Reason Code	Explanation
01	An OPEN macro for a TCAM application program data set has been issued, but the Message Control Program (MCP) is not active in the system.
02	One of the following was found: ● The QNAME= parameter of a DD statement associated with an application program is not the name of a process entry defined in the terminal table. ● The QUEUES= operand appeared in a TPROCESS macro instruction when an application program DCB was being opened for output only. ● The QUEUES= operand was not specified when an application program DCB was being opened for input.
03	A process entry named by the QNAME= parameter of a DD statement associated with an application program is currently being used by another application program.
04	One of the following occurred: ● Not enough virtual storage was available in the MCP to build internal control blocks.

● The PGFN macro failed for the process entry work area.

05	Not enough virtual storage was available in the application program area to build internal control blocks.
06	The application program attempted to open a secured queue. The system operator rejected the request.
07	The application program is not an authorized program, but the user has either coded AUTHA=YES or taken YES as the default value for the AUTHA parameter on the TCAM INTRO macro instruction.
08	PCB error. OPEN was issued for a TPROCESS entry while its PCB was in use by another task.

System Action: If a user ABEND exit is provided in the EXLST= operand of the DCB macro for the data set, the system gives control to the routine. If it returns or if no user ABEND exit is provided, the system terminates the task. Message IED015I may accompany this system completion code.

Programmer Response: No action is required if a user ABEND exit has been provided in the EXLST= operand of the DCB macro for the application program data set. Response depends on the reason code in register 0:

Reason Code	Response
01	Make sure that an MCP is active before attempting to start an application program.
02 or 03	Recode the QNAME= parameter, specifying the name of a valid process entry.
04	Specify a larger region or partition size on the JOB statement for the MCP, or re-IPL the system specifying a larger system queue space.
05	Specify a larger partition size on the JOB statement for the application program.
06	Recode the SECURE=YES operand associated with the queue, or instruct the system operator to allow the queue to be opened.
07	Link edit the application program as an authorized program into an authorized library, or specify AUTHA=NO on the TCAM INTRO macro instruction.
08	Open all TPROCESS entries for the PCB in the same application program.

044

Explanation: The error occurred during execution of the FE Common Write (COMWRITE) task. The COMWRITE task was terminated.

Register 3 contains a hexadecimal reason code:

Reason Code	Explanation
01	Permanent I/O error on output device. Register 7 contains user ID; register 8 contains address of failing DECB.
02	STAE routine failed. Register 15 contains the return code.
03	User parameter list is incorrect, and output required was specified. Register 7 contains the address of the parameter list saved in COMWRITE. Register 11 contains the address of the error message.
05	The output DCB failed to open.
06	For one of the traces specified, the size of one half of the trace table is larger than the maximum block size specified for the trace data set.

Programmer Response: Response depends on the reason code in register 3:

Reason Code	Response
01	Check the status of the recording medium. If it is valid, call IBM for hardware support.
02	Call IBM for hardware support.
03	Check the parameter list.
05	Missing DD statement. Include the DD statement, and rerun the job.
06	Ensure that the size of one half of the trace table does not exceed the maximum block size specified for the trace data set.

045

Explanation: The error occurred during execution of a TCAM Message Control Program (MCP). The MCP terminates.

The low-order byte of register 15 contains a hexadecimal reason code:

Reason Code	Explanation
01	I/O has been requested on a nonreusable disk record that is beyond the capacity of the data set. The nonreusable disk data set cannot be wrapped
02	Logical read error caused by the reusable disk receiving a heavy burst of new traffic. This traffic causes unsent messages to be overlaid before being copied to the alternate destination queue.
03	Logical read error while trying to fetch a message for transmission to a terminal.
04	The copy subtask needed to copy messages from one data set to another has not been loaded by the disk OPEN. A multiple-route or distribution list message has been enqueued to go to dissimilar message queue types. The copy subtask is needed to put the message on the queue. Caused by failure to open successfully a disk message queue DCB.
05	I/O has been requested on an unopened disk message queue data set.
06	FEATURE = (,,NOTIMER) was specified in the INTRO macro instruction, but a function requiring the system timer has been called.
07	A message longer than the reusable disk data set has been entered.
08	A disk read error occurred. It was a hardware error, not a logical read error.
09	Either not enough space was allocated for the checkpoint data set, or an I/O error occurred on the checkpoint data set.
0A	The checkpoint data set is too small. Alternatively, the number of checkpoint records specified in the INTRO macro instruction is too large.

Programmer Response: Response depends on the reason code in the low-order byte of register 15:

Reason Code	Response
01	Either specify a larger data set or request that close down occur at an earlier point.
02,03,07	Specify a larger data set or one that occupies more than one extent. For further suggested corrections, refer to *OS/VS2 TCAM System Programmer's Guide.*
04,05	Before issuing the OPEN macro instructions for the lines, test for successful open of the message queue data set.
06	Specify FEATURE = (,,TIMER); reassemble and rerun the MCP.

09   Message issued to operator just before ABEND describes the cause of failure, and message description provides response.

0A   Allocate more space for the checkpoint data set, or specify fewer checkpoint records in the INTRO macro instruction.

Problem Determination: For return code 08, see Table I, items 1, 2, 4, 5a, 18, 30. For all other return codes, see Table I, items 5a, 10, 29. Obtain a listing of the message queue data set.

046

Explanation: The TCAM MCP was terminated, but an application program data set is still open. The system terminates the application program data set and issues system completion code 046.

System Action: The application program is terminated.

Programmer Response: Respond as indicated for the system completion code issued upon termination of the MCP.

047

Explanation: An unauthorized program requested a restricted SVC.

The PSW indicates the last SVC issued. If SVC 102 (66) was the last issued by an unauthorized TCAM application program, the TCAM MCP program must specify in the INTRO macro instruction, AUTHA = NO. If SVC 102 was issued by other than a TCAM application program, the program must be authorized.

If SVC 104 (68) was last issued, the program must be an authorized TCAM MCP.

Operator Response: Notify the installation manager or system programmer immediately. Hold all output relevant to the job.

Programmer Response: Run the job again.

048

Explanation: A subsystem address space supported by ACF/TCAM had an error

condition. An ACF/TCAM subsystem has determined that recovery could not occur. The subsystem terminates. Register 0 contains a hexadecimal reason code:

Reason Code	Explanation
001	The RPL address was invalid when the subsystem interface was not running with authorized path.
002	Abnormal termination occurred before the subsystem was notified of FRR recovery.

System Action: Restart the subsystem.

Programmer Response: Print the SVC dump, which was stored in the SYS1.DUMP data set. For further detail, refer to *ACF/TCAM Support for IBM Subsystems.*

Problem Determination: Table I, items 10, 13, 18, 32, 33, 49.

049

Explanation: A subsystem address space supported by ACF/TCAM had an error condition. The FRR was unable to recover the subsystem. A SYS1.LOGREC entry was created to explain why recovery could not occur. An SVC dump was written to SYS1.DUMP.

System Action: Restart the subsystem.

Programmer Response: Print the dump and LOGREC entry. Refer to *ACF/TCAM Support for IBM Subsystems.*

Problem Determination: Table I, items 10, 13, 18, 32, 33, 49.

04C

Explanation: The system issues completion code 04C when both of the following occur:

● A user invokes the TMP (terminal monitor program) at entry point IKJEFT1A.

● The TMP detaches a program that completed with a nonzero completion code. The nonzero completion code is in register 15.

System Action: The system does not change the user completion code.

Operator Response: None.

Programmer Response: None.

Problem Determination: None.

04D

Explanation: A module that branch entered IEAVGM00 violated the interface with GETMAIN or FREEMAIN. Register 14 contains the address of the calling module. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
04	The ASCB address in register 7 was not the address of the current ASCB.
08	A module branch entered IEAVGM00 without the local lock. Register 7 contains the PSAHLHI indicator.
0C	A module branch entered IEAVGM00 at the global entry point without the SALLOC lock. Register 7 contains the PSAHLHI indicator.

Programmer Response: The module calling the GETMAIN or FREEMAIN macro (BRANCH = YES) is probably in error. Check the calling module to be sure it made the request correctly.

Problem Determination: Table I, items 3, 4, 11, 13, 16, 29, 33.

052

Explanation: A program requested a program call/authorization (PC/AUTH) service or a program call linkage service, but the caller's request was invalid. Register 15 contains a hexadecimal return code in the form xxyy, where xx identifies the service that was called and yy identifies the error.

System Action: The program that called the service abnormally terminates.

Programmer Response: Find and correct the error. Rerun the program.

Reason Code	Explanation
01yy	The program issued the LXRES macro instruction to call the linkage index reserve service (IEAVXLRE). Register 15 contains one of these reason codes:
0101	A reserved field in the parameter list is not zero. Register 5 contains the first word of the parameter list.
0102	The format number field in the parameter list is invalid. Register 5 contains the first word of the parameter list.
0103	The request count in the linkage index list is invalid. Register 5 contains the first word of the parameter list.
0104	A jobstep attempted to establish PC services, but a prior jobstep owned space-switch entry tables. (Subsequent jobsteps are not permitted to establish PC services.)
02yy	The program issued the LXFRE macro instruction to call the linkage index free service (IEAVXLFR). Register 15 contains one of these reason codes:
0201	A reserved field in the parameter list is not zero Register 5 contains the first word of the parameter list.
0202	The format number field in the parameter list is invalid. Register 5 contains the first word of the parameter list.
0203	The request count in the linkage index list is invalid. Register 5 contains the first word of the parameter list.
0211	A linkage index (LX) is invalid. Register 5 contains the invalid linkage index.
0212	A linkage index is not owned by the home address space. Register 5 contains the invalid linkage index.
0213	A linkage index is invalid because it is a system linkage index. Register 5 contains the linkage index.
0214	A linkage index has one or more entry tables connected and FORCE = YES was not specified.
0215	A linkage index appeared more than once in the linkage index list.
03yy	The program issued the ETCRE macro instruction to call the entry table create service (IEAVXECR). Register 15 contains one of these reason codes:
0301	A reserved field is not equal to zero in the header of the entry table description (ETD) specified in the ENTRIES parameter.

0302   The format number field in the entry table description (ETD) is invalid.

0303   The request count in the EDTNUM field is invalid.

0304   The caller passed a nonzero value in register 1. (Register 1 is reserved for future use.)

0311   A reserved field is not equal to zero in one of the 20-byte description elements in the entry table description (ETD). Register 2 contains the entry index (EX) associated with the description element.

0312   The program identified in one of the 20-byte description elements could not be found. Register 2 contains the entry index (EX) associated with the description element.

0313   The entry indexes are not in ascending order. Register 2 contains the entry index (EX) that was not in ascending order.

0314   A jobstep attempted to establish PC services, but a prior jobstep owned space-switch entry tables. (Subsequent jobsteps are not permitted to establish PC services.)

04yy   The program issued the EXDES macro instruction to call the entry table destroy service (IEAVXEDE). Register 15 contains one of these reason codes:

0401   A reserved input field in the parameter list is not zero.

0402   The format number field in the parameter list is invalid.

0411   The specified token is invalid.

0412   The program specified a token for a system entry table but did not specify PURGE = YES.

0413   The specified token is for an entry table that the home address space does not own.

0414   The program specified a token for an entry table that is in use, but the program did not specify PURGE = YES.

05yy   The program issued the ETCON macro instruction to call the entry table connect service (IEAVXECO). Register 15 contains one of these reason codes:

0501   A reserved input field is not zero.

0502   The format number field is invalid.

0503   The token list count or the linkage index list count is invalid.

0511   The token list count and the linkage index list count are not equal.

0512   A specified linkage index is already in use. Register 2 contains the invalid linkage index.

0513   A specified linkage index is not reserved. Register 2 contains the invalid linkage index.

0514   A specified token is invalid.

0515   A specified token is for an entry table that is already connected to the home address space's linkage table. Register 2 contains the invalid token.

0516   A specified token is for an entry table that is not authorized for connection. Register 2 contains the invalid token.

0517   An entry table and the corresponding linkage index are not owned by the same address space. Register 2 contains the linkage index.

0519   A token appeared more than once in the token list. Register 2 contains the token.

051A   A linkage index appeared more than once in the linkage index list.

06yy   The program issued the ETDIS macro instruction to call the entry table disconnect service (IEAVXEDI). Register 15 contains one of these reason codes:

0603   The token count is invalid. Register 2 contains the invalid count.

0604   The caller passed a nonzero value in register 1. Register 2 contains the value.

0611   A specified token is invalid. Register 2 contains the token.

0612   The specified token is for a system entry table. Register 2 contains the token.

0613   The specified token is for an entry table that is not connected. Register 2 contains the token.

0614   A token appears more than once in the token list. Register 2 contains the token.

0615   The linkage index free service called the entry table disconnect service and passed an invalid ASID. Register 2 contains the invalid ASID.

07yy A program issued the AXRES macro instruction to call the authorization index reserve service (IEAVXRFE). Register 15 contains one of these reason codes:

0703 The request count is invalid. Register 4 contains the request count.

0704 The caller passed a nonzero value in register 1.

0705 A jobstep attempted to establish PC services, but a prior jobstep owned space-switch entry tables. (Subsequent jobsteps are not permitted to establish PC services.)

08yy A program issued the AXFRE macro instruction to call the authorization index free service (IEAVXRFE). Register 15 contains one of these reason codes:

0803 The request count is invalid. Register 4 contains the request count.

0804 The caller passed a nonzero value in register 1.

0813 An authorization index (AX) is not reserved by the home address space. Register 4 contains the AX.

0814 An authorization index (AX) is still in use. Register 4 contains the address of the ASCB using the AX. Register 5 contains the AX.

0817 An authorization index (AX) appeared more than once in the authorization index list. Register 4 contains the duplicate AX.

0823 An authorization index (AX) equal to 0 or 1 appears in the authorization index list. An AX of 0 or 1 cannot be freed. Register 4 contains the AX.

09yy A program issued the AXEXT macro instruction to call the authorization index extract service (IEAVXRFE). Register 15 contains one of these reason codes:

0901 A reserved input field is not zero.

0904 The caller passed a nonzero value in register 1.

0918 The ASID passed as input is not the ID of an active address space. Register 4 contains the ASID.

0Ayy The program issued the AXSET macro instruction to call the authorization index set service (IEAVXSET). Register 15 contains one of these reason codes:

0A01 A reserved input field is not zero.

0A04 The caller passed a nonzero value in register 1.

0A19 The authorization index is not within the authorization index allocation table (AXAT). Register 4 contains the authorization index.

0A20 The authorization index is not reserved. Register 4 contains the authorization index.

0A21 The home address space has one or more connected space switch entry tables that could cause an address space switch.

0Byy The program issued the ATSET macro instruction to call the authorization table set service (IEAVXSET). Register 15 contains one of these reason codes:

0B01 A reserved input field is not zero.

0B04 The caller passed a nonzero value in register 1.

0B19 The authorization index (AX) specified is not within the authorization index allocation table (AXAT). The second halfword of register 4 contains the AX value. The content of the first halfword of register 4 is undefined and unpredictable.

0B20 The authorization index specified is not reserved. Register 4 contains the AX.

0B22 The specified authorization index (AX) is for a predefined authorization table entry. Register 4 contains the AX.

11yy The program issued the PCLINK macro instruction with the STACK parameter (IEAVXSTK). Register 15 contains one of these reason codes:

1112 The program held one or more locks that prevented PCLINK processing from getting the SALLOC lock. Register 2 contains a mask showing the locks that the program held.

12yy The program issued the PCLINK macro instruction with the UNSTACK parameter (IEAVXSTK). Register 15 contains one of these reason codes:

1211 The macro instruction included the UNSTACK,THRU or the UNSTACK,TO parameter, but the current PCLINK stack element chain was empty.

1212 The specified token was for a PCLINK stack element (STKE) that is not on the PCLINK stack element chain. Register 2 contains the token.

13yy   The program issued the PCLINK macro instruction with the EXTRACT parameter (IEAVXSTK). Register 15 contains one of these reason codes:

     1313   The specified token was for a PCLINK stack element (STKE) that is not the current element (the most recently stacked element).

           Register 2 contains the token of the current element. (Either a user error or a system error can cause this condition.)

     1314   The specified token is not valid. Register 2 contains the invalid token.

053

Explanation: A program issued a macro instruction to call a program call authorization (PC/AUTH) service or a program call linkage service, but an error prevented the service from completing normally. Register 15 contains a hexadecimal reason code in the form xxyy, where xx identifies the service that was called and yy identifies the error. The registers are recorded in SDWAGRSV.

System Action: The PC/AUTH functional recovery routine writes an SDUMP and an error record to SYS1.LOGREC. The program that called the service abnormally terminates, unless the service requests a retry.

Programmer Response: Find and correct the error.

Problem Determination: Table I, items 2, 7, 18, and 33.

Reason Code   **Explanation**

01yy   The program issued the LXRES macro instruction to call the linkage index reserve service (IEAVXLRE). Register 15 contains one of these reason codes:

     0101   The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 5 contains the GETMAIN return code.

     0105   The service issued a GETMAIN for a new linkage index allocation table (LXAT) in the pageable storage of the program call/authorization (PC/AUTH) address space. The GETMAIN failed; register 5 contains the GETMAIN return code.

     0109   The service issued a FREEMAIN for an old linkage index allocation table (LXAT) in the program call/authorization (PC/AUTH) address space's pageable storage. The FREEMAIN failed; register 5 contains the FREEMAIN return code.

     010A   The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 5 contains the FREEMAIN return code.

     0111   The service could not reserve one or more linkage indexes (LXs) because the maximum number of LXs the system supports would be exceeded. Register 5 contains the number of LXs that are currently unreserved.

     0197   An unexpected error occurred.

     0198   The program call/authorization (PC/AUTH) services are inoperable.

     0199   The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 5 contains the expected acronym.

02yy   The program issued the LXFRE macro instruction to call the linkage index free service (IEAVXLFR). Register 15 contains one of these reason codes:

     0201   The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 5 contains the GETMAIN return code.

     0205   The service issued a GETMAIN for a new force disconnect queue block (FDQB) in the program call/authorization (PC/AUTH) address space's pageable storage. The GETMAIN failed; register 5 contains the GETMAIN return code.

     0209   The service issued a FREEMAIN for a force disconnect queue block (FDQB) in the program call/authorization (PC/AUTH) address space's pageable storage. The FREEMAIN failed; register 5 contains the FREEMAIN return code.

     020A   The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 5 contains the FREEMAIN return code.

     0211   The service was building the force disconnect queue (FDQ) to process a FORCE request. The service found more than one connection description (ETIXCD) with the same ASID/LX (address space ID/linkage index) values while searching the ETIB (entry table information block) chain.

     0297   An unexpected error occurred.

0298 The program call/authorization
(PC/AUTH) services are inoperable.

0299 The acronym at the beginning of a program
call/authorization (PC/AUTH) control
block is invalid. Register 5 contains the
expected acronym.

03yy The program issued the ETCRE macro instruction
to call the entry table create service (IEAVXECR).
Register 15 contains one of these reason codes:

0301 The service issued a GETMAIN for a
dynamic work area, but the GETMAIN
failed. Register 2 contains the GETMAIN
return code.

0302 The service issued a GETMAIN for storage
in the SQA, but the GETMAIN failed;
register 2 contains the GETMAIN return
code.

0303 The service issued a GETMAIN for storage
in the program call/authorization
(PC/AUTH) address space's LSQA. The
GETMAIN failed; register 2 contains the
GETMAIN return code.

0305 The service issued a GETMAIN for storage
in the program call/authorization
(PC/AUTH) address space's pageable
storage. The GETMAIN failed; register 2
contains the GETMAIN return code.

0306 The service issued a FREEMAIN for
storage in the SQA, but the FREEMAIN
failed; register 2 contains the FREEMAIN
return code.

0307 The service issued a FREEMAIN for
storage in the program call/authorization
(PC/AUTH) address space's LSQA. The
FREEMAIN failed; register 2 contains the
FREEMAIN return code.

0309 The service issued a FREEMAIN for
storage in the program call/authorization
(PC/AUTH) address space's pageable
storage. The FREEMAIN failed; register 2
contains the FREEMAIN return code.

030A The service issued a FREEMAIN for a
dynamic work area, but the FREEMAIN
failed. Register 2 contains the FREEMAIN
return code.

0397 An unexpected error occurred.

0398 The program call/authorization
(PC/AUTH) services are inoperable.

0399 The acronym at the beginning of a program
call/authorization (PC/AUTH) control
block is invalid. Register 2 contains the
expected acronym.

04yy The program issued the ETDES macro instruction
to call the entry table destroy service (IEAVXEDE).
Register 15 contains one of these reason codes:

0401 The service issued a GETMAIN for a
dynamic work area, but the GETMAIN
failed. Register 2 contains the GETMAIN
return code.

0406 The service issued a FREEMAIN for
storage in the SQA, but the FREEMAIN
failed; register 2 contains the FREEMAIN
return code.

0407 The service issued a FREEMAIN for
storage in the program call/authorization
(PC/AUTH) address space's LSQA. The
FREEMAIN failed; register 2 contains the
FREEMAIN return code.

0409 The service issued a FREEMAIN for
storage in the program call/authorization
(PC/AUTH) address space's pageable
storage. The FREEMAIN failed; register 2
contains the FREEMAIN return code.

040A The service issued a FREEMAIN for a
dynamic work area, but the FREEMAIN
failed. Register 2 contains the FREEMAIN
return code.

0497 An unexpected error occurred.

0498 The program call/authorization
(PC/AUTH) services are inoperable.

0499 The acronym at the beginning of a program
call/authorization (PC/AUTH) control
block is invalid. Register 2 contains the
expected acronym.

05yy The program issued the ETCON macro instruction
to call the entry table connect service (IEAVXECO).
Register 15 contains one of these reason codes:

0501 The service issued a GETMAIN for a
dynamic work area, but the GETMAIN
failed. Register 2 contains the GETMAIN
return code.

0503 The service issued a GETMAIN for storage
in the program call/authorization
(PC/AUTH) address space's LSQA. The
GETMAIN failed; register 2 contains the
GETMAIN return code.

0505 The service issued a GETMAIN for storage
in the program call/authorization
(PC/AUTH) address space's pageable
storage. The GETMAIN failed; register 2
contains the GETMAIN return code.

0507 The service issued a FREEMAIN for
storage in the program call/authorization
(PC/AUTH) address space's LSQA. The
FREEMAIN failed; register 2 contains the
FREEMAIN return code.

ABEND

050A   The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 2 contains the FREEMAIN return code.

0597   An unexpected error occurred.

0598   The program call/authorization (PC/AUTH) services are inoperable.

0599   The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 2 contains the expected acronym.

06yy   The program issued the ETDIS macro instruction to call the entry table disconnect service (IEAVXEDI). Register 15 contains one of these reason codes:

0601   The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 2 contains the GETMAIN return code.

0609   The service issued a FREEMAIN for storage in the program call/authorization (PC/AUTH) address space's pageable storage. The FREEMAIN failed; register 2 contains the FREEMAIN return code.

060A   The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 2 contains the FREEMAIN return code.

0697   An unexpected error occurred.

0698   The program call/authorization (PC/AUTH) services are inoperable.

0699   The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 2 contains the expected acronym.

07yy   The program issued the AXRES macro instruction to call the authorization index reserve service (IEAVXRFE). Register 15 contains one of these reason codes:

0701   The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 4 contains the GETMAIN return code.

0705   The service issued a GETMAIN for storage in the program call/authorization (PC/AUTH) address space's pageable storage. The GETMAIN failed; register 4 contains the GETMAIN return code.

0709   The service issued a FREEMAIN for storage in the program call/authorization (PC/AUTH) address space's pageable storage. The FREEMAIN failed; register 4 contains the FREEMAIN return code.

070A   The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 4 contains the FREEMAIN return code.

0712   The service cannot satisfy the request because the authorization index (AX) count would cause the total number of AXs to exceed the maximum number that the system supports. Register 4 contains the AX count for the request.

0797   An unexpected error occurred.

0798   The program call/authorization (PC/AUTH) services are inoperable.

0799   The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 4 contains the expected acronym.

08yy   The program issued the AXFRE macro instruction to call the authorization index free service (IEAVXRFE). Register 15 contains one of these reason codes:

0801   The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 4 contains the GETMAIN return code.

080A   The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 4 contains the FREEMAIN return code.

0897   An unexpected error occurred.

0898   The program call/authorization (PC/AUTH) services are inoperable.

0899   The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 4 contains the expected acronym.

09yy   The program issued the AXEXT macro instruction to call the authorization index extract service (IEAVXRFE). Register 15 contains one of these reason codes:

0901   The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 4 contains the GETMAIN return code.

090A   The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 4 contains the FREEMAIN return code.

0997   An unexpected error occurred.

0998   The program call/authorization (PC/AUTH) services are inoperable.

0999   The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 4 contains the expected acronym.

0Ayy   The program issued the AXFRE macro instruction to call the authorization index free service (IEAVXRFE). Register 15 contains one of these reason codes:

0A01   The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 4 contains the GETMAIN return code.

0A0A   The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 4 contains the FREEMAIN return code.

0A30   An unexpected error occurred before the service set the authorization index (AX) of the home address space.

0A31   An unexpected error occurred after the service set the authorization index (AX) of the home address space, but before the bind break routine could break all binds to other address spaces.

0A32   An unexpected error occurred after the service set the authorization index (AX) of the home address space and the bind break routine broke all binds to other address spaces.

0A97   An unexpected error occurred.

0A98   The program call/authorization (PC/AUTH) services are inoperable.

0A99   The acronym at the beginning of program call/authorization (PC/AUTH) control block is invalid. Register 4 contains the expected acronym.

0Byy   The program issued the ATSET macro instruction to call the authorization table set service (IEAVXSET). Register 15 contains one of these reason codes:

0B01   The service issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 4 contains the GETMAIN return code.

0B03   The service issued a GETMAIN for storage in the program call/authorization (PC/AUTH) address space's LSQA. The GETMAIN failed; register 4 contains the GETMAIN return code.

0B07   The service issued a FREEMAIN for storage in the program call/authorization (PC/AUTH) address space's LSQA. The FREEMAIN failed; register 4 contains the FREEMAIN return code.

0B0A   The service issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 4 contains the FREEMAIN return code.

0B30   An unexpected error occurred before the service set the authorization bits in the authorization table (AT) of the home address space.

0B31   An unexpected error occurred after the service set the authorization bits in the authorization table (AT) of the home address space, but before the bind break routine broke all binds to other address spaces.

0B32   An unexpected error occurred after the service set the authorization bits in the authorization table (AT) of the home address space and the bind break routine broke all binds to other address spaces.

0B97   An unexpected error occurred.

0B98   The program call/authorization (PC/AUTH) services are inoperable.

0B99   The acronym at the beginning of a program call/authorization (PC/AUTH) control block is invalid. Register 4 contains the expected acronym.

0Cyy   The program call/authorization (PC/AUTH) resource manager, IEAVXPAM, detected an error. Register 15 contains one of these reason codes:

0C01   The resource manager issued a GETMAIN for a dynamic work area, but the GETMAIN failed. Register 2 contains the GETMAIN return code.

0C06   The resource manager issued a FREEMAIN for storage in the SQA, but the FREEMAIN failed; register 2 contains the FREEMAIN return code.

0C07   The resource manager issued a FREEMAIN for storage in the PC/AUTH address space's LSQA. The FREEMAIN failed; register 2 contains the FREEMAIN return code.

0C09   The resource manager issued a FREEMAIN for storage in the PC/AUTH address space's pageable storage. The FREEMAIN failed; register 2 contains the FREEMAIN return code.

0C0A   The resource manager issued a FREEMAIN for a dynamic work area, but the FREEMAIN failed. Register 2 contains the FREEMAIN return code.

0C97   An unexpected error occurred.

ABEND

0C99   The acronym at the beginning of a PC/AUTH control block is invalid. Register 2 contains the expected acronym.

0CC1   The ASCBAXR count for the terminating address space was too low.

0CC2   The ASCBLXR count for the terminating address space was too low.

0CC3   The bind break routine issued a nonzero return code.

0Dyy   IEAVXPCR, the program call authorization functional recovery routine (PC/AUTH FRR), detected an error. For any yy value except 88 and 89, the PC/AUTH FRR detected an invalid service-in-control code and cannot determine which PC/AUTH service is running; the dump title contains PCRAEERC=nnnn, where nnnn is the value in the PCRAEERC field of the PCRA (program call recovery area) at the time the FRR got control. If register 15 contains 0D88 or 0D89, the explanation is:

0D88   The FRR received return code X'18'from IEAVEQV1, the single-threaded queue verification routine.

0D89   The FRR received return code X'18' from IEAVEQV3, the double-threaded queue verification routine.

11yy   The program issued the PCLINK macro instruction with the STACK parameter (IEAVXSTK). Register 15 contains one of these reason codes:

1110   PCLINK processing issued a GETMAIN for storage in the CSA. The GETMAIN failed; register 2 contains the GETMAIN return code. The system writes neither an SDUMP nor an error record to SYS1.LOGREC.

12yy   The program issued the PCLINK macro instruction with the UNSTACK parameter (IEAVXSTK). Register 15 contains one of these reason codes:

1211   On the stack element queue, one of the pointers to the next stack element (STKE) is invalid. Register 2 contains the invalid pointer.

1212   On the stack element queue, one of the fields containing the ASID of the next stack element (STKE) is invalid. Register 2 contains the invalid ASID.

1297   The cause of the error is unknown. The variable recording area of the system diagnostic work area (SDWA) contains the first completion code and reason code that the PCLINK macro processing issued. The completion code is in the VRAOA field and the reason code is in the VRAOR15 field.

14yy   A program call/authorization (PC/AUTH) initialization routine (IEAVNPF5 or IEAVXMAS) detected an error. The system writes neither an SDUMP nor an error record to SYS1.LOGREC. Register 15 contains one of these reason codes:

1411   The routine received a nonzero return code from the system address space create routine (IEEMB881). Registers 2 and 0 contain, respectively, the return code that IEEMB881 passed in register 15 and the reason code that IEEMB881 passed in register 0.

1412   The routine received a nonzero return code from the system address space initialization wait/post routine (IEEMB883). Registers 2 and 3 contain, respectively, the return code that IEEMB883 passed in register 15 and the reason code IEEMB883 passed in register 0.

1413   The routine called IEAVXEPM (the nucleus entry point module search routine), but IEAVXEPM was unable to process the request. Register 2 contains the return code from IEAVXEPM. Register 3 contains the parameter that IEAVNPF5 or IEAVXMAS passed to IEAVXEPM in register 1.

1414   The sum of the highest linkage index (LX) value in the system function table (SFT) and the value in the SVTNSLX field of the system vector table (SVT) is greater than decimal 1023. This condition indicates that the SFT or the SVT was incorrectly modified. Register 2 contains the highest LX value in the SFT, and register 3 contains the value in the SVTNSLX field.

1415   The routine received an invalid return code from IEAVEBBR, the bind break routine. Register 2 contains the return code.

054

Explanation: A scheduler service routine encountered an unrecoverable error.

System Action: One of the following reason codes is placed in register 15 to indicate the cause of the error:

Reason Code	Explanation
01	A Scheduler JCL Facility (SJF) routine was unable to obtain enough storage from the preallocated SJF storage area.
02	A Scheduler JCL Facility (SJF) routine had a storage pointer pointing to an area outside of the preallocated SJF storage area.

03 The Scheduler JCL Facility (SJF) Define JDVT routine returned an unexpected return code or reason code to the SJF JDVT initialization routine.

Programmer Response: Probable system error. The SJF storage area or parameter list might have been overlaid.

Problem Determination: Table I, items 16, 18, 29, and 33.

055

Explanation: An error was detected during the processing of an event notification facility (ENF) request.

System Action: The system stores a hexadecimal reason code in register 15:

Reason Code	Explanation
36	The requestor's event parameter list was destroyed after initial validation.
40	The listen queue for the event being processed contains an error.

Programmer Response: Probable system error. The storage containing the event parameter list or the listen queue may have been overlaid.

Problem Determination: Table I, items 2, 16, 18, 29, and 33.

056

Explanation: The error occurred during execution of the graphic attention service routine for the IBM 2250 Display Unit or the IBM 2260 Display Station. The routine referred to an invalid unit control block (UCB). The routine obtained the reference to the unit control block through a data control block (DCB).

The user gives the routine the addresses of data control blocks through the poll list address in the first operand of the ANALYZ macro instruction or the address of a data control block through the list item address in the first operand of the GSERV macro instruction. The DCBDEBAD field in the data control block points to a data extent block (DEB), which in turn points to the unit control block. The unit control block is used by the control program to obtain information about an input/output device; each unit control block is associated with one input/output device.

Programmer Response: Check the first operand in the ANALYZ or GSERV macro instruction to make sure that it correctly specified the poll list address or list item address. If the first operand was correct, make sure that the macro expansion and the data control block were not incorrectly modified by program errors. After correcting the error, execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

057

Explanation: The error occurred during execution of the graphic attention service routine for the IBM 2250 Display Unit or the IBM 2260 Display Station. The routine referred to a unit control block (UCB) that was associated with a device other than a graphic device. The routine obtained the reference to the unit control block through a data control block (DCB).

The user gives the routine the addresses of data control blocks through the poll list address in the first operand of the ANALYZ macro instruction or the address of one data control block through the list item address in the first operand of the GSERV macro instruction. The DCBDEBAD field in the data control block points to a data extent block (DEB), which in turn points to the unit control block. The unit control block is used by the control program to obtain information about an input/output device; each unit control block is associated with one input/output device.

Programmer Response: Check the first operand in the ANALYZ or GSERV macro instruction to make sure that it correctly specified the poll list address or list item address. If the first operand was correct, make sure that the macro expansion and the data control block were not incorrectly modified by program errors. After correcting the error, execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

058

Explanation: A supervisor control routine has detected an error situation. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	IEAVECMS detected an invalid CMSET RESET,CHKAUTH = YES request. The request tried to establish a primary ASID that is invalid for cross memory access and is not the home ASID. Registers 11 and 12 contain the values of control registers 3 and 4, which were received as input from the caller.
04	IEAVECMS detected an invalid CMSET RESET,CHKAUTH = YES request. The request tried to establish a primary ASID whose job step task has terminated. Registers 11 and 12 contain the values of control registers 3 and 4, which were received as input from the caller.
08	IEAVECMS detected an invalid CMSET RESET,CHKAUTH = YES request. The request tried to establish a primary ASID but there is no address space with the specified ASID. Registers 11 and 12 contain the values of control registers 3 and 4, which were received as input from the caller.
0C	IEAVECMS detected an invalid CMSET RESET,CHKAUTH = YES request. The request tried to establish a secondary ASID whose job step task has terminated. Registers 11 and 12 contain the values of control registers 3 and 4, which were received as input from the caller.
10	IEAVECMS detected an invalid CMSET RESET,CHKAUTH = YES request. The request tried to establish a secondary ASID but there is no address space with the specified ASID. Registers 11 and 12 contain the values of control registers 3 and 4, which were received as input from the caller.
14	IEAVESSE detected the error. A reserved input field is not zero. Registers 2 and 3 contain the values of registers 0 and 1, which were received as input from the caller.
18	IEAVESSE detected the error. The caller is not authorized to set the space switch indicator. Registers 2 and 3 contain the values of registers 0 and 1, which were received as input from the caller.
1C	IEAVESSE detected the error. The caller passed an invalid ASID as input. Registers 2 and 3 contain the values of registers 0 and 1, which were received as input from the caller.
20	IEAVECMS detected the error. The dispatcher (IEAVEDS0) issued the CMSET macro instruction with the RESET option to restore the cross memory environment of a task or an SRB. A program interruption occurred while IEAVECMS was executing. The task or SRB is abnormally terminated.
24	IEAVECMS detected the error. The external FLIH (first level interrupt handler), IEAVEEXT, issued the CMSET macro with the RESET option to restore the cross memory environment of the task or SRB that was interrupted. The error occurred while IEAVECMS was executing. The interrupted program is abnormally terminated.

System Action: The program that called the supervisor function abnormally terminates.

Programmer Response: Find and correct the error.

Problem Determination: Table I, items 16, 18, and 29.

059

Explanation: The stop/reset service routine (IEAVESRT) detected an error. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	The stop service received a disabled input PSW.
08	An unrecoverable error occurred within the stop/reset service routine.
0C	STOP processing detected a request to stop an unlocked TCB that was already stopped.
10	RESET processing detected a request to reset a locked TCB that did not hold a local lock or CML (cross memory local) lock.
14	RESET processing detected a request to reset a locked TCB, and the ASCB lock word did not contain a suspend id value (X'7FFFFFFF').

System Action: The program that called the stop/reset service routine is abnormally terminated.

Programmer Response: The error is a system or subsystem error. Contact your system programmer.

System Programmer Response: If the problem persists, contact IBM for programming support.

Problem Determination: Table I, items 16, 18, 19, and 29.

05A

Explanation: The FREESRB or the FREESSRB routine detected an error in the input it received. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	FREESRB received the address of an SRB that was not from the supervisor SRB pool or that had an invalid SRBID field.
04	FREESSRB received the address of an SSRB that was not from the supervisor SSRB pool or that had an invalid SSRBID field.

System Action: The program that called the FREESRB or the FREESSRB routine abnormally terminates.

Programmer Response: The error is a system or subsystem error. Contact IBM for programming support.

Problem Determination: Table I, items 16, 18, 19, and 29.

05B

Explanation: A system service running in SRB mode issued the SRBTIMER macro instruction, and the time limit established on the SRBTIMER has expired.

System Action: The system service abnormally terminates.

Programmer Response: The appropriate response depends on your reason for setting the time limit. This abend is 'retryable'. You can write a recovery routine to continue processing; your routine could issue the SRBTIMER macro instruction again.

05C

Explanation: An allocation module detected an error. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
001	System address space initialization denied the request to create the allocation address space.

002	The allocation address space received a nonzero return code from GETMAIN processing.
003	The display allocation tables manager received a request which, if processed, would cause the DALTUSE count to be less than zero.
004	An allocation module issued the POST macro instruction, and the macro processing has entered the routine specified on the ERRET parameter.
005	An allocation module issued the ESTAE macro instruction, and the return code from ESTAE processing was not zero.
701	A dynamic allocation module received an unexpected return code or reason code from the scheduler JCL facility update routine.

System Action: The system inserts this abend code and the reason code into the ABEND=cde, REASON=rc fields of message IEF100I and issues the message.

Operator Response: Notify the system programmer.

Programmer Response: Probable system error. If necessary, contact IBM for programming support.

Problem Determination: Table I, items 2, 16, and 29.

05D

Explanation: A program has issued the branch entry CALLDISP macro instruction, but the request is invalid. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	The program is disabled and has super bits set.
04	The current FRR stack is not the normal FRR stack.
08	The program used the FRRSTK=SAVE option and holds a lock, or the program used FRRSTK=NOSAVE and holds a lock other than the LOCAL lock or the CML lock.
0C	The program is RTM1, a service invoked by RTM1, or an FRR.
10	The program was not in TCB mode.
14	Register 0, on input, contained an invalid function code.
18	Register 1, on input, did not contain 0.

System Action: The program that issued the CALLDISP abnormally terminates.

Programmer Response: Correct the error and rerun the program.

Problem Determination: Table I, items 3, 4, 13, 18, 19, and 29.

05E

Explanation: A program issued the SRBSTAT macro instruction, but an error condition exists. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	The program holds a lock.
04	The current FRR stack is not the normal FRR stack.
08	The program has super bits set.
0C	The program is not in SRB mode.
10	The program is disabled.
14	RTM1, a service that RTM1 invoked, or an FRR used the RESTORE parameter on the SRBSTAT macro instruction.
18	The PCLINK stack header was not zero on entry to RESTORE processing.
1C	The program specified RESTORE or MODIFY, and the status save area does not contain valid status.
20	RESTORE processing scheduled an SRB to obtain correct CPU affinity, but the SRB was unable to run.
24	The program specified MODIFY, but register 0 contains an invalid MODIFY identifier code.

System Action: The program that issued the SRBSTAT abnormally terminates.

Programmer Response: Correct the error and rerun the program.

Problem Determination: Table I, items 3, 4, 13, 18, 19, and 29.

05F

Explanation: The VSPC address space encountered an error.

System Action: The VSPC address space and all address spaces that depend on the VSPC address space are abnormally terminated.

Operator Response: Notify the system programmer.

Problem Determination: Table 1, items 1, 2, 4, 5, 13, 16, 18, 29.

061

Explanation: The error was detected during execution of a CLOSE macro instruction for a graphic data control block.

The graphic CLOSE executor issued a DAR macro instruction for a graphic attention control block (GACB) that was not specified (via a SPAR macro instruction) by the closing task.

System Action: Abnormal termination occurred for the task that issued the SPAR macro instruction for the graphic attention control block.

Programmer Response: Issue a DAR macro instruction, for the graphic attention control block, in the task that issued the SPAR macro instruction, before the closing task issues the CLOSE macro instruction. Then execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

062

Explanation: The error occurred during execution of a routine of the graphic subroutine package (GSP) for FORTRAN IV, COBOL, and PL/I.

A condition was encountered that produced a return code equal to or greater than the absolute value specified by the programmer as the 'null' argument in the call to the INGSP subroutine. The GSPARRAY field in the GSPCB identifies the return code produced, register 2 contains the address of the status table entry last invoked, and register 3 contains the address of the GSPARRAY field.

Programmer Response: Determine the condition that caused the job step to be abnormally terminated and change the program accordingly. Then execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

063

Explanation: During execution of a graphic program, the 2250 operator pressed the CANCEL key on the alphameric keyboard of the display unit. The 2250 operator selected either the TERMINATE option or the DUMP option on the termination option display, thus terminating the problem program either with or without a dump.

Programmer Response: Find out why the 2250 operator terminated the program, and respond accordingly.

064

Explanation: An address space that holds a cross memory local lock (CML lock) terminated abnormally before it freed the lock.

System Action: The functional recovery routines associated with CML lock processing are given control. Other system processing continues.

Programmer Response: Determine why the address space terminated, and correct the error.

Problem Determination: Table I, items 3, 4, 13, 15, and 29.

065

Explanation: A program issued the SSAFF macro instruction to call IEAVESSI, the TCB subsystem affinity service routine. IEAVESSI detected an error. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
04	The index into the SSAT (subsystem affinity table), specified in the SSAFF macro instruction, is greater than the number of subsystems currently defined.
08	The caller is not in TCB mode.
0C	LSQA storage is too small to build the SSAT (subsystem affinity table).

10	The specified TCB is invalid. It does not include the TCB acronym.
14	The caller is disabled.
1C	The caller's current addressability was not to the home address space.
20	The specified TCB is not the currently active TCB or a subtask of the currently active TCB.

System Action: The system abnormally terminated the program that issued the SSAFF macro instruction.

Programmer Response: For reason codes 04, 08, 10, 14, 1C, and 20, probable user error. Correct the error and resubmit the job.

For reason code 0C, probable system error. Contact IBM for programming support.

Problem Determination: Table I, items 5a, 13, 16, 18, and 29.

066

Explanation: An error condition was encountered during the execution of the MVS dispatcher (IEAVEDS0). Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
04	A completed SRB held a system lock when it returned to the dispatcher.
0C	An SSRB holds the CML (cross memory local) lock of a failing address space. (The ASCBFAIL bit is on.)
10	The SRBASCB field of an SRB or an SSRB points to an ASCB that does not have a valid acronym.
14	A task holds the CML lock of a failing address space. (The ASCBFAIL bit is on.)

System Action: The system records the error in SYS1.LOGREC.

Programmer Response: Notify the system programmer.

Problem Determination: Table I, items 2, 4, 5a, 18, and 29.

069

Explanation: An error occurred in the system address space create routine (IEEMB881) after an ASCB was created for the new address space.

System Action: The system uses the CALLRTM macro instruction with the MEMTERM parameter to abnormally terminate the new address space with the 069 completion code.

Programmer Response: Determine why IEEMB881 failed and correct the error.

Problem Determination: Table I, items 2, 13, 16, 18, and 29.

06A

Explanation: An SRB's FRR (functional recovery routine) issued the SETRP macro instruction with the SERIAL = YES option to request serial percolation to its related task. RTM (recovery termination management) issued a GETMAIN for storage in the task's LSQA to record the registers and the PSW at the time of error. The GETMAIN failed; the task cannot determine what the registers contained, or what the PSW was, when the error occurred.

System Action: RTM abnormally terminates the task.

Programmer Response: Determine why the GETMAIN failed. (Check for the possibility of an LSQA GETMAIN loop.)

Problem Determination: Table I, items 5, 13, 15, 16, 18, and 50.

06C

Explanation: The RTM/SLIP processor (IEAVTSLP) detected one of the following conditions:

- While processing a PER interrupt, the RTM/SLIP processor found that the routine being monitored issued a Move Long (MVCL) instruction that would overlay low storage.

- The environment indicators that control the RTM/SLIP processor were overlaid or invalid for some other reason.

System Action: RTM/SLIP processing terminates for the current event. The status of PER in the system and of the existing SLIP traps is unchanged.

Programmer Response: If the routine being monitored caused the problem, correct the program.

Problem Determination: Table I, item 29.

06D

Explanation: RTM/SLIP processing found that an invalid parameter list was passed to the SLIP indirect address convert routine (IEAVTADR).

System Action: RTM/SLIP processing terminates for the current event. The status of PER in the system and of the existing SLIP traps is unchanged.

Programmer Response: Contact IBM for programming support.

Problem Determination: Table I, item 2, 16, 29.

06E

Explanation: One of the following conditions occurred during SLIP processing:

- The SLIP global PER activation/deactivation routine (IEAVTGLB) received a nonzero return code from BLDCPOOL macro processing, indicating that an error occurred.

- The SLIP local PER activation/deactivation routine (IEAVTLCL) received a return code other than 0 or 20 from FREECELL macro processing, indicating that an error occurred.

System Action: SLIP processing terminates.

Programmer Response: Contact IBM for programming support.

Problem Determination: Table I, items 2, 16, 29.

06F

Explanation: RTM was entered after a match was found for a SLIP PER trap, which was defined with the RECOVERY option.

System Action: The job being monitored enters normal recovery processing. SLIP processing continues.

Programmer Response: None.

070

Explanation: A program issued the SUSPEND, RESUME, or TCTL macro instruction but an error condition existed. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
0C	The program issued the RESUME macro instruction with the RETURN = N parameter, but the program was not in SRB mode.
10	The program issued the RESUME macro instruction, but the specified TCB was invalid.
14	The program issued the RESUME macro instruction, but could not address the specified ASCB.
18	The program issued the RESUME macro instruction with the RETURN = N parameter, but the program was not in home addressing mode.
1C	The program issued the RESUME macro instruction with the RETURN = N parameter while holding one or more locks or while running with a PCLINK stack that was not empty.
20	The program issued the TCTL macro instruction, but was not in SRB mode.
24	The program issued the TCTL macro instruction, but was not in home addressing mode.
28	The program issued the TCTL macro instruction while holding one or more locks or while running with a PCLINK stack that was not empty.
2C	The program issued the RESUME macro instruction with the MODE = UNCOND parameter and the ASYNC = N parameter, but the program held the local lock of an address space other than the target address space.

30	The program issued the SUSPEND macro instruction, but the RB suspend count was not zero.
34	The program issued the SUSPEND macro instruction with the RB = PREVIOUS parameter, but no previous RB existed.
38	RESUME processing detected a request to resume an RB that had a suspend count other than 0 or 1.
40	A RESUME with the unconditional synchronous options required the local lock. The issuer was disabled and did not hold the necessary local lock.

ABEND

System Action: The program that issued the macro instruction abnormally terminates.

Programmer Response: Correct the error, and rerun the program.

Problem Determination: Table I, items 18, 23, and 52.

071

Explanation: The operator pressed the RESTART key to activate the system's recovery and termination process. The program running at the time the operator pressed the RESTART button was sent through ABEND processing because the operator determined it was in a noncancelable loop or wait state.

Programmer Response: Correct the looping program, and resubmit the job.

072

Explanation: A task or SRB (service request block) has been terminated because the processor on which it can run is offline.

Programmer Response: Resubmit the job when the job's processor affinity requirements are met.

073

Explanation: The lock manager detected an error during SETLOCK OBTAIN or SETLOCK RELEASE processing. Register 12 contains the PSASUPER bits at the time of the

ABEND. Register 13 contains the highest lock-held indicator (PSAHLHI) current when the lock request was made. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	While spinning for a disabled spin lock, the lock manager found that the lockword contains an invalid processor ID. Register 10 contains the invalid lockword value.
04	Invalid serialization. A disabled caller requested the LOCAL, CML, or CMS lock unconditionally, but the lock was not immediately available.
08	Hierarchy violation. If a SETLOCK OBTAIN request was being processed, one of the following occurred:

- The requested lock was lower in the locking hierarchy than the locks currently held.

- Another lock of the same type was already held.

- A CMS lock was requested but a local lock was not held.

If a SETLOCK RELEASE request was being processed, one of the following occurred:

- A local lock was specified while a CMS lock was still held.

- All CMS locks were specified, but not all CMS locks were held.

0C	A caller requesting a CML (cross memory local) lock passed an invalid ASCB address. Register 11 contains the ASCB address.
10	The caller requested another address space's CML (cross memory local) lock but did not establish an active bind to that address space. Register 11 contains the ASCB address.
14	The caller specified an ASCB for an address space that was being terminated. Register 11 contains the ASCB address.
18	The caller requested the CML (cross memory local) lock of an address space that was not dispatchable. Register 11 contains the ASCB address.
1C	The caller requested the CML lock of the master address space or the WAIT address space.

System Action: The program that requested SETLOCK processing abnormally terminates.

Programmer Response: Check the program issuing the SETLOCK request to be sure the request was made correctly.

Problem Determination: Table I, items 3, 4, 11, 13, 16, 29, 33.

074

Explanation: One the following occurred:

1. An invalid lockword address was specified, or the SETLOCK function could not complete. One of the following applies:

   a. The lockword address was not on a fullword boundary.

   b. A page fault occurred when the system used the specified lockword address.

   c. A machine check occurred in a lockword that a user supplied.

2. The RESTART key was hit while the system was in an enabled wait state with a suspended user holding a CMS (cross memory services) lock. The lock manager repair routine, IEAVELKR, stole the CMS lock and terminated the suspended holder of the CMS lock with this 074 completion code.

Programmer Response: For cases 1a and 1b, probable user error. Make sure the source code is correct. For case 1c, probable hardware error. You may retry the function. If the problem occurs again and the function is critical, place the system in a wait state with an assigned wait state code. If the function is not critical, continue system operation without it.

Problem Determination: Table I, items 3, 4, 13, 18, 29, 30.

075

Explanation: The SRBASCB field of the SRB that was being scheduled did not point to a valid ASCB.

System Action: The system abnormally terminated the routine.

Programmer Response: A supervisor state key 0 program scheduled an SRB that does not point to a valid ASCB, because the acronym check failed. Correct the error, and resubmit the job.

Problem Determination: Table I, items 2, 3, 4, 18, 19, 29, and 31.

076

Explanation: An error occurred while attempting to create a new address space, or an unexpected abnormal termination occurred in address space create or address space initialization.

System Action: Address space termination deletes the partially created address space. Message IEA890I is issued to identify the command that was aborted because of the failure.

Programmer Response: Notify the system programmer of this ABEND.

Problem Determination: Table I, items 2, 7, 29.

077

Explanation: An error occurred while processing a console communications task request. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	A request to start or stop MONITOR JOBNAMES, STATUS, or SESSIONS processing was made using a console ID or address space ID (ASID) that is invalid for a terminal user.
04	The parameter list passed to module IEAVC700 was invalid.
08	The caller requested deletion of a nonexistent command queue buffer (CQB).
0C	Module IEAVC700 could not establish an ESTAE environment.
10	The parameter list passed to module IEAVQ700 was invalid.
14	The caller of IEAVQ700 was not executing in the communications task's address space.
18	The console communications task was not able to obtain a console queue element (CQE).
1C	A console request, processed by the subsystem console service routine, IEAVG700, could not be honored because of conflicting requests in the subsystem console service routine parameter list.
20	A console request, processed by the subsystem console service routine, IEAVG700, could not be honored because incomplete or invalid data was provided in the subsystem console service routine parameter list.
24	A console request, processed by the subsystem console service routine, IEAVG700, could not be honored because the specified console was not dedicated to the requesting system component.

System Action: If the error occurred during MONITOR or STOPMN command processing, the MONITOR function is not changed. Otherwise, the calling routine terminates abnormally.

Operator Response: If the error occurred during MONITOR command processing, reissue the MONITOR or STOPMN command.

For code X'18', a message backlog may exist on one or more consoles. Ease the backlog by either allowing the messages to roll off the screen or by rerouting the messages to SYSLOG with the CONTROL Q command.

Otherwise, notify the system programmer.

System Programmer Response: For reason code 1C, 20, or 24, verify that the system component that is requesting services of the subsystem console service routine has properly specified the request in the subsystem console service routine parameter list.

Otherwise, contact IBM for programming support.

Problem Determination: Table I, items 2, 13, 16, 29, 43.

078

Explanation: RCT processing has received an unacceptable return code from an invoked routine and cannot continue processing.

System Action: RCT recovery receives control and does the following:

- Records the error in SYS1.LOGREC.
- Performs resource clean-up.
- Requests a SYS1.DUMP of the address space.
- Requests address space termination.

Programmer Response: None.

Problem Determination: Save the module/function information recorded in SYS1.LOGREC. Table I, items 16, 29.

079

Explanation: RCT attention exit processing encountered an unacceptable return code from an invoked routine and cannot continue processing.

System Action: RCT recovery code receives control and does the following:

- Records the error in SYS1.LOGREC.

- Performs resource clean-up.

- Issues an error message to the terminal indicating that the attention request was ignored, or requests a SYS1.DUMP of the address space.

Programmer Response: If an error message is issued to the terminal, either continue processing without regenerating the attention interrupt, or regenerate an attention interrupt to either the same attention level or a different level. If a SYS1.DUMP was taken, no response is possible.

Problem Determination: Save the module/function information recorded in SYS1.LOGREC. Table I, items 16, 29.

07A

Explanation: RCT recovery processing detected that it was invoked as the result of an unrecoverable error. To avoid an address space interlock, RCT issued CALLRTM to terminate the address space. The conditions that cause CALLRTM to be issued are:

- An SIRB failure
- A serious error during swap-out processing

System Action: The system does not clean up the address space-related resources; the system abnormally terminates the address space. The system may or may not write a record to SYS1.LOGREC.

Operator Response: None.

Problem Determination: Table I, items 16, 18, 29.

07B

Explanation: The error occurred during the execution of a remote immediate, remote pending, or direct signal inter-processor communication service request. One of these routines was supplied with an invalid PCCA address.

System Action: The system abnormally terminates the requestor and writes a dump.

Programmer Response: Check for program errors that could have improperly loaded an invalid PCCA address.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

07C

Explanation: Supervisor control recovery detected an error that requires termination of the current task or current address space.

System Action: The system abnormally terminates either the current task or the current address space.

Operator Response: Notify the system programmer of this ABEND code.

Problem Determination: Table I, items 2, 13, 29.

07D

Explanation: The system was executing a SETFRR macro instruction to add an FRR to one of the FRR recovery stacks. The system found that the recovery stack, for which the SETFRR was issued could hold no more FRRs; all available slots were filled.

System Action: The task associated with this stack overflow condition is abnormally terminated because recovery (FRRs, ESTAEs, etc.) for the task was unsuccessful.

Programmer Response: Probable error in non-IBM, key 0 code. The system programmer should determine if a non-IBM, key 0 program in the control system and used by the problem program is either adding FRRs without deleting them or is in a SETFRR loop.

Problem Determination: Table I, items 5a, 13, 15, 18, 23, 29. Table II, format I: TRACE = SYS,DSP.

07E

Explanation: The device path-test subroutine, IEEVDEV, cannot continue processing for one of the following reasons:

● The UCB address, passed by IEEVDEV's caller, did not point to the common segment of the UCB.

● An unrecoverable error occurred during IEEVDEV processing.

● An invalid processor ID was passed for function code 01 and 02.

System Action: Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
04	Invalid UCB address.
08	Unrecoverable error during IEEVDEV processing.
0C	Invalid function code passed to IEEVDEV.
10	Invalid processor ID.
14	Return code was received from IECVIOPM indicating that an unrecoverable program error or hardware error occurred.

ABEND

Programmer Response: Verify the UCB address of the UCB common segment. Verify that the processor ID represents a valid physical processor. For reason code 14, if the intent is to bring the device online, try to vary the individual paths to the device online.

Note: IEEVDEV is called only by system functions. An abnormal termination will activate the calling function's recovery routines; the caller will decide if the system operator should be notified.

07F

Explanation: During recovery, verification of the TCB queue associated with the terminated address space resulted in an empty TCB queue.

System Action: The address space or job is terminated.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 2, 13, 15, 18, 23, and 29.

081

Explanation: GETMAIN and IEAVITAS have passed an incorrect virtual address to IEAVSQA. A system function, GETMAIN or IEAVITAS (RSM), is in error.

System Action: The request for an LSQA or SQA real storage frame is denied.

Programmer Response: None.

Problem Determination: Table I, items 1, 5a, 16, 29.

082

Explanation: When the system tried to release a SALLOC lock, SETLOCK returned code 8, which indicates that the lockword ID does not match caller's ID.

System Action: The FRR is entered to record the error, and the caller is terminated.

Programmer Response: Probable system error. None.

Problem Determination: Table I, items 1, 5a, 16, 29.

083

Explanation: Auxiliary storage manager (ASM) was unable to convert a logical slot identifier (LSID) to a full seek address. The relative byte address (RBA) is outside the range of the extension data block (EDB) entries.

System Action: The ASM I/O request area (AIA) being processed is marked in error. The system writes a software error record containing a copy of the AIA and EDB to SYS1.LOGREC. Processing continues.

Operator Response: None.

Programmer Response: Probable system error. Contact IBM for programming support.

Problem Determination: Table I, items 2, 18, 29.

084

Explanation: The I/O subsystem of ASM (auxiliary storage management) detected an error. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
4	The I/O termination routine received control with I/O requests that are not marked with a X'45' code from IOS and that have not been processed by the disabled interrupt exit (DIE) or the abnormal end appendage.
12	The anchor in the page activity reference table (PART) or swap activity reference table (SART) entry for the ASM IORB-IOSB-SRB is zero.

Page data sets on drums and swap data sets have more than one IORB-IOSB-SRB. Therefore, the loss of one IORB-IOSB-SRB may not cause this completion code to be issued.

System Action: For reason code 4, a software error record is written to SYS1.LOGREC, and the I/O is retried. Processing continues.

For reason code 12, the system does the following:

● Attempts to obtain a new IORB-IOSB-SRB.

● If no storage is available for a new IORB-IOSB-SRB, message ILR009I is issued, and the data set identified in message ILR009I is no longer used. Processing continues, if possible.

● If processing cannot continue, message ILR008W is issued. A software error record is written to SYS1.LOGREC.

Operator Response: None.

Programmer Response: Probable system error. Contact IBM for programming support.

Problem Determination: Table I, items 2, 18, 28, 29, 30.

085

Explanation: The VIO SAVE operator could not convert a relative page number (RPN) to a logical-to-physical mapping entry (LPME) in a retrieved auxiliary storage page correspondence table (ASPCT).

System Action: A software error record is written to SYS1.LOGREC, and processing continues.

Operator Response: None.

Programmer Response: Probable system error. Contact IBM for programming support.

Problem Determination: Table I, items 2, 18, 29.

086

Explanation: The VIO SAVE or ACTIVATE operator received an error from VSAM during an I/O operation attempt.

System Action: A software error record is written to SYS1.LOGREC, and processing continues.

Operator Response: None.

Programmer Response: Probable hardware error.

Problem Determination: Table I, items 2, 18, 24, 29, 30.

087

Explanation: Routine ILRAFS00 received an error return from FREEMAIN while attempting to free the virtual storage containing an auxiliary storage page correspondence table (ASPCT).

System Action: A software error record is written to SYS1.LOGREC, and processing continues.

Operator Response: None.

Programmer Response: Probable system error. Contact IBM for programming support.

Problem Determination: Table I, items 2, 18, 29.

08F

Explanation: An error occurred during execution of the CHANGKEY macro instruction.

Register 15 contains a hexadecimal reason code:

Reason Code **Explanation**

04   At least one page in the virtual address range specified in CHANGKEY is not in a problem program subpool.

08   At least one page in the virtual address range specified in CHANGKEY was not allocated via GETMAIN. (The PGTPAM bit in the PGTE for the page is zero.)

0C   The user's parameter list, specified by the LISTAD parameter, was not in real storage when CHANGKEY was invoked.

10   No PGTE or XPTE exists for at least one page in the virtual address range specified in CHANGKEY. (The return code from IEAVFP2 is nonzero.)

14   An unexpected internal error occurred.

System Action: The invoker of CHANGKEY is abnormally terminated.

Programmer Response: For reason code 04 or 0C, correct the error condition indicated.

For reason code 08 or 10, verify that all pages within the virtual address range(s) have been allocated via GETMAIN, and have not been freed via FREEMAIN.

For reason code 14, execute the job step again.

Problem Determination: Table I, items 1, 4, 5a, 16, 18, 29.

090

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found that a device other than a communications device was allocated to the data control block (DCB) being opened; that is, the device class code in the unit control block (UCB) for the device allocated to the data control block did not equal hexadecimal 40.

Programmer Response: Either the UNIT parameter of the DD statement for the communications device is incorrect or the UCB generated during system generation is invalid. Check for improper specification of the UNIT parameter or the IODEVICE macro instruction used in generating the system. Also, check for program errors that could have improperly modified control information. After correcting the error, execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

091

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found an invalid or unsupported type of transmission control unit specified in the unit control block (UCB) for the device allocated to the data control block (DCB) being opened.

Programmer Response: Check for improper specification of the IODEVICE macro instruction used in generating the system. Also, check for program errors that could have improperly modified control information. After correcting the error, execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

092

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found an invalid or unsupported type of terminal control or terminal adapter specified in the unit control block (UCB) for the device allocated to the data control block (DCB) being opened.

Programmer Response: Check for improper specification of the ADAPTER parameter in the IODEVICE macro instruction used in generating the system. Also, check for program errors that could have improperly modified control information. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

093

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found an invalid or unsupported type of terminal specified in the unit control block (UCB) for the device allocated to the data control block (DCB) being opened.

Programmer Response: Check for improper specification of the UNIT parameter in the IODEVICE macro instruction used in generating the system. Also, check for program errors that could have improperly modified control information. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

094

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found an invalid or unsupported optional feature or mode of operation specified in the unit control block (UCB) for the device allocated to the data control block (DCB) being opened.

Programmer Response: Check for improper specification of the FEATURE parameter in the IODEVICE macro instruction used in generating the system. Also, check for program errors that could have improperly modified control information. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

095

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found that the lines allocated to the line group did not have identical terminal types and/or optional features.

Programmer Response: Determine which line group contains different terminals, and redefine its lines through DD statements or a new system generation.

Problem Determination: Table I, items 1, 3, 5a, 29.

096

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found that dynamic buffer allocation had been specified in the DCBBFTEK field of the data control block (DCB). However, the OPEN routine could not dynamically allocate buffers because the data control block specified neither the address of a buffer pool control block (in the DCBBUFCB field) nor the number and length of the buffers (in the DCBBUFNO and DCBBUFL fields).

Programmer Response: Correct the error by (1) providing a buffer pool and specifying the address of its control block in the DCBBUFCB field, (2) specifying the number and length of the buffers in the DCBBUFNO and DCBBUFL fields, or (3) handling buffering in the program and deleting the BFTEK = D operand in the DCB macro instruction or DCB parameter of the DD statement. Then execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

097

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. The open routine required an additional entry in the device I/O directory; however, the directory was already full. Since the last system start, the maximum number of device types has already been opened. Normally, the maximum number of device types is 30.

Programmer Response: Additional space in the device I/O directory can be provided by changing one statement in the read/write routine. The statement following the one labeled IOD must be changed. The duplication factor must be increased to correspond to the number of different device types being used. The new read/write routine must be reassembled and link edited to SVCLIB.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

098

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. Dual Communication Interface B or Dual Code Feature B was specified. However, the transmission control unit was not a 2701, the transmission control unit was not the Dual Communication Interface, or the Dual Code Feature was not specified in the unit control block (UCB).

Programmer Response: Correct program errors, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

099

Explanation: The error occurred during execution of a BTAM OPEN macro instruction. An OPEN routine found that dynamic buffering was being initiated while the BTAM application was running V = V. BTAM dynamic buffering is not supported for V = V.

Programmer Response: Add the ADDRSPC = REAL operand to the job statement and initiate the BTAM application again (V = R).

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

09A

Explanation: An error occurred during execution of a global resource serialization function. The two low-order bytes of register 15 contain mmff, where mm is a one-byte code identifying the module that issued the ABEND and ff is a one-byte hexadecimal code identifying the function that the module was performing. The possible values for mm are:

mm	module
22	ISGNTASC
23	ISGNASIM
25	ISGNWMSI
26	ISGNGRSP
41	ISGCMDI
42	ISGCMDR
43	ISGCRST
44	ISGCQSC
45	ISGCPRG

46	ISGCDSP
47	ISGMSG00
48	ISGCQMRG
61	ISGBDR
62	ISGBCI
63	ISGBSR
64	ISGBTC
81	ISGSALC
A1	ISGQSCAN
A2	ISGQSCNR
E1	ISGJFE
E2	ISGGRP00

For an ff of 40 through FF, ff is the same for all values of mm and means:

ff	Function
44	GQSCAN
46	ISGMSG00
48	ISGGRNLV
86	ISGGQS03
A0	ADDSYS
A2	BUFRECV
A4	BUFSEND
A6	DELSYS
A8	SENDCMD (message broadcast)
AA	SENDCMD (message request)
AC	SENDCMD (quiesce)
AE	SENDCMD (assist in restart request)
B0	SENDCMD (initiate restart request)
B2	SERRELS
B4	SNAPSHOT
B6	STARTPOP (no communication)
B8	STARTPOP (with communication)
B9	STARTPOP (with permission)
BA	SUBSYS
E0	ATTACH
EC	MSGSERV (get line)
EE	GETMAIN
FA	MSGSERV (write message)
FC	WTO (multiple line)

For an ff of 00 through 3F, ff is different for each module identified by mm:

mmff	Function
22xx	Module ISGNTASC issued the ABEND.
2204	IEEMB881 (the system address space create routine) did not execute successfully.
23xx	Module ISGNASIM issued the ABEND.
2304	ISGNASIM tried unsuccessfully to use the event notification facility (ENF) to establish ISGNPGIM as a listener for the availability of timer and console services.
2308	ISGNASIM tried unsuccessfully to establish a recovery environment with the ESTAE macro instruction.
230C	The ATTACH for ISGNWMSI (the routine that waits for master scheduler initialization to complete) was not successful.

mmff	Function
2310	The ATTACH for ISGCMDR (the global resource serialization command router) was not successful.
2314	The ATTACH for ISGGRP00 (the global resource processor) was not successful.
2318	ISGGRP00 (the global resource processor) did not successfully complete initialization.
231C	The ATTACH for ISGBTC (global resource serialization ring processing control task) was not successful.
2320	ISGBTC (global resource serialization ring processing control task) did not successfully complete initialization.
2324	The ATTACH for ISGNGRSP (the global resource serialization option processor) was not successful.
2328	ISGGRP00 (the global resource processor) abnormally terminated.
232C	ISGBTC (the global resource serialization ring processing control task) abnormally terminated.
2330	ISGNGRSP (the global resource serialization option processor) abnormally terminated.
25xx	Module ISGNWMSI issued the ABEND.
2504	IEEMB883 (the system address space initialization WAIT/POST routine) did not execute successfully.
41xx	Module ISGCMDI issued the ABEND.
4104	The ATTACH for ISGCDSP (the global resource serialization DISPLAY processor) was not successful.
42xx	Module ISGCMDR issued the ABEND.
4204	The global resource serialization command router found a command request block (CRB) that had an invalid request type.
4208	No resources were found on the command clean-up queue for the command request most recently processed.
47xx	Module ISGMSG00 issued the ABEND.
4704	The caller provided an invalid message ID.
4708	The caller provided a message option that is invalid for the specified message.
470C	The caller requested an informational message but specified the ID of a reply message, or requested a reply message but specified the ID of an informational message.
48xx	Module ISGCQMRG issued the ABEND.

ABEND

4804 The version of global resource serialization in this system is not compatible with the version in the rest of the global resource serialization complex.

4808 The inclusion resource name list defined for this system is not identical to the one that the active global resource serialization systems are using.

480C The exclusion resource name list defined for this system is not identical to the one that the active global resource serialization systems are using.

4810 The RESERVE conversion resource name list defined for this system is not identical to the one that the active global resource serialization systems are using.

4814 This system's request for a particular resource is missing from the queue information provided by the active system. Queue damage possibly exists in the global resource serialization queues of this system or the system assisting in bringing it into the complex.

4818 This system's request for a particular resource is missing from its own global resource serialization queues. Queue damage possibly exists in the global resource serialization queues of this system or the system assisting in bringing it into the complex.

481C The active global resource serialization system that provided this system with queue information indicated that all data has been sent, but this system still expects more data. That is, ISGCQMRG expected to receive more data, but ISGBCI showed a buffer length of zero was received.

4820 Internal queue update processing lost track of the type of item currently being processed.

4824 Internal queue update processing found data in its buffer or in the ring's buffer that it did not expect to find.

4828 Internal queue update processing expected to find more data (RIBE) in its buffer, but the buffer was empty.

482C Internal queue update processing reached the end of the ring's buffer before it reached the logical end of the data in the buffer.

4834 Internal queue update processing found more data in the ring's buffer than it expected to find.

4838 Internal queue update processing found a ring buffer that did not contain as many RIBs or RIBEs as indicated by the counts returned by GQSCAN services.

61xx Module ISGBDR issued the ABEND.

6104 ISGBDR attempted to queue a RSA (ring-processing system authority message) residence TQE (timer queue element), but there was already a RSA residence TQE queued.

6108 The STCK (store clock) instruction failed.

62xx Module ISGBCI issued the ABEND.

6204 Module ISGBCI attempted a STIMER WAIT for a negative time interval, or for a single pause longer than 2 minutes.

620C A channel end status was not received for an immediate write command to a CTC (channel-to-channel) link, which caused a SNAPSHOT operation to fail. The time allowed for the channel end was: a times b times .01 seconds (where a is the value in GVTICRRC, and b is the value in GVTICRRP). The time is two seconds if the installation has not modified the GVT fields. Register 2 points to the RSL (ring-processing system link control block) that represents the CTC link that did not respond with the channel end.

63xx Module ISGBSR issued the ABEND.

6301 The received RSA (ring-processing system authority message) had an invalid format.

6302 The RSVWLOCK field of the RSV (ring-processing system vector table) contained an invalid value.

6303 Entry point ISGJGVBF (module ISGJFE) gave a nonzero return code to ISGBSRSR.

6304 Entry point ISGJSNBF (module ISGJFE) gave a nonzero return code to ISGBSRSR.

6305 Entry point ISGBSRRM, the RMTR (resource management termination routine) for ring processing SRBs, was entered.

6306 The received RSA (ring-processing system authority message) did not agree with the in-storage fields in the RSV (ring-processing system vector table). The received RSA was the second RSA of an ENQ/DEQ request that did not fit in one RSA, but the RSV indicated the RSA was the first RSA of the ENQ/DEQ request. Or, the received RSA was the first RSA of the ENQ/DEQ request, but the RSV indicated the RSA was the second.

6321 The received RSAIRCD (ring-processing system authority identity message) had an invalid format.

6322 The RSLWLOCK field of the RSL (ring-processing system link control block) had a invalid value.

6323 Entry point ISGJGVBF (module ISGJFE) gave a return code that indicates an error condition to ISGBSRRI.

6324 Entry point ISGJSNBF (module ISGJFE) gave a return code that indicates an error condition to ISGBSRRI.

64xx ISGBTC issued the ABEND.

6404	ISGBTC called ISGBDR to establish the missing-event checking routine, but the system clock was not working properly.
81xx	Module ISGSALC issued the ABEND.
8104	ISGSALC cannot build a new PEXB (pool extent block) because the resource queue area contains no available pages.
A1xx	ISGQSCAN issued the ABEND.
A104	A program attempted to execute the GQSCAN macro instruction before the global resource serialization address space was active.
A108	The area size specified in the AREA parameter is too small for ISGQSCAN to copy a RIB and RIBE.
A10C	The specified combination of the RESERVE, RESNAME, and SYSNAME parameters included mutually exclusive parameters.
A110	A program holding a local lock other than the one for the global resource serialization address space specified SCOPE = GLOBAL, SCOPE = SYSTEMS, or SCOPE = ALL, thereby preventing ISGQSCAN from obtaining the global resource serialization local lock.
A114	The GQSCAN macro instruction includes one of these specification errors: ● The RESNAME parameter includes the rname subparameter or the rname length subparameter, but omits the qname subparameter. ● The RESNAME parameter includes the rname length subparameter, but omits the rname subparameter.
A118	The SYSNAME parameter on the GQSCAN macro instruction includes the asid subparameter, but omits the sysname addr subparameter.
A11C	The GQSCAN macro instruction includes the REQCNT parameter and either the OWNERCT or the WAITCNT parameter.
A12C	The value specified on the TOKEN parameter on the GQSCAN macro instruction is invalid.
A130	An unauthorized program specified SCOPE = LOCAL or SCOPE = GLOBAL.
A134	The QUIT = YES parameter is specified without the TOKEN parameter.
A138	The QUIT = YES and the TOKEN parameters are specified with other parameters.
A2xx	ISGQSCNR (ISGQSCAN's functional recovery routine) converted the ABEND.
A220	An undefined error occurred during GQSCAN service routine processing (ISGQSCAN).
A228	The parameter list passed to GQSCAN service routine (ISGQSCAN) was not in the caller's storage key.
E1xx	ISGJFE issued the ABEND.
E104	ISGBTC tried to make an SRB available to the CTC driver, but the CTC driver already had control of the SRB.
E2xx	ISGGRP00 issued the ABEND.
E200	ISGGRP00 received an undefined queue work block (QWB).
E3xx	Module ISGJENF0 issued the ABEND.
E304	Entry point ISGJENF1 in ISGJENF0 could not establish an ESTAE environment.
E308	Entry point ISGJENF2 in ISGJENF0 could not establish an ESTAE environment.
E30C	Entry point ISGJENF3 in ISGJENF0 could not establish an ESTAE environment.

System Action: The system writes a software error record to SYS1.LOGREC for all of these ABENDs except the following:

● ABENDs issued by ISGNTASC (mm = 22)
● ABENDs issued by ISGNWMSI (mm = 25)
● ABENDs issued by ISGQSCAN (mm = A1)
● The ABEND issued by ISGQSCNR with mmff = A228

Other system processing continues.

Programmer Response: For mmff fields of 4808, 480C, 4810, A1xx, or A228, probable user error. Correct the problem, and resubmit the job.

For other values of mmff, probable system error. Contact IBM for programming support.

Problem Determination: Table I, items 2, 7, 18, 29, 33, 43, and 55.

0A1

Explanation: An invalid condition was detected by the Graphics Access Method/System Product (GAM/SP) OPEN executor routine, IGG0193Y. The error occurred in either GAM/SP or the operating system.

System Action: A message appears on the system console that identifies the cause of the error; and GAM/SP produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/ System Product: Messages and Codes.*

2. Get a listing of the system dump.

3. Contact IBM for programming support.

0A2

Explanation: An invalid condition was detected by the Graphics Access Method/System Product (GAM/SP) CLOSE executor routine, IGG0203Y. The error occurred in either GAM/SP or the operating system.

System Action: A message appears on the system console that identifies the cause of the error and GAM/SP produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*

2. Get a listing of the system dump.

3. Contact IBM for programming support.

0A3

Explanation: An error was detected in the Graphics Access Method/System Product (GAM/SP) attention handler module, IGG0190E. The error may have originated in the GAM/SP OPEN executor, IGG0193Y. It could also be caused by modules IGG0190E and IGG0193Y being at inconsistent maintenance levels.

System Action: A message appears on the system console that describes the error. In addition, GAM/SP writes a record to the SYS1.LOGREC dataset and produces a dump on the system dump dataset.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*

2. Check the module identifiers and PTF levels for modules IGG0190E and IGG0193Y.

3. Get a listing of the system dump.

4. Contact IBM for programming support.

0A4

Explanation: An error occurred either in the Graphics Access Method/System Product (GAM/SP) or in the operating system.

This completion code is issued when:

1. A program check or abnormal termination occurs in the Graphics Access Method/System Product (GAM/SP) attention handler module, IGG0190E.

2. IGG0190E detects an invalid condition.

System Action: A message appears on the system console, accompanied by a reason code identifying the area of processing in which the error occurred. In addition, GAM/SP writes a record to the SYS1.LOGREC dataset and produces a dump on the system dump dataset.

ABEND

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes*.

2. Get a listing of the system dump.

3. Contact IBM for programming support.

0A5

Explanation: A program check or abnormal termination occurred within the Graphics Access Method/System Product (GAM/SP) attention handler module, IGG019OE. The recovery routine for IGG019OE determined that the problem was caused by an application error.

System Action: Message GAB333 appears on the system console and diagnostic data is provided. The message and the diagnostic data are described in *IBM Graphics Access Method/System Product: Messages and Codes*.

Programmer Response: Check for messages identifying the cause of the problem. Using the message and other diagnostic information, correct the application program. *IBM Graphics Access Method/System Product: Messages and Codes* contains information on application recovery from this problem.

0A7

Explanation: During ZNET, CANCEL command processing, VTAM found that a user had not specified a TPEND exit routine, or VTAM could not schedule a user's TPEND exit routine.

System Action: The system abnormally terminates the user's task.

0A8

Explanation: The error occurred during execution of a user's application program and was detected by VTAM. The two low-order bytes of register 15 contain a hexadecimal reason code:

Reason Code	Explanation
2101	A VTAM validity check of the user's request parameter list (RPL) failed because the RPL does not have the same protection key as the application program's TCB.
7001	The user's request parameter list (RPL) control block, or event control block (ECB) is invalid.

Register 15 and its contents can be found in RTM2WA, which is formatted when the workareas are available, or SYS1.LOGREC (LOGDATA option of AMDPRDMP). The GTF trace record, SVC trace (comprehensive), also displays the contents of register 15.

System Action: The task abnormally terminates.

Programmer Response: Verify that the RPL and ECB pointers are correct and execute the job step again.

Problem Determination: Table I, items 1, 2, 3, 5a, 13, 15, 16, 27, 29.

0A9

Explanation: Either a HALT NET,CANCEL command was entered or an error occurred during execution of a VTAM module. The two low-order bytes of register 15 contain a hexadecimal reason code:

Reason Code	Explanation
0000	A HALT NET,CANCEL command has been processed.
10F1	The ACF/VTAM STAE retry routine issued ABEND 0A9 in order to give control to the user recovery routine (STAE exit routine).
3100	There are not enough I/O buffers to satisfy a VTAM storage request.
3111	A VTAM module finished processing before it released a lock.
3141	A VTAM destination vector table (DVT) entry is invalid for the defined attachment.
7002	A VTAM request for storage failed.

7003   A VTAM request to release storage failed because the storage had already been released.

7004   VTAM could not obtain a local memory lock.

7009   VTAM was unable to restore its registers after a user exit routine returned control to VTAM.

7071   A RELSTORE was issued for a previously freed buffer.

7141   Control cannot be passed to the proper VTAM module. Either a VTAM destination vector table entry is invalid for the defined attachment or VTAM storage has been altered.

System Action: The task that initiated the VTAM request abnormally terminates.

Programmer Response: None.

Problem Determination: Table I, items 1, 2, 4, 5a, 13, 16, 18, 29.

0AA

Explanation: An ABEND condition occurred during execution of VTAM. VTAM's Functional Recovery Routines (FRR's) were unable to associate the failure with any particular TCB in the address space.

System Action: All the tasks in the address space are abnormally terminated.

Programmer Response: None.

Problem Determination: Table I, items 1, 2, 5a, 13, 16, 27, 29.

0AB

Explanation: The error occurred while TSO/VTAM time sharing was in operation and a VTIOC module was executing a VTAM macro instruction. The two low-order bytes of register 15 contain a hexadecimal reason code:

Reason
Code   Explanation

0101   The terminal input manager for IBM 3767 and IBM 3770 terminals (IKTTIMRT) encountered an

unrecoverable error while executing a VTAM macro instruction that uses a request parameter list (RPL).

0102   The terminal output manager for IBM 3767 and IBM 3770 terminals (IKTTOMRT) encountered an unrecoverable error while executing a VTAM macro instruction that uses an RPL.

0103   The terminal input manager for IBM 3270 systems network architecture (SNA) terminals (IKTIMIDS or IKTIMLU2) encountered an unrecoverable error while executing a VTAM macro instruction that uses an RPL.

0104   The terminal output manager for IBM 3270 systems network architecture (SNA) terminals (IKTOMIDS or IKTOMLU2) encountered an unrecoverable error while executing a VTAM macro instruction that uses an RPL.

0105   The VTIOC LOSTERM exit routine encountered an error during execution of a SNA BIND or UNBIND command that used an RPL.

0201   The error occurred during initialization of a TSO/VTAM user address space. An application ID problem was encountered while executing a VTAM OPEN macro instruction.

0202   The error occurred during execution of a VTAM OPEN macro instruction. The ERROR field of the ACB indicates the problem. The values that can be set in the ERROR field are listed in *VTAM Macro Language Reference,*.

0203   The error occurred during execution of a VTAM CLOSE macro instruction. The code in the ERROR field of the ACB is X'42', indicating that the ACB has been closed but a VTAM error has prevented the successful disconnection of one or more TSO terminals.

System Action: If register 15 contains 0101, 0102, 0103, or 0104, a record is written to SYS1.LOGREC. In all cases, the terminal session in which the error occurred terminates.

Programmer Response: None.

Problem Determination: Table I, items 2, 13, 16, 18, 27.

0AC

Explanation: The terminal control address space (TCAS) was unable to continue its normal processing due to an error. The two low-order

bytes of register 15 and TCAS work area (TWAR) field TWARSON contain the same hexadecimal reason code:

Reason Code	Explanation
10	The TCAS main task was unable to attach the VTAM interface subtask.
14	The TCAS main task was unable to attach the user interface subtask.
18	The TCAS main task was unable to attach the console communication subtask.
1C	TCAS was unable to obtain storage for the TCAS table (TCAST) in the common service area (CSA).
20	The TCAS main task abnormally terminated and was unable to recover.
30	The VTAM interface subtask abnormally terminated and was unable to recover.
34	The user interface subtask abnormally terminated and was unable to recover.
38	The console communication subtask abnormally terminated and was unable to recover.

System Action: TCAS abnormally terminates.

Operator Response: Reply 'DUMP' to TCAS termination message IKT012D to obtain a dump.

Problem Determination: Table I, items 2, 4, 13, 16, 33.

0AD

Explanation: The error occurred while TSO/VTAM time sharing was in operation and VTIOC's queue manager was executing a GETCELL or FREECELL macro instruction. The two low-order bytes of register 15 contain a hexadecimal reason code:

Reason Code	Explanation
0108	The cell address supplied to the FREECELL macro instruction was invalid.
010C	No cell pool existed for the FREECELL request.
0110	An invalid cell pool ID was specified for the FREECELL request.
020C	No cell pool existed for the GETCELL request.

| 0210 | An invalid cell pool ID was specified for the GETCELL request. |

System Action: The queue manager abnormally terminates, and the terminal session in which the error occurred terminates.

Programmer Response: None.

Problem Determination: Table I, items 2, 13, 16, 18, 27.

0AE

Explanation: IOS support of system restart processing has found the I/O purge module (IGC0001F) waiting for the completion of an I/O request.

System Action: The system abnormally terminates all the tasks in the address space in which the I/O purge module was waiting; then the system terminates the address space.

Programmer Response: None.

Problem Determination: Table I, items 13, 16, 23 and 29.

0AF

Explanation: The TSO Interactive Data Transmission Facility detected a system error during the processing of a TRANSMIT or RECEIVE command. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
0003	A TRANSMIT or RECEIVE command issued an OPEN macro instruction for a TSO Data Transmission Facility NAMES data set, and the OPEN failed. The NAMES data set was correctly allocated just prior to the OPEN attempt. Reason code 0003 is associated with message INMC003I.
007F	The RECEIVE command attempted to allocate a spool file and JES returned an allocation error code. The RECEIVE command obtained the name of the spool file from JES via the process sysout subsystem interface. However, when RECEIVE attempted to allocate the spool file, JES considered the name invalid. The name should be considered valid. This error should not occur if RECEIVE and JES are working properly. Reason code 007F is associated with message INMR127I.

0084   The RECEIVE command was issued with the INDATASET or INDSNAME keyword and the data set specified with the keyword failed to OPEN. The data set was allocated successfully. Reason code 0084 is associated with message INMR132I.

0085   The RECEIVE command attempted to OPEN a file for incoming network files from the JES spool, but the OPEN failed. The process sysout subsystem interface successfully selected a name for the spool file and the dynamic allocation SVC successfully allocated the spool file. Reason code 0085 is associated with message INMR133I.

0086   The RECEIVE command attempted to deallocate a data set using SVC 99, and the deallocation failed. The data set was a JES input file or was specified by an INDATASET or INDSNAME keyword. Reason code 0086 is associated with message INMR134I.

0089   The RECEIVE command encountered an error while attempting to terminate the external writer interface with JES. After all files have been processed or after a nonrecoverable error, the RECEIVE command invokes the process sysout subsystem interface, specifying that this is the final call to the subsystem interface. The subsystem returned a nonzero return code indicating an error. Reason code 0089 is associated with message INMR137I.

0426   The TRANSMIT command was issued with the DATASET or DSNAME keyword and the data set specified with the keyword failed to OPEN. TRANSMIT had successfully allocated the data set. Reason code 0426 is associated with message INMX062I.

042B   The TRANSMIT command was issued with the DATASET or DSNAME keyword and the OBTAIN SVC was issued to get information about the data set. The OBTAIN SVC set a return code other than 0 (successful termination), 8 (data set not on volume), or 12 (VTOC I/O error). Reason code 042B is associated with message INMX067I.

043B   The TRANSMIT command attempted to OPEN a data set previously written by the IEBCOPY utility or the AMS REPRO command. The OPEN failed. The data set is a temporary data set the TRANSMIT command allocates to contain intermediate data. Normally, the TRANSMIT command reads, transmits, and deletes the temporary data set. Reason code 043B is associated with message INMX083I.

04B3   The TRANSMIT command attempted to allocate a SYSOUT data set, and the allocation failed. This reason code occurs for all SYSOUT data set allocation errors except an invalid node name, normally a user error. Reason code 04B3 is associated with message INMX203I.

04B4   The TRANSMIT command attempted to OPEN a SYSOUT data set and the OPEN failed. TRANSMIT was going to use the data set as an output file. TRANSMIT had successfully allocated the data set. Reason code 04B4 is associated with message INMX204I.

System Action: The system issues a system dump.

Programmer Response: Print the dump data set.

Operator Response: None.

Problem Determination: Table I, items 16, and 29; save a hardcopy of the TSO session if possible.

0B0

Explanation: An uncorrectable error was detected by the SWA manager. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
04	The routine that called SWA manager requested an invalid function.
08	The routine that called SWA manager passed an invalid SVA (SWA virtual address). The SVA does not point to the beginning of a SWA prefix or the SWA prefix has been destroyed.
0C	A SWA manager routine has attempted to read a record not yet written into SWA.
10	A SWA manager routine has attempted to read or write a block that is not 176 bytes or to assign a block with a specified length of 0 or a negative number.
14	The routine that called SWA manager has specified an invalid count field. For move mode, an invalid count is 0 for a READ, WRITE, or ASSIGN function. An invalid count for WRITE/ASSIGN is 00.
18	The routine that called SWA manager by issuing the QMNGRIO macro instruction specified both or neither of the READ or WRITE options.
1C	The routine that called SWA manager was attempting to write into a SWA block for the first time and has either passed a nonexistent ID, or has failed to pass an ID at all and the block does not have an embedded ID.
20	A SWA manager routine has attempted to write a block using an invalid pointer to the block.

System Action: The task is terminated.

Operator Response: Notify the system programmer.

0B1 to 0B7

Problem Determination: Table I, items 3, 4, 16, 29.

0B1

Explanation: The error occurred when a master subsystem module detected invalid parameters being passed to it from another module, while starting either the master scheduler or a subsystem.

System Action: The START process is ended.

Programmer Response: None

Problem Determination: Table I, items 2, 16, 29.

0B2

Explanation: The error occurred when the Master Subsystem JCL-to-JCLs conversion routine detected an invalid card in the MSTRJCL data set. The MSTRJCL could not be converted, and the Master Scheduler was not started.

System Action: The Master Scheduler is not started. The IPL is terminated at this point.

Programmer Response: If the MSTRJCL data set in the LINKLIB has been updated manually since the system was generated, check it for a card without a // in columns 1 and 2. Also check to insure that the MSTRJCL is delimited by a /* or a // (null) card.

Problem Determination: Table I, items 2, 16, 29.

0B3

Explanation: The error occurred when a caller of the Master Subsystem access method attempted an invalid, or not serviceable, access request via the RPL/ACB interface.

System Action: The task using the access method is abnormally terminated.

Programmer Response: None

Problem Determination: Table I, items 2, 16, 29.

0B4

Explanation: The Master Subsystem could not make use of the SYS1.PROCLIB data set defined by the IEFPDSI card in the MSTRJCL. This occurred for one of the following reasons:

● The Master Subsystem was unable to OPEN the PROCLIB data set.

● The blocksize of the opened SYS1.PROCLIB data set was not a multiple of 80.

System Action: Without an open SYS1.PROCLIB DCB, the converter cannot be operated; therefore, the subsystem requested is not started.

Programmer Response: Check for a valid data set name on the IEFPDSI card in the MSTRJCL data set. Also, check for a valid blocksize either on the IEFPDSI card or in the data set's format DSCB in the VTOC.

Problem Determination: Table I, items 2, 16, 29.

0B5

Explanation: The Master Subsystem was unable to ATTACH the converter.

System Action: ATTACH passed a nonzero code back to the master subsystem in register 15. The subsystem requested is not started.

Programmer Response: None

Problem Determination: Table I, items 2, 16, 29.

0B7

Explanation: During processing of a reconfiguration command, a reconfiguration module issued ABEND 0B7. Register 15 contains diagnostic information in the format X'xxxxmmrr'. The mm field identifies the module that issued the ABEND. Most modules place a return code in the rr field. Some modules provide additional information in the

xxxx field. The possible values, in hexadecimal, of mm, rr, and xxxx are:

mm Module

00 IEEMPVST

Module IEEMPVST does not assign values to the rr field or the xxxx field.

01 IEEVCPU

rr Explanation

01 IEEVCPU called IEEVMESS to request a message buffer, but IEEVMESS failed; xxxx is the return code from IEEVMESS. The possible values for xxxx are:

04 - message insert is too long or the index into a table of message inserts is invalid.

08 - no reply received to WTOR.

0C - wrong number of message inserts specified.

10 - IEEVMESS could not establish ESTAE.

02 IEEVCPU called IEEVMESS for some reason other than to request a message buffer, but IEEVMESS failed; xxxx is the return code from IEEVMESS. The possible values for xxxx are:

04 - message insert is too long or the index into a table of message inserts is invalid.

08 - no reply received to WTOR.

0C - wrong number of message inserts specified.

10 - IEEVMESS could not establish ESTAE.

03 Failure in first level ESTAE routine. No value is assigned for xxxx.

02 IEEVCPR

rr Explanation

02 IEEVCPR called IEEVMESS for some reason other than to request a message buffer, but IEEVMESS failed; xxxx is the return code from IEEVMESS. The possible values for xxxx are:

04 - message insert is too long or the index into a table of message inserts is invalid.

08 - no reply received to WTOR.

0C - wrong number of message inserts specified.

10 - IEEVMESS could not establish ESTAE.

04 Unable to establish ESTAE; xxxx is the return code from the ESTAE macro instruction. The possible values of xxxx are explained in *OS/VS2 MVS System Programming Library: Supervisor.*

05 Unable to fix pages; xxxx is the return code from the PGFIX macro instruction. The possible values for xxxx are explained in *OS/VS2 System Programming Library: Supervisor.*

06 Unexpected MSSFCALL SVC return code; xxxx is the unexpected return code. The possible values for xxxx are explained in *OS/VS2 System Programming Library: MVS Diagnostic Techniques.*

07 IEEVCPR has received an invalid input parameter list. No value is assigned for xxxx.

08 Invalid channel set table entry; processor address cannot be determined from the SCPINFO MSSF data block. No value is assigned for xxxx.

0A Channel set is not loaded. No value is assigned for xxxx.

0B Processor address does not appear as the home processor address for any channel set in the channel set table, and the system is not in uniprocessor mode. No value is assigned for xxxx.

0C Unexpected response received from an internal MSSFCALL command; xxxx is the value in the response field of the MSSFCALL data block. The possible values for xxxx are explained in *OS/VS2 System Programming Library: MVS Diagnostic Techniques.*

03 IEEVSTOR

rr Explanation

01 IEEVSTOR called IEEVMESS for some reason other than to request a message buffer, but IEEVMESS failed. No value is assigned for xxxx.

04 IEEVSTGP

rr Explanation

01 The VARY command processor was executing a VARY STOR ONLINE command. The MSSF varied the storage physically online, but the system was unable to vary the storage logically online. The system then tried unsuccessfully to use the MSSF to vary the storage physically offline. No value is assigned to xxxx.

02 Unexpected return code from RSM. No value is assigned for xxxx.

03 Unexpected return code from the MSSFCALL internal vary storage physical online command or vary storage physical offline command. No value is assigned for xxxx.

04 Unexpected return code from MSSFCALL SVC. No value is assigned for xxxx.

05 IEEVSTEL

IEEVSTEL does not assign values for xxxx.

rr	Explanation
01	Unexpected return code from MSSFCALL SVC.
02	Unexpected response code or reject code from the internal MSSFCALL vary storage element command.
03	Unexpected response code or reject code from the internal MSSFCALL vary storage element info command.

06   IEEVSTFA

IEEVSTFA does not assign values to xxxx.

rr	Explanation
01	Unexpected return code from RSM.
02	ESTAE failed.

07   IEEVSTGL

IEEVSTGL does not assign values for xxxx.

rr	Explanation
01	Return code from the real storage reconfiguration routine (IEAVRCF3) shows that storage range specified overlaps permanently resident storage.
02	Unknown return code from RSM module IEAVRCF3.

09   IEECLEAN

rr	Explanation
02	IEECLEAN called IEEVMESS for some reason other than to request a message buffer, but IEEVMESS failed; xxxx is the return code from IEEVMESS. The possible values of xxxx are:

04 - message insert is too long or the index into a table of message inserts is invalid.

08 - no reply received from WTOR.

0C - wrong number of message insert specified.

10 - IEEVMESS could not establish ESTAE.

0B   IEEMPDM

IEEMPDM does not assign values to xxxx.

·rr	Explanation
01	The real storage reconfiguration routine (IEAVRCF3) tested page frame status and issued a nonzero return code.
02	An invalid message ID was passed to an internal message subroutine.
03	A MLWTO was cancelled by the operator.

0E   IEEVMESS

IEEVMESS does not assign values for xxxx.

rr	Explanation
01	Invalid address for message buffer passed to IEEVMESS.

10   IEEVPTH

rr	Explanation
01	Unexpected return code from an internal IOSGEN conditional vary path offline; xxxx is the unexpected return code. The possible values for xxxx are documented in module IECVGENA.
02	Unexpected return code from an internal IOSGEN unconditional vary path offline; xxxx is the unexpected return code. The possible values of xxxx are documented in module IECVGENA.
03	Unexpected return code from an internal IOSGEN vary path online; xxxx is the unexpected return code. The possible values of xxxx are documented in module IECVGENA.

13   IEEVCPRL

rr	Explanation
02	IEEVCPRL called IEEVMESS for some reason other than to obtain storage for a message buffer, but IEEVMESS failed; xxxx is the return code from IEEVMESS. The possible values of xxxx are:

04 - message insert is too long or the index into a table of message inserts is invalid.

08 - no reply received to WTOR.

0C - wrong number of message inserts specified.

10 - IEEVMESS could not establish ESTAE.

0D	IEEVCPRL called IEEVDEV. IEEVDEV tested for the last-path condition, but issued an invalid return code; xxxx is the invalid return code.
0E	IEEVCPRL tried unsuccessfully to use the RISGNL macro instruction to activate the test channel routine (IEEVTCH) on an MP system; xxxx is the return code from the RISGNL macro instruction. The possible values of xxxx are documented in *OS/VS2 System Programming Library: Supervisor*.
0F	IEEVCPRL called IGFPBUCR to allocate machine check logout buffers. IGFPBUCR issued a nonzero return code; xxxx is the return code. The possible value for xxxx is:

04 - invalid function code in register 0, or invalid processor address in register 1, or the processor has no physical configuration control area

(PCCA), or the size of the LOGREC buffer (LRB) is greater than a page.

10 IEEVCPRL called IEAVSPSA to obtain processor-related save areas. IEAVSPSA issued a nonzero return code; xxxx is the return code. The possible value for xxxx is:

04 - error in issuing a GETMAIN. a FREEMAIN, or a SETLOCK to obtain or free the SALLOC lock.

FF IEEMPVST

Modlue IEEMPVST does not assign values to the rr or the xxxx field.

System Action: The command frees all related resources and may be reinvoked. A software error is written to the SYS1.LOGREC data set.

Operator Response: Retry the command.

Problem Determination: Table I, items 18, 29.

0B8

Explanation: The error occurred when a start task control routine detected one of the following situations while processing a START, MOUNT, or LOGON command. Register 15 contains a hexadecimal reason code:

Reason
Code | Explanation

04 The command code in the CSCB is invalid. The command code was incorrect for a START, MOUNT, or LOGON command.

08 A TIOT manager failure occurred while trying to obtain storage for a START, MOUNT, or LOGON TIOT.

0C An OPEN failure occurred while trying to write the internal JCL text for the START, MOUNT, or LOGON command into the STCINRDR or TSOINRDR internal reader data set.

10 The system address space initialization routine passed an undefined return code to IEEPRWI2.

14 Module IEEPRWI2 requested a SYSEVENT TRANSWAP (via the POST macro instruction) and received a nonzero completion code in the ECB (event control block). This indicates that the address space cannot be made nonswappable.

System Action: If the command is START or MOUNT, message IEE824I is issued; the START, MOUNT, or LOGON task is terminated.

Programmer Response: None.

Problem Determination: Table I, items 2, 7c, 16, 18, 29.

0B9

Explanation: The error occurred when the started task control received an invalid return code from the master subsystem when the request was issued to determine if a subsystem was being started.

System Action: If the command is START or MOUNT, message IEE824I is issued; the START, MOUNT, or LOGON task is terminated.

Programmer Response: None

Problem Determination: Table I, items 2, 7c, 16, 18, 29.

0BA

Explanation: The error occurred when the started task control or the initiator received an invalid return code from the subsystem interface when a subsystem request was issued.

System Action: In started task control, if the command is START or MOUNT, message IEE824I is issued; the START, MOUNT, or LOGON task is terminated. In the initiator, message IEF187I is issued, and the job is terminated.

Programmer Response: None

Problem Determination: Table I, items 2, 7c, 16, 18, 29.

0BB

Explanation: The initiator was unable to ATTACH the job step task, started task, or LOGON task.

System Action: The initiator is abnormally terminated causing failure of the job, START or LOGON. The return code from ATTACH is found in register 15.

Programmer Response: None

Problem Determination: Table I, items 3, 4, 16, 29.

0BD

Explanation: The parameter list for master trace processing is incorrect; either the parameter list itself could not be accessed, or the data pointed to by the parameter list could not be accessed.

System Action: Master trace processing terminates. The status of the master tracing facility does not change.

Operator Response: Save any accompanying dump, and notify the system programmer.

Programmer Response: Contact IBM for programming support.

Problem Determination: Table I, items 2, 16, 29.

0BE

Explanation: An error occurred while processing a FREEMAIN macro instruction during master trace create/deactivate processing. This completion code is accompanied by message IEE480I or IEE481I and by message IEE839I.

System Action: Master trace create/deactivate processing terminates. The status of the master tracing facility is described by message IEE839I.

Operator Response: Save any accompanying dump, and notify the system programmer.

Programmer Response: Contact IBM for programming support.

Problem Determination: Table I, items 2, 16, 29.

0BF

Explanation: The master tracing facility failed during a recovery attempt. This completion code is accompanied by message IEE480I or IEE481I.

System Action: The status of master tracing is described in message IEE480I or IEE481I.

Operator Response: Save any accompanying dump, and notify the system programmer.

Programmer Response: Contact IBM for programming support.

Problem Determination: Table I, items 2, 16, 29.

0Cx

Explanation: A program interruption occurred and no routine had been specified to handle this type of interruption. For these errors, instruction execution can be terminated in one of several ways. Refer to *Principles of Operation* for the instruction involved to determine how the instruction stops execution for a particular error.

The last digit of this completion code is a hexadecimal number that indicates the cause of the program interruption:

x   Program Interruption Cause

1   Operation exception: an operation code is not assigned or the assigned operation is not available on the particular model.

   (The operation is suppressed. The instruction-length code is 1, 2, or 3.)

2   Privileged-operation exception: a privileged operation is encountered in the problem state.

   (The operation is suppressed. The instruction-length code is 1 or 2.)

3   Execute exception: the subject instruction of EXECUTE is another EXECUTE.

   (The operation is suppressed. The instruction-length code is 2.)

4   A virtual address could not be translated into a real address because of one of the following:

   ● The key of an instruction halfword or an operand in storage does not match the protection key in the PSW (interrupt code 4).

   ● The virtual segment or page was never allocated (interrupt code 10 or 11).

   ● The page was paged out and the routine requesting the page was disabled for I/O interrupts (interrupt code 11).

   (The operation is suppressed on a store violation, except in the case of STORE MULTIPLE, READ DIRECT, TEST AND SET, and variable-length operations, which are terminated. Except for EXECUTE, which is suppressed, the operation is terminated on a fetch violation. The instruction-length code is 0, 2, or 3.)

5   Addressing exception: an address specifies any part of data, an instruction, or a control word outside the available real storage for the particular installation. Issued by program FLIH the instruction-length is 1, 2 or 3.

6   Specification exception. One of the following occurred:

● A data, instruction, or control-word address does not specify an integral boundary for the unit of information.

● The R field of an instruction specifies an odd register address for a pair of general registers that contains a 64-bit operand.

● A floating-point register address other than 0, 2, 4, or 6 is specified.

● The multiplier or divisor in decimal arithmetic exceeds 15 digits and sign.

● The first operand field is shorter than or equal to the second operand field in decimal multiplication or division.

● The block address specified in SET STORAGE KEY or INSERT STORAGE KEY has the four low-order bits not all zero.

● A PSW with a nonzero protection key is encountered when protection is not installed.

(The operation is suppressed. The instruction-length code is 1, 2, or 3.)

7   Data exception: one of the following occurred:

● The sign or digit codes of operands in decimal arithmetic or editing operations or in CONVERT TO BINARY are incorrect.

● Fields in decimal arithmetic overlap incorrectly.

● The decimal multiplicand has too many high-order significant digits.

(The operation is terminated or suppressed. The instruction-length code is 2 or 3.)

8   Fixed-point-overflow exception: a high-order carry occurs or high-order significant bits are lost in fixed-point add, subtract, shift, or sign-control operations.

(The operation is completed by ignoring the information placed outside the register. The interruption may be masked by PSW bit 36. The instruction-length code is 1 or 2.)

9   Fixed-point-divide exception: a quotient exceeds the register size in fixed-point division, including division by zero, or the result of CONVERT TO BINARY exceeds 31 bits.

(Division is suppressed. Conversion is completed by ignoring the information placed outside the register. The instruction-length code is 1 or 2.)

A   Decimal-overflow exception: the destination field is too small to contain the result field in a decimal operation.

(The operation is completed by ignoring the overflow information. The interruption may be masked by PSW bit 37. Issued by program FLIH the instruction-length is 2 or 3.)

ABEND

B   Decimal-divide exception: a quotient exceeds the specified data field size.

(The operation is suppressed. Issued by program FLIH the instruction-length code is 2 or 3.)

C   Exponent-overflow exception: the result characteristic in floating-point addition, subtraction, multiplication, or division exceeds 127 and the result fraction is not zero.

(The operation is completed. The fraction is normalized, and the sign and fraction of the result remain correct. The result characteristic is made 128 less than the correct characteristic. The instruction-length code is 1 or 2.)

D   Exponent-underflow exception: the result characteristic in floating-point addition, subtraction, multiplication, halving, or division is less than zero and the result fraction is not zero.

(The operation is completed. The setting of the exponent-underflow mask (PSW bit 38) affects the results of the operation. When the mask bit is zero, the sign, characteristic, and fraction are set to zero, making the result a true zero. When the mask bit is one, the fraction is normalized, the characteristic is made 128 larger than the correct characteristic, and the sign and fraction remain correct. The instruction-length code is 1 or 2.)

E   Significance exception: the result of a floating-point addition or subtraction has an all-zero fraction.

(The operation is completed. The interruption may be masked by PSW bit 39. The manner in which the operation is completed is determined by the mask bit. The instruction-length code is 1 or 2.)

F   Floating-point-divide exception: division by a floating-point number with zero fraction is attempted.

(The operation is suppressed. The instruction-length code is 1 or 2.)

System Action: The task is terminated if no recovery routine was specified to handle the interrupt. Refer to the *Principles of Operation* for the hardware action for the instruction involved.

Programmer Response: Determine whether the problem program or control program was in error. If the problem program contained an error, correct it, and execute the job step again.

Problem Determination: Table I, items 5a, 16, 23, 29.

0D2

Explanation: A program check, interruption code X'12' (translation specification error), occurred. Invalid data exists in control register zero or one, or in a segment or page table. Either a hardware error exists, or a program running in key zero has caused data damage.

System Action: The system tries to terminate the task with this error. If the task cannot be terminated because of translation problems, the system tries to terminate the address space. If the address space cannot be terminated, the system enters a disabled wait state (code X'040').

Programmer Response: Correct the error, and rerun the program.

Problem Determination: Table I, item 29.

0D3

Explanation: A program check, interruption code X'13' (special operation error), occurred. A privileged program issued a set system mask.

System Action: The task is terminated.

Programmer Response: Remove the set system mask instruction. This instruction is not valid in MVS.

Problem Determination: Table I, item 29.

0D4

Explanation: A program issued a PC, PT, or SSAR instruction, but an address space number (ASN) translation specification exception occurred. (The address space number translation exception is also known as an address space ID (ASID) translation exception.) The program interruption code is X'17'. Either the address space first table (AFT) or the address space second table (AST) contains invalid data.

System Action: The program that issued the PC, PT, or SSAR instruction is abnormally terminated.

Programmer Response: Probable system error. If necessary, contact IBM for programming support.

Problem Determination: Table I, items 5, 11, 13, 15 16, 18, 29, and 33.

0D5

Explanation: A program issued a PC, PT, or SSAR instruction, and an address space first table index (AFX) translation exception (program interruption code X'20') or an address space second table index (ASX) translation exception (program interruption code X'21') occurred. The values in the address space first table (AFT) or the address space second table (AST) generate an invalid ASID. Either the address space does not exist or it was swapped out.

System Action: The system attempts to correct any errors in the AFT. The program that issued the PC, PT or SSAR instruction abnormally terminates.

Programmer Response: Determine why the ASID is invalid. Correct the error, and resubmit the program.

Problem Determination: Table I, items 5, 11, 13, 15, 16, 29 and 33.

0D6

Explanation: The program issued a PC instruction with an invalid PC number. One of the following occurred:

● A linkage index (LX) translation exception (program interruption code X'22') or an entry table (EX) translation exception (program interruption code X'23') has occurred.

● The entry table field that the PC number identifies is not defined by the address space that owns the entry table. Register 14 contains the next sequential instruction after the PC instruction.

System Action: The program that issued the PC instruction abnormally terminates.

Programmer Response: Determine why the PC number is invalid. Correct the error, and resubmit the program.

Problem Determination: Table I, items 5, 11, 13, 15, 16, 29, and 33.

0D7

Explanation: One of the following occurred:

- A program issued the PT instruction, but a primary authority exception occurred. The primary address space is not authorized to issue a PT instruction to the target address space. Either the authorization index (AX) is greater than the number of elements in the target address space's authorization table (AT) or the P bit is off in the target address space's AT. The program interruption code is X'24'.

- A program issued the SSAR instruction, but a secondary authority exception occurred. The primary address space is not authorized to issue an SSAR instruction to the target address space. Either the authorization index (AX) is greater than the number of elements in the target address space's authorization table (AT) or the S bit is off in the target address space's AT. The program interruption code is X'25'.

System Action: The program that issued the PT or the SSAR instruction abnormally terminates.

Programmer Response: Correct the error, and resubmit the program.

Problem Determination: Table I, items 5, 11, 13, 15, 16, 29, and 33.

0D8

Explanation: A space switch exception occurred. A program issued a PC or PT instruction, but the cross memory resource ownership task in the target address space has terminated. The target address space is not the home address space of the program that issued the PC or PT instruction. Program interruption code X'1C' is associated with the error.

System Action: The program that issued the PC or PT instruction abnormally terminates.

Programmer Response: Correct the error, and resubmit the program.

Problem Determination: Table I, items 5, 11, 13, 15, 16, 29, and 33.

0D9

Explanation: A program check was detected. An interruption code of X'26', a page fault assist exception, has occurred. Either a hardware error occurred or a program running in key zero caused data damage.

System Action: The task is terminated.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, item 29.

0DA

Explanation: A program issued the PC instruction, and a PC translation specification exception occurred. The program interruption code is X'1F'. Either the linkage table (LT) or the entry tables (ETs) contain incorrect data.

System Action: The program that issued the PC instruction is abnormally terminated.

Programmer Response: Probable system error. Resubmit the program. If the error continues to occur, contact IBM for programming support.

Problem Determination: Table I, items 5, 11, 13, 15, 16, 18, 29, and 33.

0E1

Explanation: An error was encountered while processing the first EXCP against a VIO data set. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
05B	The LGCB (IDAVBPL) chain is invalid. The ASIDs in the LGCB and the ASCB do not match.

1xx   Unable to fix or free the page containing the parameter list (VCB) for RSM.

xx   Explanation

04   Operation abnormally terminated. Operation incomplete because of invalid address in virtual subarea list; ECB posted complete.

10   Operation abnormally terminated. Virtual subarea list entry or ECB address invalid; no ECB posted.

2xx   RSM was unable to 'assign null' the virtual track buffer or the DSPCT map.

xx   Explanation

04   Assign (move-in) error. The page identified by the VCBVSA field is not available.

08   Write (move-out) error. The page identified by the VCBVSA field is fixed in real storage and cannot be written to the data set in auxiliary storage.

0C   Invalid request. Not a move-out or an assign request.

10   The page identified by the VCBVSA field will not be written to the data set because it was not brought into real storage by the prior read request or because data in the page has not been modified.

20   The page identified by the VCBVSA field belongs to an LPID other than the LPID in the VCBLPID field.

40   Invalid virtual storage address. A GETMAIN macro instruction was not issued for the page identified by the VCBVSA field.

80   Assign error. The page identified by the VCBVSA field was previously read and was not disconnected by a move-out or move-out-null request before the current read (assign) operation.

3xx   ASM was unable to ASSIGN a logical group for this VIO data set. Either ASM was unable to obtain storage to process the request or ASM ran out of paging slots to create VIO data sets. If the console sheet from the primary console shows warning messages that indicate a shortage of paging space or heavy VIO activity, then it may be possible to re-IPL after increasing the constant ILRSLOTV as described in *OS/VS2 System Programming Library: Initialization and Tuning Guide.*

xx   Explanation

1C   Not enough slots. Maximum number (1600) of LGNs exceeded. Unable to obtain storage to process request.

System Action: The input parm list (IDAVOP1), the DSPCT header (IDAVBPH) and SWA are dumped to the SYS1.DUMP data set. ASCB and the LGCB (IDAVBPL) chain are also dumped if the reason code was X'05B'.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 2, 4, 5a, 7d, 9b with MEMBER = IDDWI, 18, 29, 33.

0E2

Explanation: The error was detected while processing the first EXCP for the VIO data set after a restart. Register 15 contains a hexadecimal reason code:

Reason Code   **Explanation**

05B   The LGCB (IDAVBPL) chain is invalid. The ASIDs in the LGCB and the ASCB do not match.

1xx   Unable to fix or free the page containing the parameter list (VCB) for RSM. Refer to code 0E1 for an explanation of xx.

2xx   RSM was unable to 'assign null' the virtual track buffer or the DSPCT map. Refer to code 0E1 for an explanation of xx.

System Action: The input parm list (IDAVOP1), DSPCT header (IDAVBPH) and SWA are dumped to the SYS1.DUMP data set. If the reason code is X'05B', ASCB and the LGCB (IDAVBPL) are also dumped.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER = IDDWI, 18, 29, 33.

0E3

Explanation: The error occurred while processing a VIO data set. Register 15 contains a hexadecimal reason code:

Reason Code   **Explanation**

004   An invalid RBA was passed to VBP. Probable causes of error code are (1) DEB with extent descriptions that do not fall within the allocated

extents as described in the virtual data set control block (VDSCB) or (2) EXCP was issued to read the format-1 DSCB on the volume.

1xx   Unable to fix or free the page containing the parameter list (VCB) for RSM. Refer to code 0E1 for an explanation of xx.

2xx   RSM was unable to ASSIGN or MOVE OUT pages in the virtual track buffer. Refer to code 0E1 for an explanation of xx.

System Action: The following are dumped to the SYS1.DUMP data set:

● Input parameter list (IDABUFC)
● DSPCT header (IDAVBPH)
● SWA
● LSQA
● The region (in some cases)

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER = IDDWI, 18, 29, 33.

0E4

Explanation: The error occurred while trying to scratch a VIO data set. Register 15 contains a hexadecimal reason code:

Reason Code   **Explanation**

008   The ASIDs in the LGCB and ASCB do not match, indicating an error in the LGCB chain.

3xx   ASM could not RELEASE the logical group for this data set.

    xx   **Explanation**

    04   Invalid LGN.

    1C   Unable to obtain storage to process request.

    20   Invalid operation code is supplied in the auxiliary storage manager control area (ACA).

    28   Invalid identifier type when an LGN was given, but 'S' type symbol is required.

System Action: The ASCB and LGCB chain DSPCT header, and SWA are dumped on SYS1.DUMP data set.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER = IDDWI, 18, 29, 33.

0E5

Explanation: Unable to disconnect the virtual track buffer from the VIO data set. Register 15 contains a hexadecimal reason code:

Reason Code   **Explanation**

1xx   Unable to fix or free the page containing the parameter list (VCB) for RSM. Refer to code 0E1 for an explanation of xx.

2xx   RSM was unable to MOVE OUT pages in the virtual track buffer. Refer to code 0E1 for an explanation of xx.

System Action: The DSPCT header and SWA are dumped to the SYS1.DUMP data set.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER = IDDWI, 18, 29, 33.

0E6

Explanation: Unable to process against a data set that has already been scratched.

System Action: The VDSCB (IDDVDSCB) is dumped to the SYS1.DUMP data set.

Programmer Response: Do not access a scratched data set.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER = IDDWI, 18, 29, 33.

0E7

Explanation: The error occurred while journaling the DSPCT header (IDAVBPH) at step termination or at checkpoint. Register 15 contains a hexadecimal reason code:

Reason Code   **Explanation**

008   Scheduler module IEFXB500 returned an unsuccessful completion code for a request to write to the job journal.

05B   The LGCB (IDAVBPL) chain is invalid. The ASIDs of the LGCB (in the LGCB chain) and the ASCB did not match.

1xx   Unable to fix or free the page containing the parameter list (VCB) for RSM. Refer to code 0E1 for explanation of xx.

2xx   RSM was unable to ASSIGN or MOVE OUT pages in the virtual track buffer. Refer to code 0E1 for explanation of xx.

3xx   ASM was unable to SAVE the logical group for this data set.

xx	Explanation
04	Invalid LGN.
14	Unrecoverable error occurred while writing to SYS1.STGINDEX.
1C	Unable to obtain storage to process request.
20	Invalid operation code is supplied in the auxiliary storage manager control area (ACA).
2C	Indeterminate error has occurred.

408   Unable to obtain the local lock. The lockword id does not match the caller's id.

System Action: The DSPCT header (IDAVBPH) and SWA are dumped on the SYS1.DUMP data set.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER = IDDWI, 18, 29, 33.

0E8

Explanation: The error occurred while processing the VIO data sets for the job after an abnormal system or job step task failure. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
004	Unable to free the LGCB.
051	The ASID in the LGCB chain and the ASCB do not match.
3xx	ASM was unable to release the logical group for this data set. See code 0E4 for an explanation of xx.

408   Unable to obtain the local lock. The lockword id does not match the caller's id.

System Action: The input parm list (RMPL), the ASCB and the LGCB (IDAVBPL) chain are dumped to the SYS1.DUMP data set.

Programmer Response: System Error. Rerun the job.

Problem Determination: Table I, items 1, 4, 5a, 7d, 9b with MEMBER = IDDWI, 18, 29, 33.

0F0

Explanation: An error occurred while processing a machine check interruption with the machine check handler's FRR stack active. In an attempt to recover the system, the control program terminated the task that was interrupted.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 2, 16, 29, 30.

0F2

Explanation: The error occurred during I/O interrupt processing. An I/O recovery routine failed.

Programmer Response: System error. Rerun the job.

Problem Determination: Table I, items 1, 5a, 7d, 13, 16, 18, 29, 31, 32.

0F3

Explanation: A machine-check interruption occurred. After a machine check, the system usually terminates one or more programs, issuing system completion code 0F3.

System Action: The system terminates the current task.

Programmer Response: Probable hardware error. If the data on external storage devices is still valid, execute the job step again.

Problem Determination: Table I, items 2, 18, 30.

0F6

Explanation: The error occurred during the processing of the SETEVENT service, acting on behalf of GTF. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	The caller of the SETEVENT service was not authorized via APF, protect key 0-7, or supervisor state.
04	The parameter list passed to SETEVENT was invalid.
08	An invalid monitor call queue element (MCQE) address was passed to SETEVENT.
0C	The monitor call queue element (MCQE) at the address passed to SETEVENT is invalid for the function requested.

System Action: The caller of SETEVENT is terminated.

Programmer Response: Make sure that the caller of SETEVENT is an authorized program; protect key 0-7, supervisor state, or authorized via APF. If it does not, correct this condition, and restart the failing component.

Problem Determination: Table I, items 1, 2, 4, 5a, 7d, 13, 16, 29.

0F8

Explanation: The issuer of an SVC was not in TCB mode, held a lock, was disabled, was in cross memory mode, or had an enabled unlocked task mode FRR established (that is, an FRR for which EUT = YES was specified on the SETFRR macro instruction.)

System Action: The system abnormally terminates the program that issued the SVC.

Programmer Response: Probable user error in an SVC routine or SRB routine attempting to issue an SVC. See the SVC error entry in the trace table. Correct the error, and rerun the program.

Problem Determination: Table I, items 29 and 31.

0F9

Explanation: The error occurred while attempting to acquire or release an SVRB.

Programmer Response: Probable user error, but not necessarily in the program that was abnormally terminated.

If the return code in register 15 is 0, the LSQA has been exhausted and the SVRB space is not available to honor an SVC request in the address space. This may be caused by a loop in the program issuing the SVC.

If the return code in register 15 is 4, an SVRB is being freed that cannot be identified as belonging to the SVRB pool.

Correct the error, and resubmit the job.

Problem Determination: Table I, items 23, 29.

0FA

Explanation: Because both LSQA and SQA have been exhausted, SVRB space is not available to honor an SVC request in the address space during ABEND processing.

Programmer Response: Probable system error. None.

Problem Determination: Table I, items 16, 29.

0FB

Explanation: A translation exception occurred. The system detected invalid contents in control register 0.

Programmer Response: If control register 0 is being manipulated, check the contents being placed in this register. If control register 0 is not being manipulated, then it is a system problem.

Problem Determination: Table I, items 16, 29.

0FC

Explanation: A translation error occurred while the job was referencing data in an address space other than its home address space. That address space either has invalid data in its DAT (dynamic address translation) tables or has an incorrect segment table origin address.

System Action: The job is abnormally terminated.

Programmer Response: Probable system error. Contact your IBM representative for programming support.

Problem Determination: Table I, items 16, 18, and 29.

0FD

Explanation: The error occurred when a type 6 SVC requested the SVC first level interrupt handler to schedule a cross memory SRB.

Programmer Response: Probable user error in the SVC routine. The type 6 SVC routine issued the T6EXIT macro with a schedule SRB request, but the SRBASCB address is not the same as the current memory address. Correct the error, and resubmit the job.

Problem Determination: Table I, items 23, 29, 52.

0FE

Explanation: An error was detected while RMF was sampling data about the state of the system.

System Action: All RMF measurement collection is terminated. Reinstatement of RMF can be attempted, and, if successful, RMF continues under the control of the original options. If reinstatement fails, RMF is terminated.

Programmer Response: None.

Problem Determination: Table I, items 5a, 16, 18, and 29.

101

Explanation: The error occurred during execution of a WAIT macro instruction.

The problem program specified more events than there were event control blocks (ECBs).

Programmer Response: Change the number of events specified so that it is less than or equal to the number of event control blocks. If the specification was correct, make sure it was not incorrectly modified. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 29.

102

Explanation: The error occurred during execution of a POST macro instruction.

The control program found an invalid event control block (ECB) address.

Programmer Response: Make sure that the address specified for the ECB is a valid virtual storage address, that it was not incorrectly modified, and that it is aligned on a fullword boundary. Make sure that the program issuing the POST macro instruction has a storage protection key that allows it to update the ECB. Correct the error, and rerun the job step.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

104

Explanation: An error occurred during the execution of a GETMAIN macro instruction for an authorized program. The GETMAIN requested virtual storage that requires more real storage than is available.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the program issuing the GETMAIN macro instruction is not requesting unnecessarily large amounts of real storage. If this code occurs

frequently, installation action is required to increase the available real storage on the system.

Problem Determination: Table I, items 2, 11, and 29.

106

Explanation: During execution of a LINK, LOAD, ATTACH, or XCTL macro instruction, the control program detected an error when attempting to fetch the requested program into virtual storage. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
0B	An error occurred during FETCH processing or in one of the routines that gets control as a result of FETCH processing.
0C	Not enough storage was available for FETCH to execute a GETMAIN for the load module or control blocks.
0D	The control program found an invalid record type in the load module.
0E	The control program found an invalid address in the load module.
0F	One of the following occurred: ● An uncorrectable input/output error. ● An error in the load module; this error caused the channel program to fail. ● A data set in SYS1.LNKLST expanded into another extent. The system updates the data extent block (DEB) extents only when a data set is opened; data sets in SYS1.LNKLST are opened only by NIP during IPL. At the time of abnormal termination, the ECB can be found by adding X'400' to the address of the FETCH work area located at offset X'74' in the caller's SVRB. The address of the failing IOSB is located at offset X'528' in the FETCH work area.

Note: The storage area related to the IOB ECB may be free unless the dump is taken immediately after the ABEND macro instruction is issued.

Programmer Response: If register 15 contains either a X'0D' or X'0E', it is a probable user error. Ensure that the load request in the problem program was specified correctly and was not incorrectly modified. After making corrections, execute the job step again.

ABEND

If register 15 contains X'0F' and you find that a LNKLST data set had expanded into extents, re-IPL the system.

Problem Determination: Table I, items 1, 5a, 10c, 29. Table II, format 1: trace option - TRACE = SYS. If register 15 contains a X'0F', resubmit the job, and see Table I, item 30, and Table II, format 1: trace option - TRACE = IO.

10A

Explanation: The error occurred during the execution of an R-form GETMAIN macro instruction for an authorized program. The program requested virtual storage that required more real storage than is available.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the calling program is not asking for unnecessarily large amounts of real storage. If this code occurs frequently, installation action is required to increase the available real storage on the system.

Problem Determination: Table I, items 2, 11, and 29.

10B

Explanation: The error occurred in the TIME service routine. An error was found in the input parameters.

Programmer Response: Check the parameters that were used on the TIME macro instruction. If MIC or STCK was specified, the area specified by address must have the caller's storage protect key.

10D

Explanation: This completion code is found only in the jobstep tasks. It occurs when a jobstep task abnormally terminates and has a jobstep task as a subtask that is in STEP MUST COMPLETE status.

Note: The original ABEND code is found in the mother task that abnormally terminated.

System Action: The job step subtask is abnormally terminated.

Programmer Response: Rerun the job with the original ABEND corrected.

Problem Determination: Table I, items 1, 5a, 16, 19, 23, 29.

10E

Explanation: The error occurred during execution of the SPIE macro instruction. The PICA address is invalid.

Programmer Response: Correct the PICA address specified, ensuring that it is a valid virtual storage address assigned to the jobstep. Execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 19, 29.

112

Explanation: Invalid input was passed to SVC 18 by the BLDL or FIND macro instruction. This system completion code is accompanied by message IEC908I. Message IEC908I identifies the terminated task and explains the return code in register 15.

System Action: For return codes 13 and 14, the DCB was written to the GTF trace data set.

Programmer Response: Correct the BLDL or FIND macro instruction. For reason codes 03, 13, 04, and 14, make sure that the DCB is not being overlaid, in particular, the fields DCBEBAD and DCBPOINT. Recompile the program, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29. Table II, format 3.

113

Explanation: The error occurred during execution of an OPEN macro instruction or an OPEN macro instruction with a TYPE = J operand. This system completion code is accompanied by message IEC142I. Message IEC142I identifies the terminated task and explains the return code in register 15.

Programmer Response: Respond as indicated for message IEC142I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

115

Explanation: The error occurred during the execution of SVC 21 (STOW). The DCB did not point to a valid DEB, or the DEB did not point back to the DCB.

System Action: An unsuccessful attempt was made to invoke the STOW task recovery routine.

Programmer Response: Verify that register 1 contained the correct DCB address prior to issuing SVC 21, and that the DCB has not been overlaid since it was opened.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

117

Explanation: The error occurred during execution of a BSAM CLOSE macro instruction with a TYPE = T operand. This system completion code is accompanied by message IEC218I. Message IEC218I identifies the terminated task and explains the return code in register 15.

Programmer Response: Respond as indicated for message IEC218I.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

118

Explanation: Invalid parameters were passed to DEVTYPE (SVC 24). This system completion code is accompanied by message IEC912I. Message IEC912I identifies the terminated task and explains the return code found in register 15.

Programmer Response: Correct the DEVTYPE macro instruction, recompile the program, and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

119

Explanation: Invalid input was passed to SVC 25. This system completion code is accompanied by message IEC914I. Message IEC914I identifies the terminated task and explains the return code in register 15.

System Action: For return codes 12 and 13, the DCB is written to the GTF trace data set. For return code 14, both the DCB and IOB are written.

Programmer Response: Make sure that your program does not overlay the DCB and IOB fields described by the return code. Correct the error, and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29. Table II, format 3.

11A

Explanation: A protection check occurred when the system tried to store into a user-supplied OS/VS CAMLST work area.

System Action: SVC 26 received the protection check because the protect key of the supplied work area did not match the user's protect key.

Programmer Response: Correct the pointer in the OS/VS LOCATE parameter list to the LOCATE work area, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

122

Explanation: The operator canceled the job and requested a dump. The job may have been canceled because it appeared to be in a loop or because it was waiting for resources that were not immediately available (for example, direct access space or devices). Perhaps the job was canceled to correct a system interlock condition (for example, two tasks enqueued on a resource without an intervening dequeue), or the job may have violated a procedure established for your installation. An operator might cancel a job for many reasons. Your program may contain no errors.

System Action: The system terminates the job and produces a dump to the data set described by the SYSABEND, SYSMDUMP, or SYSUDUMP DD statement in the canceled job step.

Programmer Response: Find out why the operator canceled your job. Make any necessary corrections, and resubmit the job.

Problem Determination: Table I, items 1, 2, 5a or b, 16, 23, 29.

128

Explanation: The error was detected during execution of an EXTRACT macro instruction.

The address of the list in which the control program was to store the requester fields was invalid. The beginning address for the list was not on a fullword boundary, or the list did not begin and end within the storage assigned to the job step. (The beginning address of the list is specified in the first operand of the macro instruction; the length of the list is determined by the number of fields requested.)

Programmer Response: Determine if the first operand of the macro instruction was specified correctly or if program errors had incorrectly modified the EXTRACT macro expansion. After making corrections, recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

12A

Explanation: The error was detected during execution of an ATTACH macro instruction.

In a GSPV or GSPL operand, the macro instruction specified that a subpool was to be given to the subtask being created. The attaching task owned the subpool, but had previously shared it with other subtasks through SHSPV and/or SHSPL operands. A task is not permitted to give an owned subpool to a subtask if it has shared the subpool with one or more other subtasks.

Programmer Response: Change the ATTACH macro instruction to specify the subpool in an SHSPV or SHSPL operand. Recompile the program, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

12C

Explanation: The error was detected during execution of a CHAP macro instruction.

The address of the task control block (TCB) for the subtask whose priority was to be changed was invalid. This address is contained in the fullword addressed by the second operand of a CHAP macro instruction. The address was invalid for one of the following reasons:

● It was not a valid TCB address.

● The valid task control block at the address was not associated with a subtask of the task issuing the macro instruction.

● It was not a multiple of 4.

● The valid task has terminated.

Programmer Response: Change the address specification, and ensure that it and the task control block were not incorrectly modified by the problem program. Recompile the program, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

12D

Explanation: The error occurred during execution of an overlay program.

The overlay supervisor found that words 3 and 4 of the segment table were incorrect.

Programmer Response: Check for program errors that caused the segment table to be incorrectly modified. After making corrections, assemble, link edit, and execute the program again.

Problem Determination: Table I, items 1, 5a, 9. 29.

12E

Explanation: The error occurred in the TTIMER service routine. An error was found in the input parameters.

Programmer Response: Check the parameters specified on the TTIMER macro instruction. If MIC is specified, the area specified by address must have the caller's storage protect key.

12F

Explanation: An error was found in the input parameters for the STIMER service routine. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
04	The GMT or TOD parameter was specified for a TASK type STIMER request.
0C	The value specified for the GMT or TOD parameter was greater than 2400.

The STIMER routine produces a tailored dump that provides the following information:

● The control blocks associated with the task that issued the STIMER request

● The register contents for the task that issued the STIMER request

● The virtual subpools that contain the parameter list passed to STIMER

Programmer Response: Check the parameters specified on the STIMER macro instruction. Consult *OS/VS2 MVS Supervisor Services and Macro Instructions* for format and restrictions.

130

Explanation: The error occurred during execution of a DEQ macro instruction.

The DEQ macro instruction specified a resource not previously specified by an ENQ macro instruction under the same task. That is, the program had not requested control of a resource it was attempting to release. The DEQ macro instruction did not contain a RET = HAVE operand.

Programmer Response: Check the DEQ macro instruction for incorrect qname or rname operands, or specify RET = HAVE in the DEQ macro instruction, or add an ENQ macro instruction before the DEQ macro instruction. Recompile, and execute the program again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

133

Explanation: An unauthorized caller has invoked SVC Dump via the SDUMP macro. If the caller requested linkage by SVC 51, the caller was not authorized by APF or was not running under a control program key. If the caller tried to do a branch entry to SDUMP, the caller did not meet these criteria:

1. The caller must be in key-0, supervisor state.

2. One of the following must be true:

   ● The caller is in SRB mode.

   ● The caller owns a lock.

   ● The caller is disabled and has a PSASUPER bit set on.

   ● The caller is in enabled unlocked task mode (EUT mode). That is, EUT = YES

was specified on the SETFRR macro instruction.

Generally, those modules that cannot issue SVCs can do a branch entry to SDUMP.

ABEND

System Action: The caller is abnormally terminated. If a recovery routine is available, it is given control.

Programmer Response: Authorize the calling routine of SVC Dump. If the calling routine cannot be authorized, use the SNAP dump function. If the branch entry is being invalidly used, correct the error or use the SVC entry.

Problem Determination: Table I, items 5ab, 7c, 13, 19, 27, 29.

135

Explanation: An error occurred during the processing associated with SVC 53, which obtains and releases exclusive control of a resource associated with a BDAM data set. The task recovery routine for this SVC determined that all user control blocks required as input to the SVC were in the user's region and key, hence the error could not be ascribed to any user control block.

System Action: Message IEC903I is issued.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 4, 5a, 13, 16, 29.

137

Explanation: The error occurred at an end-of-volume on a tape. This system completion code is accompanied by message IEC022I. Message IEC022I identifies the terminated task and explains the return code in register 15.

Programmer Response: Respond as indicated for message IEC022I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

138

Explanation: The error occurred during execution of an ENQ macro instruction.

Two ENQ macro instructions were issued for the same resource in the same task without an intervening DEQ macro instruction. The second ENQ macro instruction did not specify TEST, USE, or HAVE in its RET operand.

Programmer Response:

Specify RET = TEST, RET = USE, or RET = HAVE in the second ENQ macro instruction, or add a DEQ macro instruction between the two ENQ macro instructions, or delete one of the ENQ macro instructions.

Recompile, and execute the program again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

139

Explanation: An error occurred during the processing associated with SVC 57, which frees a buffer or extends the unscheduled test (via the FREEDBUF macro issued either by the user or the system). The BDAM task recovery routine for this SVC determined that all user control blocks required as input to the SVC were in the user's region and key, hence the error could not be ascribed to any user control block.

System Action: Message IEC905I is issued.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 4, 5a, 13, 16, 29.

13C

Explanation: An invalid request has been detected. If register 15 contains X'04', an invalid ESTAR request had been detected for one of the following reasons:

● Requestor is not authorized via APF or is not in key 0-7 or is not in supervisor mode.

● An EXIT address of zero was specified.

● ESTAR CT was specified and an exit already exists.

● ESTAR OV was specified and the most recent exit is not an ESTAR exit.

If register 15 contains X'08', an invalid ESTAI request had been detected for one of the following reasons:

● Caller is not ATTACH.
● An EXIT address of zero was specified with CT.
● OV was specified.
● TCB address missing or invalid.

If register 15 contains X'0C', an invalid branch entry had been detected for one of the following reasons:

● Requestor is not running under an SVRB.
● Request is not for ESTAE.
● The local lock was not obtained before entry.

If register 15 contains X'10', one of the following invalid TOKEN requests had been detected:

● The TOKEN parameter was specified on a macro instruction other than the ESTAE macro instruction.

● The requestor is not authorized to issue an ESTAE macro instruction with the TOKEN parameter.

System Action: The caller is abnormally terminated. If a recovery routine is available, it is given control.

Programmer Response: Rewrite the program that issues ESTAE or modifies the parameter list built by the ESTAE macro, to correct the failing request. If register 15 contains X'10', be sure that the TOKEN parameter is specified only by authorized programs and only on the ESTAE macro instruction.

Note: The LSQS dump option is specified with the ABEND macro instruction.

Problem Determination: Table I, items 5a, 16, 19, 29.

13E

Explanation: A task that had created a subtask issued a DETACH for that subtask, specifying STAE = NO, before the subtask has terminated.

System Action: The subtask is abnormally terminated to force its completion.

Note: This may or may not be an error, depending on the intent of the user. Consequently, the task issuing the DETACH is not terminated.

Programmer Response: If the subtask must complete its processing before being detached, synchronization must be achieved by use of the ECB or the EXTR operand on the ATTACH macro instruction creating the subtask.

Problem Determination: Table I, items 1, 16, 23, 29.

13F

Explanation: An error occurred during execution of a checkpoint restart.

System Action: The task is abnormally terminated.

Programmer Response: Respond as indicated for message IHJ007I, which appears on the console.

144

Explanation: The error occurred during the execution of SYNADAF, where it was determined that an invalid access method code was specified in the high order byte of register 15.

Programmer Response: Make sure that the ACSMETH parameter on the SYNADAF macro instruction is correctly coded, or that the high order byte of register 15 contains a valid access method code before issuing SVC 68.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

145

Explanation: The error occurred during the execution of SVC 69 (BSP). Register 15 contains a return code indicating the cause of the error. See message IEC916I for the return codes and their meanings.

ABEND

System Action: The backspace task recovery routine is invoked. If the caller's DCB, main IOB, and first ICB for chained scheduling, or first IOB for normal scheduling are in its region, an attempt was made to trace them to the SYS1.TRACE data set.

Programmer Response: Verify that register 1 contained the correct DCB address before issuing BSP and that the DCB has not been overlaid since being opened. If the DCB is valid, verify that it contains the correct IOB and/or ICB addresses and that neither the IOBs and/or ICBs have been overlaid.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29. Table II, format 3.

147

Explanation: A program check or abnormal termination occurred in the Graphics Access Method/System Product (GAM/SP) buffer management routine, IGC0007A. The error occurred either in GAM/SP or in the operating system.

System Action: Message GAB260 appears on the system console, identifying the cause of the error and the original system completion code. In addition, GAM/SP writes a record to the SYS1.LOGREC data set and produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*

2. Perform any corrective actions associated with the original system completion code.

3. Get a listing of the system dump.

4. Contact IBM for programming support.

149

Explanation: An error occurred in either the Graphics Access Method/System Product (GAM/SP), or the operating system.

This completion code appears when:

1. A program check or abnormal termination occurs in the GAM/SP specify-attention (SPAR) routine, IGC0007C.

2. IGC0007C detects an invalid condition.

System Action: A message appears on the system console accompanied by a reason code identifying the area of processing where the error occurred. In addition, GAM/SP writes a record to the SYS1.LOGREC data set and produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*

2. Get a listing of the system dump.

3. Contact IBM for programming support.

14A

Explanation: An error occurred in either the Graphics Access Method/System Product (GAM/SP), or the operating system.

This completion code appears when:

1. A program check or abnormal termination occurs in the GAM/SP delete-attention (DAR) routine, IGC0007D.

2. IGC0007D detects an invalid condition.

System Action: A message appears on the system console, accompanied by a reason code identifying the area of processing where the error occurred. In addition, GAM/SP writes a record to the SYS1.LOGREC data set and produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*

2. Get a listing of the system dump.

3. Contact IBM for programming support.

14B

Explanation: An error occurred in either the Graphics Access Method/System Product (GAM/SP), or the operating system.

This completion code appears when:

1. A program check or abnormal termination occurs in the GAM/SP attention inquiry (ATTNINQ) routine, IGC0007E.

2. IGC0007E detects an invalid condition.

System Action: A message appears on the system console, accompanied by a reason code identifying the area of processing where the error occurred. In addition, GAM/SP writes a record to the SYS1.LOGREC data set and produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*

2. Get a listing of the system dump.

3. Contact IBM for programming support.

14F

Explanation: An error was detected during the execution of the STATUS macro instruction.

A routine tried to execute the STATUS macro instruction for a function other than STOP, STOP SYNCH, or START, and the routine was not in storage protection key 0-7. Or, the parameter passed to STATUS processing contained an invalid function code. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
20	An SRB (service request block) routine cannot set a step nondispatchable.
24	An invalid TCB address of zero was passed by the caller.

System Action: If no recovery routine is specified, the system terminates the issuer of the STATUS macro instruction.

Programmer Response: Correct the error, and resubmit the job.

Problem Determination: Table I, items 1, 3, 5a, 15, and 29.

151

Explanation: The error occurred during the execution of SETPRT. The parameter list whose address was passed to SETPRT in register 1 was not in the user's region.

System Action: Message IEC918I is issued.

Programmer Response: Make sure that the SETPRT macro instruction is correctly coded. Correct the error, and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

153

Explanation: An error occurred while SMF was processing a record. SMF was unable to handle the new record because of buffer contention.

System Action: The task or SRB that attempted to write an SMF record using the SMFWTM or SMFEWTM macro instruction terminates abnormally. An SVC dump is scheduled.

Programmer Response: Contact IBM for programming support.

Problem Determination: Table I, items 2, 7a, 7d, 29, 33.

157

Explanation: An error occurred during execution of SVC 87, DOM (delete operator message) macro. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
04	The caller passed an invalid value in register 0.
08	The issuer of the DOM request was neither a task in the same job step and address space as the issuer of the WTOR, nor was the DOM issuer a privileged task (supervisor mode or key 0-7 or APF authorized).
0C	A program check occurred while the system was verifying that the caller could access each byte of a multiple DOM-id parameter list.
10	An unauthorized caller tried to delete a WTO that was not under the caller's ASID and TCB.

System Action: The DOM request is ignored. The DOM parameter list and the failing message id are shown in the dump. Any other message ids in the parameter list were also ignored.

Programmer Response: Make sure that the correct message id is being used in the DOM request or make sure that the DOM issuer is in the same job step as the WTOR issuer.

Problem Determination: Table I, items 1, 2, 5a, 16, 23, 29.

15B

Explanation: SVC 91 was issued by an unauthorized program. The error was detected after execution of a TESTAUTH macro instruction. The program that issued SVC 91 was not an APF authorized program, or was not in supervisor state, or was not executing under storage protection key 0-7.

System Action: The program that issued restricted SVC 91 terminates abnormally.

Programmer Response: Correct the program so that SVC 91 is issued only by an authorized system routine.

15C

Explanation: An SVC 92 was issued; EXCP processing found that the program issuing the request was not running in supervisor state.

System Action: The task is abnormally terminated.

Programmer Response: Ensure that the user is authorized for use of SVC 92 (XDAP) or issue SVC 0 (EXCP).

Problem Determination: Table I, items 1, 2, 11 and 29 if stopped on the address of ABTERM entry; otherwise, items 16 and 29.

15D

Explanation: The user specified an invalid data area to SVC 93 (TGET/TPUT).

System Action: The user is abnormally terminated, and processing continues.

Programmer Response: Supply a data area for access by the program invoking SVC 93. A TPUT request requires read access; a TGET request requires write access.

Problem Determination: Table I, items 15, 16, 29.

15F

Explanation: The system resources manager was invoked incorrectly. During processing of a SYSEVENT, one of several possible error conditions was discovered. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
04	Invalid ASID, SYSEVENT code, or input parameter.
08	Program was not authorized to issue the SYSEVENT.
0C	A page fault occurred in referencing a data area assumed to be fixed.
10	Protection check. The program did not have the correct storage key for storing in the parameter data area.
14	SRM lock held prior to SRM invocation.
18	See the explanation for system completion code 25F. (SRM's recovery routine converts this reason code to completion code 25F.)
1C	A SYSEVENT TRANSWAP (or REQSWAP) with an ECB was issued when the maximum allowed number of pending TRANSWAPs (or REQSWAPs) with ECBs, had already been reached.

System Action: The program issuing the SYSEVENT in which the error was detected is terminated.

Programmer Response: Determine whether the error was the result of an invalid invocation of the system resources manager by a problem program. If the system resources manager was invoked by a system component and the error recurs, see Problem Determination.

Problem Determination: Table I, items 1, 4, 5a, 18, 29.

169

Explanation: The error occurred during the execution of IMGLIB with the CLOSE option. The DCB address passed to IMGLIB in register 1 was invalid. This system completion code is accompanied by message IEC919I. Message IEC919I identifies the terminated task and explains the return code in register 15.

Programmer Response: Make sure that the IMGLIB CLOSE macro instruction is correctly coded. Make sure that the DCB address passed to IMGLIB is the same address returned to your program by a previous IMGLIB OPEN, and that your program has not issued a prior IMGLIB CLOSE specifying this DCB address. Correct the error, and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29. Table II, format 3.

16B

Explanation: The error occurred during execution of a MODESET macro instruction. The control program found that the parameter list created from the macro instruction was invalid.

Programmer Response: Correct the specification of the macro instruction or the program errors that incorrectly modified the parameter list. Recompile, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 23, 29.

16D

Explanation: The error occurred during processing of one of the extended SVC routers (ESR) for SVCs 109, 116, or 122. An invalid ESR code was detected in register 15.

This error occurred because:

● The function invoked was not included in the system.

● The ESR code passed by SVC 109, 116, or 122 has no related function.

Programmer Response: In the first case, make sure that the item being invoked has been included in the system. In the second case, correct the ESR code, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

16E

Explanation: The control program requested that a DEBCHK function be performed on a data extent block (DEB) obtained from the DCB passed by the program. That function could not be completed. Register 15 contains a hexadecimal reason code.

Programmer Response: The response depends upon the code in register 15:

Reason Code	Explanation
04	The indicated DEB pointer is not in the DEB table. A DEB whose address is not in the DEB table cannot be verified, deleted, or purged.
08	Invalid TYPE specified (macro not issued). Acceptable types are ADD, DELETE, VERIFY, and PURGE.
10	DEBDCBAD does not point to DCB. It is assumed that the DCBDEBAD field of the DCB points to the DEB, but the DEBDCBAD field of the DEB must point to the DCB when TYPE = VERIFY, ADD, or DELETE.
14	AM value does not equal DEBAMTYP value. When a DEB pointer is added to the table, the access method (AM) value, if given, is placed in the DEBAMTYP field of the DEB. If no AM value is coded, a 0 is inserted in the field. Subsequent DEBCHKs issued to verify or delete that DEB pointer must either specify the same AM value or omit the operand. When the operand is omitted, no comparison is made.
18	DEB not on TCB chain for TYPE = ADD. Before the DEB pointer can be added to the table, the DEB itself must be queued on the current TCB DEB chain (the TCBDEB field points to the first DEB in the chain.)
1C	DEBAMTYP or DEBTBLOF = 0 for TYPE = ADD. Values other than 0 indicate a pointer to this DEB already exists in the DEB table.
20	DEB table contains 32760 bytes and TYPE = ADD. The current DEB table does not have space for this new DEB pointer. To increase the table size by an increment of 24 would cause the table to exceed its maximum size.

171

Explanation: The real storage manager was invoked with a request for a PGFIX, PGFREE, PGLOAD, PGOUT, or PGANY service; the request was illegal or invalid. The request is considered illegal if the storage range specified by the input parameters does not exist, (a GETMAIN was not issued for it).

The following register contents are supplied for diagnostic purposes:

Register 11	If LIST-FORMAT entry, address of the user's first virtual subarea list (VSL) entry. If REGISTER-FORMAT entry, register 11 contains 0.
Register 12	Address of the input event control block (ECB). If no ECB address was supplied, register 12 contains zero.

ABEND

Registers 13-14   The VSL entry in error. See *OS/VS2 Data Areas* for a description of the VSL.

Register 15   Hexadecimal error code as follows:

Error Code	Explanation
04	The page services routine detected the error; and the user did not obtain the VSL storage using a GETMAIN macro instruction.
10	The input VSL or ECB failed to pass the page services interface validity check.

Possible errors are:

- Input parameter error in virtual subarea list (VSL):

    - VSL not on a fullword boundary.

    - VSL not in fixed storage.

    - During a PGFREE, VSL specified freeing the page containing the VSL, but the fix count of the page was one.

    - Undefined or conflicting options flags.

- End address of range not greater than beginning address.

- An option was specified that is not supported by MVS. These are RSAOPT and ECBIND.

    - VSL is store-protected from the caller.

- Input parameter error on ECB:

    - ECB not on fullword boundary.
    - ECB is store-protected from caller.
    - ECB not specified for PGFIX.
    - ECB specified for PGOUT or PGANY.

Programmer Response: Probable user error. Correct the program, and rerun the job. If PGFIX or PGFREE was requested and the call was not authorized, obtain proper authorization from the installation manager, and rerun the job.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

172

Explanation: EXCP processing found that an unauthorized user has issued SVC 114 (EXCPVR). For a user to be authorized, one of the following must true:

- The program issuing the request is running under system protection key 0-7.

- The program issuing the request is in supervisor state.

- The SVC 114 authorization bit is set in the JSCB.

- The SVC 114 authorization bit is set in the DEB.

System Action: The task is abnormally terminated.

Programmer Response: Ensure that the user is authorized for use of SVC 114 (EXCPVR), or issue SVC 0 (EXCP).

Problem Determination: Table I, items 1, 2, 11 and 29 if stopped on the address of ABTERM entry; otherwise, items 16, 29.

177

Explanation: The TESTAUTH routine detected invalid input parameters. One of the following invalid parameters was detected:

- An invalid bit mask in register 1.

- RBLEVEL = 2 but RB is the last RB chained or out of range.

- The function code is greater than 256 or out of range.

- The authorization code is greater than 256 or out of range.

Programmer Response: Make sure that the parameter list to TESTAUTH is valid. The only valid IBM-supplied authorization or function code is one. If the user's system

supplied an authorization matrix, check to see that the function and authorization codes fall within the range of the user-defined codes.

Problem Determination: Table I, items 1, 5a, 15, 16, 29.

178

Explanation: The error occurred during the execution of an RU or RU form GETMAIN macro instruction for an authorized program. The program requested virtual storage that requires more real storage than is available.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the program issuing the GETMAIN macro instruction is not asking for unnecessarily large amounts of real storage. If this code occurs frequently, installation action is required to increase the available real storage.

Problem Determination: Table I, items 2, 11, and 29.

179

Explanation: During initial request processing, an error was discovered in the parameters associated with an I/O request. At the time of the ABEND, register 3 contains a pointer to the IOMB and register 2 contains a hexadecimal reason code:

Reason Code	Explanation
04	Error return from SETLOCK macro.
08	Invalid AMB or IOMB.
0C	Invalid CPA.
10	Error return from page fix.
14	Invalid buffer address. This error may appear as reason code 10.
18	Invalid addresses in chain CCW's.
1C	Blocksize is not 4K for track overflow.

System Action: Processing continues.

Programmer Response: Make sure that the problem program did not incorrectly modify the control block structure or associated parameters. After making necessary corrections, recompile, and execute the job step again.

ABEND

17A

Explanation: The error occurred during execution of an EVENTS macro instruction for either a table creation or deletion. The control program found that an invalid EVENTS table address was specified.

Programmer Response: Make sure an EVENTS macro was issued to construct the EVENTS table in question. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

17B

Explanation: The PURGEDQ SVC was issued and an invalid ASID was specified on the ASID= parameter. The specified address space does not exist.

Programmer Response: A supervisor state, key 0, or authorized program has specified an invalid ASID parameter as input to the PURGEDQ SVC routine. Check for invalid coding of PURGEDQ input.

Problem Determination: Table I, items 1, 5a, 15, 16, 29.

17D

Explanation: The error occurred during execution of an EVENTS macro instruction for a wait request. The control program found that an invalid EVENTS table address was specified.

Programmer Response: Make sure an EVENTS macro was issued to construct the EVENTS table in question. Correct the error and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

182

Explanation: RACF was not successful at establishing an ESTAE recovery environment when processing the RACHECK SVC.

System Action: The task is terminated.

Programmer Response: Register 15 contains the nonzero return code passed back from ESTAE. Correct the indicated error.

Problem Determination: Table I, items 3, 4, 13, 16, 33. Also refer to the publications *OS/VS2 MVS System Programming Library: Supervisor* and *OS/VS2 MVS Supervisor Services and Macro Instructions*, for a description of ESTAE return codes.

183

Explanation: RACF was not successful at establishing an ESTAE recovery environment when processing the RACINIT SVC.

System Action: The task is terminated.

Programmer Response: Register 15 contains the nonzero return code passed back from ESTAE. Correct the indicated error.

Problem Determination: (See code 182.)

185

Explanation: RACF was not successful at establishing an ESTAE recovery environment when processing the RACDEF SVC.

System Action: The task is terminated.

Programmer Response: Register 15 contains the nonzero return code passed back from ESTAE. Correct the indicated error.

Problem Determination: (See code 182.)

18B

Explanation: The common VTOC access facility (CVAF) encountered one of the following conditions:

● A structure error in the VTOC index.

● The CVAF return code is not consistent with the CVAF status code.

System Action: A dump is written to SYS1.DUMP, and an error record is written to SYS1.LOGREC. The task is not terminated. If CVAF encountered a structure error in the VTOC index:

● Message IEC606I is issued.

● CVAF disables the VTOC index.

● If the caller of CVAF requests a read or write of a format-1 or 4 DSCB, CVAF performs the function and returns a code of yes to its caller.

● If the caller of CVAF requested a CVAF function that requires the VTOC index, CVAF returns an error return code to its caller. This code may cause the caller to terminate.

If the CVAF return code is not consistent with the CVAF status code, CVAF returns an I/O error return code to its caller. This code may cause the caller to terminate.

Programmer Response: If a structure error in the VTOC index was encountered and the program terminated, it may be rerun if it does not depend upon the VTOC index. Execute the IEHLIST utility to list the VTOC and the disabled VTOC index. An inconsistency between the CVAF return code and status code indicates a logic error in CVAF. You may not be able to run the job successfully until the problem is corrected.

Problem Determination: Table I, items 2, 13, 18, 25b, 29, and 33.

1FA

Explanation: The error occurred during execution of a data management request for a spool data set. JES2 found one of the following:

- The data management control blocks are no longer valid

- The JES2 UBUF control block is no longer valid.

Programmer Response: Probable use error. Verify that the terminated program did not modify the data management control blocks or the JES2 UBUF control block. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

1FB

Explanation: JES3 module IATDMEB issued one of the following messages because of the indicated error:

Message	Error
IAT1601	The user is trying to perform I/O to a data set that is closed.
—	An invalid IATYDAT was found on the data buffer block (DAT) queue.

JES3 module IATSIAD issued one of the following messages because of the indicated error:

Message	Error
IAT1602	(1) The IATYDSB and IATYSVT control blocks were not valid, or (2) the IATYDAT address is not within a correct address range.
IAT1603	A JES3 module passed, as a parameter to IATDMEB, a code that requested an invalid data management function.
IAT1604 and IAT1605	A start I/O operation in the user's address space returned an error code.
IAT1606 and IAT1608	IATDMEB found an invalid unprotected buffer address.
IAT1607	IATDMEB could not allocate an unprotected buffer for a POINT operation.

JES3 module IATDMEB or IATSIAD issued one of the following messages because of the indicated error:

Message	Error
IAT1609	One of the following occurred:

- When IATDMEB or IATSIAD attempted to set up a data management WAIT, the module found a data management function already waiting.

- When IATDMEB or IATSIAD attempted to set up a subsystem interface WAIT, the module found a subsystem function already waiting.

JES3 module IATSIOR, IATSIAD, or IATSICC issued one of the following messages because of the indicated error:

Message	Error
IAT6700	During unallocation, when attempting to update the JDSENTRY, the module could not find a job data set (JDS) entry.
IAT6702	During OPEN processing, an error occurred in the spool record address allocation routine.
IAT6703	When the module attempted communication, a catastrophic error occurred in the global processor.
IAT6704	OPEN could not allocate a user address space buffer to a data set.
IAT6706	No storage was available for the global interface for the external writer data set.
IAT6707	At unallocation of the external writer data set, the module could not find an output scheduling element (OSE).
IAT6708	A permanent I/O error occurred on an output data set.
IAT6711	A SSISERV macro sent invalid data to the global processor; the request could not be serviced.
IAT6716	A SYSOUT data set, which several tasks were processing, failed to open properly.

JES3 module IATDMDM found an invalid IFGACB, IATYDSS, or IATYDSB control block. A message may not be issued in this case.

System Action: For IATDMEB, the system terminates the job step. For IATSIOR, IATSIAD, or IATSICC, the system terminates the user address space.

Programmer Response: If the problem occurred in an I/O operation, correct any I/O errors in your program. Then rerun the job.

If not, notify your system programmer, supplying a SYSABEND dump.

Problem Determination: Table I, item 5A.

If IATDMEB caused this system completion code, register 15 in the dump points to a copy of the data set block (DSB). Offset X'8A' into the DSB (field DSBMSGCD) contains the message code that IATDMEB passed to the ABEND routines. Use this message code to determine the cause of the error. For example, for I/O operations, the message code identifies which issuance of the IATXSIO macro resulted in the error.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

1FC

Explanation: A system error occurred during the execution of the SVC first level interrupt handler. In an attempt to recover the system, the supervisory control program has abnormally terminated the task that issued the SVC request.

System Action: The active task abnormally terminated.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 1, 3, 5b, 15 16, 29.

1FD

Explanation: An error was detected while MF/1 was sampling data about the state of the system.

System Action: All MF/1 measurement collection is terminated. As a result of this error, reinstatement of MF/1 may be attempted. If the reinstatement is successful, MF/1 will continue under the control of the original options. If the reinstatement fails subsequently, MF/1 is terminated.

Programmer Response: If the error persists, obtain a dump.

Problem Determination: Table I, items 5b, 16, 18, 29.

200

Explanation: EXCP processing encountered one of the following errors when checking the validity of an I/O request:

● The storage protection key of the input/output block (IOB), the event control block (ECB), or the data control block (DCB) was not the same as the protection key value in the caller's request block (RB).

● A segment exception occurred when EXCP processing referenced the DCB address field in the IOB passed by the caller.

● A segment exception occurred when EXCP processing referenced the data extent block (DEB) address field in the DCB.

Note: A segment exception can occur if control blocks are prematurely freed or overlaid or if the data set is not open.

System Action: The task is abnormally terminated.

Programmer Response: Verify that the data set was opened and that the control blocks were correctly modified by the problem program. If the EXCP access method is being used, make sure that the IOB and the ECB are correctly built. After making corrections, execute the job step again.

If an abnormal termination dump is available, the TCB field TCBEXCPD (at offset C0) points to the EXCP problem determination area. The items in the problem determination area of greatest interest are:

● Offset 4 contains a copy of the program status word (PSW) when the error occurred.

● Offset E contains the interruption code when the error occurred.

● Offset 10 contains a copy of the register contents when the error occurred.

● Offset 50 contains the translation exception address, if applicable.

● Offset 54 contains the contents of the request queue element (RQE), if allocated, when the error occurred.

Problem Determination: Table I, items 1, 3, 5b, 15, 19, 29.

201

Explanation: The error occurred during execution of a WAIT macro instruction.

The macro expansion contained an invalid event control block (ECB) address or the program issuing the WAIT macro instruction was not running under the same storage protection key as the storage containing the ECB.

Programmer Response: Make sure that the address specified for the ECB is a valid virtual storage address, that it was not incorrectly modified, and that it is aligned on a fullword boundary.

Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 19, 29.

202

Explanation: The POST macro instruction encountered an error while processing an ECB (event control block).

The control program found an invalid request block (RB) address in the 3 low-order bytes of the ECB specified by the problem program.

The address of the request block is placed in the event control block during execution of a WAIT macro instruction. This address must remain in the ECB until a POST macro instruction places a post code or zeros in the ECB. The request block (RB) is a control block used for internal purposes by the control program.

Programmer Response: Make sure that the contents of the ECB were not modified after the

WAIT macro instruction and before the POST macro instruction.

Correct the error and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

206

Explanation: The error occurred during execution of a LINK, LOAD, XCTL, DELETE, or SYNCH macro instruction. The control program detected one of these errors:

● The address of the parameter list specified in the macro instruction was erroneous.

● The address of the name (if EP or EPLOC was specified), or the address of the directory entry (if DE was specified) was erroneous.

● The parameter list pointed to by the macro instruction contains a nonzero value in an undefined field.

● The caller is not authorized to use the options specified in the macro instruction.

● The LOAD macro instruction includes both the ADDR = addr parameter (which specified an explicit LOAD) and the GLOBAL = YES parameter.

● The LOAD macro instruction includes the ADDR = addr parameter, but addr is not a doubleword boundary.

● A request for an alias was made. However, the contents directory entry (CDE) that was found for the major name was already an alias.

Message IEA807I accompanies this completion code.

Programmer Response: Check for program errors that incorrectly modify the parameter list. If the DE operand is specified, check that the macro instruction is correct for the attributes of the requested module. Ensure that the address specified in the EP, EPLOC, or DE operand is not incorrectly specified or modified. Ensure

that an alias is not being requested for a major name that is already an alias. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

20B

Explanation: The error occurred in the TIME service routine. No usable time-of-day clock was available in the system from which to obtain the correct time.

Programmer Response: None. Probable hardware error with the system time-of-day clocks.

Problem Determination: Table I, items 18, 30.

20D

Explanation: This completion code is found only in jobstep tasks. It indicates that an error occurred while a subtask was operating in STEP = MUST COMPLETE status, or that a subtask issued an ABEND macro with the STEP option. As a result, the abnormal termination was extended to encompass the entire jobstep.

Note: The original completion code is found in the TCB of the subtask that caused the error.

System Action: The jobstep tree is terminated.

Programmer Response: Correct the original error.

Problem Determination: Table I, items 5, 16, 19, 29.

20E

Explanation: The error occurred during execution of the SPIE macro instruction. The PIE address is invalid.

Programmer Response: Correct the PIE address specified, ensuring that it is a valid virtual storage address assigned to the job step. Execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

20F

Explanation: A module not in supervisor state requested use of SVC 15 in IOS. SVC 15 is intended only for supervisor state modules. No other requestor is authorized.

Operator Response: Notify the installation manager or system programmer immediately. Hold all output relevant to the job.

Programmer Response: Check for possible user error.

212

Explanation: An error occurred during the execution of SVC 18; the error could not be attributed to invalid user input. This system completion code is accompanied by message IEC909I. Message IEC909I identifies the terminated task and explains the return code in register 15.

System Action: Message IEC909I is issued · indicating whether a dump was written to the SYS1.DUMP data set.

Programmer Response: Make sure that the BLDL or FIND macro instruction is correctly coded, and that the parameter list and control blocks involved are not modified by your program during the execution of SVC 18.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 18, 29.

213

Explanation: The error occurred during execution of an OPEN macro instruction for a direct access device. This system completion code is accompanied by message IEC143I. Message IEC143I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC143I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

214

Explanation: The error occurred during execution of a CLOSE macro instruction for a data set on magnetic tape. This system completion code is accompanied by message IEC210I. Message IEC210I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC210I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

215

Explanation: The error occurred during the execution of SVC 21 (STOW). This system completion code is accompanied by message IEC910I. Message IEC910I identifies the terminated task and explains the return code in register 15.

System Action: The STOW task recovery routine has been invoked. If the calling task and the DCB are in the same region, the system attempts to trace the DCB to the SYS1.TRACE data set.

Programmer Response: For return codes 01, 02, and 03, verify that register 1 contained the correct DCB address before issuing SVC 21 and that the DCB was not overlaid since being opened. For return code 04, verify that register 0 contained the correct parameter list address and that the list is within the caller's region before SVC 21 is issued.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29. Table II, format 3.

218

Explanation: During execution of DEVTYPE (SVC 24), an error occurred; it could not be attributed to invalid user input. This system completion code is accompanied by message IEC913I. Message IEC913I identifies the

terminated task and explains the return code in register 15.

Programmer Response: Make sure that the DEVTYPE macro instruction is correctly coded, ABEND and that the areas passed to DEVTYPE are not freed by your program during the execution of SVC 24.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 18, 29.

219

Explanation: An error during execution of SVC 25 could not be attributed to invalid user input. This system completion code is accompanied by message IEC915I. Message IEC915I identifies the terminated task and explains the return code in register 15.

System Action: Message IEC915I indicates whether the system writes a dump to the SYS1.DUMP data set.

Programmer Response: Make sure that your program does not alter the DCB or IOB during the execution of SVC 25.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 18, 29.

222

Explanation: The operator or an authorized TSO user with operator capability canceled the job.

The job may have been canceled because it appeared to be in a loop or because it was waiting for resources that were not immediately available (for example, direct access space or devices). Perhaps the job was canceled to correct a system interlock (for example, two tasks enqueued on a resource without an intervening dequeue). Or the job may have violated a procedure established for your installation. The operator or an authorized TSO user with operator capability can have many reasons for canceling a job. Your program may contain no errors.

System Action: The system terminates the job; the system may write a dump, even though a

dump was not requested, depending on which system routine had control.

Programmer Response: Find out why the operator or the authorized TSO user canceled your job; make any necessary corrections. If you want a dump but a dump was not written, resubmit the job and ask the operator to cancel it using the command CANCEL jobname, DUMP.

Problem Determination: Table I, items 1, 2, 5a or b, 16, 23, 29.

228

Explanation: During execution of an EXTRACT macro instruction, the location of the input parameter list was invalid. (The input parameter list, ordinarily created through expansion of the standard or MF = L form of the EXTRACT macro instruction, describes the function to be performed.) The starting address for the parameter list was not on a fullword boundary or within the area of storage assigned to the job step.

Programmer Response: Correct the program so that the address of the input parameter list is valid, recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

22A

Explanation: The error was detected during execution of an ATTACH macro instruction. The issuer of the ATTACH macro instruction specified the GSPV, GSPL, SHSPV, or SHSPL parameter with a subpool ID greater than 127. Subpools above 127, that is, subpools 128 through 255, are supervisor subpools; a problem program is not permitted to use these subpools.

System Action: The system terminates the task.

Programmer Response: Change the macro instruction to specify a problem program subpool (1 through 127). If the macro instruction is specified correctly, check for program errors that incorrectly modify it.

Recompile the program and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29. Table II, format 2: trace option keyword(s) - (TRACE = SVCP), event keyword(s) - (SVC = 42,END).

22C

Explanation: The error occurred during execution of a CHAP macro instruction.

The address of the fullword specified in the second operand of the CHAP macro instruction is invalid for one of the following reasons:

● It was not a multiple of 4.

● The addressed virtual storage has not been allocated.

● The storage key of the fullword does not match the protection key of the issuer of the CHAP macro.

This fullword contains the address of the TCB for the subtask whose priority was to be changed.

Programmer Response: Change the CHAP macro instruction to specify a valid fullword address. Ensure that this fullword will contain the address of the TCB when the CHAP macro instruction is executed. Also, ensure that the problem program does not incorrectly modify the specification. Recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29. Table II, format 2: trace option keyword(s) - *TRACE = SVCP*, event keyword(s) - *SVC = 44,END*.

22D

Explanation: The error occurred during execution of an overlay program.

The overlay supervisor found an invalid address in the segment table or the entry table. The address pointed to a location outside the boundaries of the virtual storage assigned to the job step.

Programmer Response: Check for program errors that caused the segment table or entry table to be incorrectly modified. Correct the program, link-edit, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 9, 16, 29.

22E

Explanation: The error occurred in the TTIMER service routine. No usable time-of-day clock was available in the system from which to obtain the correct time.

Programmer Response: None. Probable hardware error with the system time-of-day clocks.

Problem Determination: Table I, items 18, 30.

22F

Explanation: The system has no usable combination of time-of-day clock and clock comparator (REAL or WAIT type request) or no usable CPU timer (TASK type request).

Programmer Response: None. Probable hardware error with the system clocks.

Problem Determination: Table I, items 18, 30.

230

Explanation: The error occurred during execution of a DEQ macro instruction.

An invalid length was specified for the name representing a resource. The length was specified in the rname length operand of the DEQ macro instruction, was supplied by the assembler program, or was contained in the byte immediately preceding the resource name.

Programmer Response: Correct the invalid macro instruction or the program errors that incorrectly modified the length. Recompile the program, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

233

Explanation: Invalid parameters have been passed to SVC dump. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
04	The address of the parameter list is zero.
08	The parameter list is not a valid SVC dump or snap parameter list for MVS.
0C	The caller-supplied data set is on an unsupported device.
10	In a user-supplied storage range, the start address is greater than or equal to the end address.
14	The user-supplied data for HDR = or HDRAD = is greater than 100 characters.
18	The 4K SQA buffer has been requested (BUFFER = YES) but it is not serialized by setting to one the high order bit in the CVTSDBF.
1C	The parameter list or what it points to is in the 4K SQA buffer.
20	The user-supplied DCB address is invalid, or the DCB is not open.
28	An ASID specified in the ASIDLST or ASID parameter is syntactically invalid. The ASID is less than zero, or greater than the maximum value.
38	The caller specified the 4K SQA buffer (BUFFER = YES) but an SVC dump was already in progress.

System Action: The system abnormally terminates the caller and gives control to a recovery routine, if it had been specified.

Operator Response: Inform the system programmer.

Programmer Response: Correct the invalid parameters, and reissue the SDUMP macro instruction.

Problem Determination: Table I, items 5ab, 7c, 13, 19, 29.

ABEND

235

Explanation: An error occurred during processing associated with SVC 53, which obtains and releases exclusive control of a resource associated with a BDAM data set. The task recovery routine for this SVC determined that a control block required as input to SVC 53 was not in the user's region and/or key. This system completion code is accompanied by message IEC902I. Message IEC902I identifies the terminated task and the explains the return code in register 15.

System Action: Message IEC902I specifies a cleanup code, which indicates the results of the cleanup of resources attempted by the recovery routine.

Programmer Response: Insure the validity of the control block from which the address of the block in error was taken. For example, make sure that the BLKREF address specified in the RELEX macro is valid and in the correct format and that the DCB address passed is valid. If a RELEX macro was not issued, make sure that the IOB related to the exclusive control request is correct and contains the correct DECB address (IOBECBPT) and DCB address (IOBDCBPT).

In addition, check the DCBEBAD field in the DCB to ensure that it contains the correct DEB address, and that the DEB (DEBDCBAD) points back to this DCB. If the next IOB is found to be in error, find the entry in the read exclusive list associated with the requested block and ensure that the RDXIOBUQ field is correct.

Problem Determination: Table I, items 4, 5b, 16. Table II, item 3.

237

Explanation: The error occurred at an end-of-volume. This system completion code is accompanied by message IEC023I. Message IEC023I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC023I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 19, 29.

238

Explanation: The error occurred during execution of an ENQ macro instruction.

An invalid length was specified for the name representing the resource. This length was specified in the rname length operand of the ENQ macro instruction, was supplied by the assembler program, or was contained in the byte immediately preceding the resource name.

Programmer Response: Correct the invalid macro instruction or the program errors that incorrectly modified the length. Recompile the program, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

239

Explanation: An error occurred during the processing associated with SVC 57, which frees a buffer or extends the unscheduled text (via the FREEDBUF macro issued either by the user or the system). The BDAM task recovery routine for this SVC determined that a control block required as input to SVC 57 was not in the user's region and/or key. This system completion code is accompanied by message IEC902I. Message IEC902I identifies the terminated task and explains the return code in register 15.

System Action: Message IEC902I specifies a cleanup code, which indicates the results of the cleanup of resources attempted by the recovery routine.

Programmer Response: Insure the validity of the control block from which the address of the block in error was taken. The DECB and DCB were specified in the FREEDBUF macro as input to the SVC. Make sure that the DCBBUFCB field in the DCB contains the correct address of the buffer control block and the DCBDYNB field contains the correct address of the unscheduled list (if address space was virtual). The BCB or USL contain the address of the next IOB waiting to get a buffer,

if one was not available. Ensure that this address has not been overlaid. Make sure also that the input ·DECB contains the address of the buffer being freed (DECAREA field) and, if a buffer was requested for keys also, that the DECKYADR field contains the correct address.

Problem Determination: Table I, items 4, 5b, 16, 29. Table II, format 3.

23E

Explanation: During execution of a DETACH macro instruction, one of the following errors was detected:

● The parameter passed to DETACH in register 1 was not a fullword address

● The storage key of that address did not match that of the issuer of the DETACH.

● The parameter contained in the addressed fullword of the issuer was not the address of a subtask of the issuer of the DETACH.

System Action: The system abnormally terminates the issuer of the DETACH.

Programmer Response: Change the DETACH macro instruction to specify a valid address of the TCB, and make sure that it was not incorrectly modified by the problem program. Recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

23F

Explanation: An unauthorized user attempted to read or write a checkpoint data set.

System Action: The system abnormally terminates the task and issues message IEC954I.

Programmer Response: See message IEC954I for further details.

240

Explanation: The error occurred during execution of a RDJFCB macro instruction. This system completion code is accompanied by

message IEC155I. Message IEC155I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC155I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

244

Explanation: During execution of SYNADAF, the system found that the register savearea provided by the user was invalid.

Programmer Response: Make sure that when SYNADAF (SVC 68) is issued, register 13 points to a register savearea within the user's region. If SYNADAF is issued from a SYNAD routine, make sure that register 13 has not been altered since the SYNAD routine was entered, and that register 13 contained the address of a valid register savearea when the last data management macro was issued.

Correct the error, and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

245

Explanation: An error during execution of SVC 69 (BSP) could not be attributed to invalid user input. This system completion code is accompanied by message IEC917I. Message IEC917I identifies the terminated task and explains the return code in register 15.

System Action: The backspace task recovery routine was invoked. Low real storage and the caller's region have been dumped to the SYS1.DUMP data set. The caller's input register 1 and DCB have been written to the SYS1.LOGREC data set.

Programmer Response: Make sure that the BSP instruction is correctly coded, and that the DCB and IOBs and/or ICBs for the data set being processed are not overlaid by your program during the execution of SVC 69.

Problem Determination: Table I, items 1, 2, 3, 7ab, 11, 13, 15, 18, 29.

247

Explanation: An error occurred in either the Graphics Access Method/System Product (GAM/SP), or the operating system. This completion code appears when an invalid condition is detected by the GAM/SP buffer management routine, IGC0007A.

System Action: A message appears on the system console that identifies the cause of the error. In addition, GAM/SP writes a record to the SYS1.LOGREC data set and produces a dump on the system dump data set.

Programmer Response:

1. Check for messages identifying the cause of the error. If these are GAM/SP messages, (that is, the message number is of the form 'GABnnn'), they are described in *IBM Graphics Access Method/System Product: Messages and Codes.*

2. Get a listing of the system dump.

3. Contact IBM for programming support.

251

Explanation: During execution of SETPRT, the DCB exit list was determined to be invalid. This system completion code is accompanied by message IEC918I. Message IEC918I identifies the terminated task and explains the return code in register 15.

System Action: The system issues message IEC918I.

Programmer Response: Make sure that the last entry in the exit list has a high-order bit set to B'1'. Make sure that any FCB image entry in the exit list points to a valid FCB image, that the image is within the user's region, that any FCB image has a valid length field, and that it is terminated by an end-of-FCB image indicator. Correct the error, and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

253

Explanation: Because one or more errors occurred during SMF processing, the system terminated SMF recording.

System Action: The system terminates the SMF writer task and releases the resources used by SMF.

Operator Response: Notify the system programmer. If SMF recording is essential for the system, restart the system as soon as the problem is corrected.

Programmer Response: Check the error message(s) and the SVC dump issued as a result of the previous abnormal termination(s).

Problem Determination: Table I, items 2, 16, 29.

25F

Explanation: A system failure (machine check or random store, for example) has destroyed data used by the system resource manager in controlling this address space.

System Action: If the terminated task is the master scheduler command processor, and the system resource manager has been processing a NEWIPS sysevent, the new IPS may have been lost.

If the system measurement facility (MF/1) or resource measurement facility (RMF) has been terminated, accumulated service and workload measurements may not be valid.

In all other cases, data pertaining to the address space's swap status or performance characteristics may have been lost and the system resource manager may no longer be able to control the address space according to its previously assigned performance specification.

The system does the following:

● Writes a record to SYS1.LOGREC describing the error

● Inserts 'worst case' substitute values in place of the lost address space characteristics in

case the STAE routine or the terminated
task requests retry

● Terminates the controlling task of the
address space or system component affected
by the data loss

Programmer Response: Resubmit the job, or
restart the terminated function.

Problem Determination: Table I, items 1, 2, 4,
5a, 18, 29.

260

Explanation: The STAX SVC detected an
invalid user parameter.

System Action: One of the following occurs:

● If one exists, the user's recovery routine
receives control.

● The user's TCB is abnormally terminated.

Programmer Response: The issuer of the STAX
can do one of the following:

● Continue processing without the STAX
environment.
● Correct the parameters, and reissue STAX.

These actions are only possible if the caller has
an error recovery exit that will receive control as
a result of the ABEND.

Note: Examples of conditions that could cause
the ABEND are:

● Input or output buffer size greater than
32K.
● Invalid input buffer address.
● Both DEFER = YES and DEFER = NO
specified.

269

Explanation: An error during execution of
IMGLIB could not be attributed to invalid
input to IMGLIB. Register 15 contains a return
code that indicates whether the system wrote a
dump to the SYS1.DUMP data set.

System Action: The IMGLIB task recovery
routine tried to write a dump to the
SYS1.DUMP data set; the result is indicated by
the return code in register 15. See message
IEC920I for an explanation of the return codes.
Additional diagnostic information was written
to the SYS1.LOGREC data set.

ABEND

Programmer Response: Make sure that the
IMGLIB macro instruction is correctly coded.

Problem Determination: Table I, items 1, 3, 5a,
15, 16, 18, 29.

26D

Explanation: An error was detected in
communications between MF/1 and the system
resources manager while attempting to initialize,
collect, or reinitialize workload activity
measurements. Register 15 contains the return
code from the system resources manager in the
following byte location, depending on the
function attempted by MF/1:

Byte   Attempted Function

0   N/A.

1   Reinitialization of workload activity measurement
      collection after a change in the installation
      performance specification (IPS).

2   Collection of workload activity measurements.

3   Initialization of workload activity measurements.

System Action: The system terminates all of the
MF/1 measurement collection. As a result of
this error, reinstatement of MF/1 may be
attempted. If the reinstatement is successful,
MF/1 continues under the control of the
original options. If the reinstatement fails,
MF/1 is terminated.

Programmer Response: If the error persists,
obtain a dump.

Problem Determination: Table I, items 4, 5a, 16,
18, 29.

271

Explanation: The user is not authorized to request a PGFIX or PGFREE service.

System Action: The requested service is denied.

User Response: Change the program, or obtain authorization from installation management.

Problem Determination: Table I, items 1, 5a, 16, 25c, 29.

279

Explanation: During I/O request termination processing, an error was discovered in the parameters associated with an I/O request. At abnormal termination, register 3 contains a pointer to the IOMB and register 2 contains a hexadecimal reason code:

Reason Code	Explanation
4	Invalid BUFC. The virtual storage originally assigned to a BUFC no longer belongs to the user.
14	An invalid buffer address was discovered while attempting I/O (a protection check occurred).

System Action: Processing continues.

Programmer Response: Make sure that the problem program did not incorrectly modify the control block structure or associated parameters. Make corrections, recompile, and execute the job step again.

Problem Determination: Table I, items 1, 2, 4, 5a, 18, 29.

27B

Explanation: An error occurred in the FESTAE issued by PURGEDQ while attempting to establish the recovery environment for PURGEDQ processing. The error was not caused by any action of the current task, but was a result of an environmental error.

System Action: The task that issued the PURGEDQ macro instruction is abnormally terminated.

Operator Response: Rerun the job.

Problem Determination: Table I, items 5a, 16, 18, and 29.

282

Explanation: An error was detected by RACF in the parameters passed to RACF for RACHECK SVC processing.

System Action: The task is terminated.

Programmer Response: Register 15 contains a hexadecimal reason code:

Reason Code	Meaning
04	Invalid parameter list length.
10	APF authorization, or system key 0-7, or supervisor state required for CSA, LOG, PROFILE, or ACEE option.
14	Invalid ATTR option specified.
18	Volume serial required but not supplied.
1C	Inconsistent PROFILE/ENTITY flag settings.
20	No resource name or PROFILE specified.
24	No CLASS name specified.
2C	Invalid LOG option specified. (This code is used only through RACF version 1.4.)
30	Volume serial specified for class other than DATASET.

Identify and correct the indicated error.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

283

Explanation: An error was detected by RACF in the parameters passed to RACF for RACINIT SVC processing.

System Action: The task is terminated.

Programmer Response: Register 15 contains a hexadecimal reason code:

Reason Code **Explanation**

04 Invalid parameter list length.

14 ENVIR data specified was invalid.

18 USERID specified did not conform to length requirements.

1C PASSWRD specified did not conform to length requirements.

20 GROUP specified did not conform to length requirements.

24 NEWPASS specified did not conform to length requirements.

28 OIDCARD specified had length field = 0.

30 Invalid combination of ENVIR keyword data and USERID, PASSWRD, NEWPASS, START, OIDCARD, TERMID, or APPL specified.

34 Invalid combination of ENVIR keyword data and GROUP specified.

38 ENVIR = CHANGE specified but no ACEE exits.

Identify and correct the indicated error.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

285

Explanation: RACF detected an error in the parameters passed to it for RACDEF SVC processing.

System Action: The task is terminated.

Programmer Response: Register 15 contains a hexadecimal reason code:

Reason Code **Explanation**

04 Invalid parameter list length.

08 Invalid level number.

0C Invalid TYPE option specified. (This code is used only through RACF version 1.3.)

10 Resource name required.

14 New data set name or old volume serial specified but addr is zero.

18 Volume serial required but not specified.

1C New data set name and old volume serial flags both set.

24 Inconsistent parameters for class other than DATASET, that is: model name supplied, model volume serial supplied. VSAM data set bit on, old volume serial supplied or new data set name supplied.

28 Model resource information supplied with type other than DEFINE for DATASET class.

2C Model name supplied but model volume serial not supplied.

30 Unqualified data set name specified.

34 Old volser is absent for CHGVOL request.

38 Unit field has invalid length.

3C Invalid AUDIT value.

40 Invalid OWNER specified.

44 Invalid UACC values.

48 Invalid rename request; either ENTITY name or NEWNAME name, but not both, is a generic name.

Identify and correct the indicated error.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

2F3

Explanation: The job was running when a system failure occurred. A system restart was performed; a system job queue entry for the job existed at the time of failure.

Programmer Response: If results of the job are unsatisfactory, resubmit the job or job steps.

2FB

Explanation: The JES3 or FSS address space has abnormally terminated at one of the following points in processing:

1. A critical error occurred early in JES3 or FSS initialization or late in JES3 termination. The JES3 ESTAE environment had not yet been established or had been deleted, so no JES3-formatted ABEND dump is available.

2. Once JES3 initialization has successfully established the JES3 ESTAE routine (IATABMN), the retry routine (IATABRT) uses this ABEND code to return to IATABMN in order to percolate.

An MVS dump will always appear for a 2FB ABEND, regardless of the original ABEND code. The original ABEND code is shown in message IAT3713 to the operator and in the JES3-formatted dump. The 2FB dump by itself does not tell whether the failing JES3 function recovered or had to be terminated.

Note: An MVS dump with a 2FB ABEND means that IATABRT or a routine used by IATABRT failed, thereby producing the 2FB ABEND.

System Action: In the first case, JES3 writes message IAT3702 to the operator and to a dump data set of the type specified during JES3 initialization. This message details critical debugging information. The system writes an ABEND dump of the type specified during JES3 initialization.

Operator Response: In the first case, respond to message IAT3nnn.

Programmer Response: In the second case, analyze the ABEND dump to find the cause of the error.

Problem Determination: Table I, items 2, 5, 16. Table III, items 4, 5, 6, 20.

2FC

Explanation: An error occurred during execution of the I/O first level interrupt handler. In an attempt to recover the system, the supervisory control program has abnormally terminated the task that took the I/O interrupt.

System Action: The system abnormally terminates the active task.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 16, 23, 29.

300

Explanation: EXCP processing encountered one of the following errors while processing an I/O request:

● The DEB (data extent block) validity check routine (IFGDEBCK) returned a nonzero return code to EXCP processing for one of the following reasons:

  − The DEBTABLE does not exist.

  − The DEBTBLOF value in the DEB is less than one or greater than the number of entries in the DEBTABLE.

  − The address of the DEB, obtained from the DCB (data control block), does not match any entry in the DEBTABLE.

● The IOBM field in the IOB (input/output block) is not lower than the maximum extent count (DEBNMEXT) in the DEB.

System Action: The system abnormally terminates the task.

Programmer Response: Verify that the data control block (DCB) contains the address of the DEB. After making corrections, execute the job step again.

If an abnormal termination dump is available, the TCB field TCBEXCPD (at offset C0) points

to the EXCP problem determination area. The items in the problem determination area of interest are:

● Offset 10 contains a copy of the register contents existing when EXCP processing detected the error.

● Offset 54 contains the contents of the request queue element (RQE), if allocated, when EXCP processing detected the error.

Problem Determination: Table I, items 1, 3, 5b, 15, 19, 29.

301

Explanation: The error occurred during execution of a WAIT macro instruction.

The macro instruction specified an event control block (ECB) whose wait flag was already on. This indicated that a previous WAIT macro instruction was already waiting for posting of the ECB.

Programmer Response: Change the problem program to eliminate a double wait on a single event. If no double wait is found, make sure that the program did not incorrectly modify the ECB. Then execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

304

Explanation: Cross Memory POST asynchronous processing failed. This completion code is issued by PRTOERTN, the Cross Memory POST asynchronous error exit routine in module IEAVGPRR (the GETPART/FREEPART FRR).

System Action: The system terminates the requestor.

Programmer Response: Check for a valid ECB in the JSCB of the task requesting the V = R region.

Problem Determination: Table I, items 5a, 11, 16, 29.

305

Explanation: The error occurred during execution of a FREEMAIN macro instruction.

ABEND

● The specified subpool could not be found.

● The SP parameter was specified, but the virtual storage area to be released was not within the subpool specified.

● The SP parameter was not specified, but the virtual storage area to be released was not within subpool zero.

● The SP parameter was specified correctly, but the boundaries of the storage area to be freed were not completely described by a descriptor queue element (DQE).

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the FREEMAIN operands A and LV specify an area within the subpool. If they do, check for program errors that incorrectly modify the FREEMAIN macro expansion. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

306

Explanation: The error occurred during execution of the LINK, XCTL, ATTACH, or LOAD service routines.

An authorized routine requested a module that could not be found in an authorized library. The module was found either in a nonauthorized library or in storage (already loaded), but marked as coming from an unauthorized library.

Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
04	The requested program was not found in the indicated source (private library, job library, or link library).
08	An uncorrectable I/O error occurred when the control program attempted to search the directory of the library containing the module.
0C	The module could not be found on the LPA or in the LPA directory or an authorized library.
14	The LOAD macro instruction was issued with the GLOBAL = YES operand, but the module to be loaded is not reentrant or is in an unauthorized library.
18	The LOAD macro instruction includes the GLOBAL = (YES,F) parameter for a module with page boundary alignment.

Programmer Response: If the requested module could not be found, make sure the module exists on a system or user-defined authorized library. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 22, 25c, 29.

30A

Explanation: The error occurred during the execution of an R-form FREEMAIN macro instruction.

- A FREEMAIN for an entire subpool was requested (register 1 was zero), but the length in register 0 was not set to zero.

- The specified subpool could not be found.

- The SP parameter was specified, but the virtual storage area to be released was not within the subpool specified.

- The SP parameter was not specified, but the virtual storage area to be released was not within subpool zero.

- The SP parameter was specified correctly, but the boundaries of the storage area to be freed were not completely described by a descriptor queue element (DQE).

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the FREEMAIN operands A and LV specify an area within the subpool. If they do, check for program errors that incorrectly modify the FREEMAIN macro expansion. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

30E

Explanation: The error occurred during the execution of the SPIE macro instruction.

1. An unauthorized program attempted to specify program interruption code 17.

2. SPIE caller in supervisor state (SPIE must be issued in problem state).

3. SPIE caller's PSW key does not match the caller's TCB key.

Programmer Response: In the first case, recode the macro instruction to delete the specification of interrupt code 17, or contact the system programmer to have authorization assigned to your program through the authorized program facility (APF). In the second case, make sure SPIE was issued in problem state. In the third case, make sure the PSW key matches the TCB key. Then execute the job step again.

Problem Determination: Table I, items 1, 5a, 15, 16, 19, 29.

313

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on a direct access device. This system completion code is accompanied by message IEC144I. Message IEC144I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC144I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

314

Explanation: The error occurred during the execution of a CLOSE macro instruction for a data set on a direct access device. This system completion code is accompanied by message IEC211I. Message IEC211I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC211I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

315

Explanation: An error during execution of SVC 21 (STOW) could not be attributed to invalid user input. This completion code is accompanied by message IEC911I. Message IEC911I identifies the terminated task and explains the return code in register 15.

System Action: The STOW task recovery routine has been invoked. Low real storage and the caller's region have been dumped to the SYS1.DUMP data set. The caller's input registers 0 and 1, and DCB have been written to the SYS1.LOGREC data set.

Programmer Response: Make sure that the STOW macro instruction is correctly coded, and

that the parameter list and DCB involved are not modified by your program during the execution of SVC 21.

Problem Determination: Table I, items 1, 2, 3, 7ab, 11, 13, 15, 18, 29.

317

Explanation: The error occurred during execution of a BSAM CLOSE macro instruction with a TYPE = T operand for a data set on a direct access device. This system completion code is accompanied by message IEC220I. Message IEC220I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC220I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

322

Explanation: Execution of a job, job step, or cataloged procedure step took longer than the time specified in:

● The TIME parameter of the EXEC or JOB statement

● The standard time limit specified in the job entry subsystem

System Action: The system abnormally terminates the job, job step, procedure, or procedure step.

Programmer Response: Check for program errors, such as endless loops, that would cause the job step, procedure, or procedure step to take too long. Correct any such errors. If no errors are found, specify a longer time in the TIME parameter. Then execute the job again.

Problem Determination: Table I, items 1, 5a, 7b, 26d, 29.

328

Explanation: The error was detected during execution of an EXTRACT macro instruction.

The task control block (TCB) specified in the second operand of the macro instruction was not for a subtask of the task issuing the EXTRACT macro instruction.

Programmer Response: Change the EXTRACT macro instruction to specify a task control block for a subtask. If the macro instruction was specified correctly, check for program errors that incorrectly modified the EXTRACT macro expansion. Make corrections, recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

32D

Explanation: The error occurred during execution of an overlay program.

A record of an incorrect length was found or an uncorrectable input/output error occurred in loading a segment from the library.

Programmer Response: Link-edit the program again, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 9, 29.

330

Explanation: An unauthorized task attempted to use authorized options of the DEQ macro instruction.

Programmer Response: Correct the macro instruction, recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

335

Explanation: SVC 35, which obtains and releases exclusive control of a resource associated with a BDAM data set, found that the block for which acquisition or release of exclusive control was requested was not in the data set.

Programmer Response: If the RELEX macro was issued, the user should ensure that the BLKREF address supplied in the RELEX macro points to a valid address within the data set described by the input DCB. Make sure also that the address format is compatible with the addressing scheme specified in the DCBOPTCD field of the DCB. If the RELEX macro was not issued, the block ID was taken from the IOBSEEK field, or in the case of write-add requests, the IOBDNCRF field. These addresses are derived from conversion of the block ID pointed to by the DECRECPT field of the DECB. Make sure that this address is correct and that the format of the block ID is compatible with that specified in the DCBOPTCD field of the DCB and is left-aligned.

Problem Determination: Table I, items 5b, 16, 25a, 29.

337

Explanation: The error occurred when the end of a data set was reached. This system completion code is accompanied by message IEC024I. Message IEC024I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC024I.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 21, 29.

338

Explanation: An unauthorized task attempted to use authorized options of the ENQ macro instruction.

Programmer Response: Correct the macro instruction, recompile, and execute the job step again.

339

Explanation: SVC 57 frees a buffer or extends the unscheduled list via a FREEDBUF macro issued by the user or the system. SVC 57 found that the DEB pointed to by the input DCB (DCBDEBAD) was not on any DEB chain associated with that job step TCB, or did not point back to that DCB, or was requested for a data set that was neither BDAM nor ISAM.

Programmer Response: Make sure that the input DCB address is correct and that the DCBDEBAD field of the input DCB has not been overlaid.

Problem Determination: Table I, items 5b, 16, 29.

33E

Explanation: A DETACH macro instruction specifying the STAE = YES operand has been issued by the originating task, but the specified subtask has not completed execution.

System Action: The subtask is abnormally terminated. If the STAE macro instruction was issued by the subtask, the specified exit routine will be given control during abnormal termination processing. However, if the STAE exit routine specified a retry routine, the retry routine will not be given control.

Programmer Response: This may or may not be an error. If you intend for the subtask to complete processing before it is detached, use the ECB or EXTR operand on the ATTACH macro instruction that creates the subtask to achieve synchronization.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

344

Explanation: During execution of SYNADAF, the DCB address was determined to be invalid.

Programmer Response: Register 15 contains the DCB address in error. For BDAM, BPAM, QSAM, BISAM, and QISAM, the DCB address should be passed to SYNADAF as the PARM1 operand on the SYNADAF macro instruction. (For BDAM, BPAM, BSAM, and QSAM, the DCB address is in register 1 on entry to the user's SYNAD routine.) For EXCP access method, verify that the IOBDCBPT field contains the correct DCB address. Correct the error, and rerun the job.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

351

Explanation: An error detected during execution of SETPRT could not be attributed to invalid macro instruction invocation or invalid control blocks. This system completion code is accompanied by message IEC918I. Message IEC918I identifies the terminated task and explains the return code in register 15.

Programmer Response: Make sure that the SETPRT macro instruction is correctly coded. Check for program errors that incorrectly modify the parameter list and DCB during execution of SVC 81.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 18, 29.

35F

Explanation: An address space became nonswappable before it could be swapped out for the SYSEVENT TRANSWAP. The initiator requested the TRANSWAP before attaching a nonswappable program or a V = R job step.

System Action: The initiator abnormally terminates the job.

Programmer Response: Probable system error. Resubmit the job.

Problem Determination: Table I, items 1, 2, 4, 5a, 18, and 29.

36D

Explanation: An error was detected in communications between RMF and the System Resources Manager while attempting to initialize, collect, or reinitialize workload activity measurements.

System Action: All RMF measurement collection is terminated. Reinstatement can be attempted and, if successful, RMF will continue under the control of the original options. If reinstatement fails, RMF is terminated. Register 15 contains the return code from the System Resources Manager depending on the function attempted by RMF:

Byte	Attempted Function
0	N/A.
1	Reinitialization of workload activity measurement collection after a change in the Installation Performance Specification (IPS).
2	Collection of workload activity measurements.
3	Initialization of workload activity measurements.

Problem Determination: Table I, items 4, 5a, 16, 18, 29.

36F

Explanation: One of the following errors occurred during processing of a job entry subsystem SVC 111:

- An invalid entry code was passed to SVC 111.

- DEBCHK processing found that the DEB (data extent block) was invalid.

- The DEB was not a subsystem DEB.

System Action: The program issuing the SVC terminates.

Programmer Response: Be sure the program is authorized to use SVC 111. Check that the SVC is issued at the correct point in the program. Correct the error, and rerun the job.

Problem Determination: Table I, items 5a, 16, 29.

378

Explanation: The error occurred during the execution of an RU or VRU form FREEMAIN macro instruction.

- A FREEMAIN for an entire subpool was requested (register 1 was zero) but the length in register 0 was not set to zero.

- The specified subpool could not be found.

- The SP parameter was specified, but the virtual storage area to be released was not within the subpool specified.

- The SP parameter was not specified, but the virtual storage area to be released was not within subpool zero.

- The SP parameter was specified correctly, but the boundaries of the storage area to be freed were not completely described by the descriptor queue element (DQE).

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the FREEMAIN operands A and LV specify an area within the subpool. If they do, check for program errors that incorrectly modify the FREEMAIN macro expansion. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

37A

Explanation: The error occurred during the execution of an EVENTS macro instruction. The control program found that the EVENTS table specified on the EVENTS macro was currently being waited on.

Programmer Response: Make sure that only one task at a time waits on the EVENTS table in question. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

37D

Explanation: The error occurred during execution of an EVENTS macro instruction. The control program found that the EVENTS table specified on the EVENTS macro was currently being waited on.

Programmer Response: Make sure that only one task at a time waits on the EVENTS table in question. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

382

Explanation: The pre-processing or post-processing installation-written exit routine called by RACF during RACHECK SVC processing passed back an invalid return code to RACF. The code was not part of the defined interface.

System Action: The system abnormally terminates the task.

Programmer Response: Possible user error. Register 15 contains the return code from the exit routine. Verify that the exit routine is using valid return codes.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

383

Explanation: The pre-processing or post-processing installation-written exit routine called by RACF during RACINIT SVC processing passed back an invalid return code to RACF. The code was not part of the defined interface.

ABEND

System Action: The system abnormally terminates the task.

Programmer Response: Possible user error. Register 15 contains the return code from the exit routine. Verify that the exit routine is using valid return codes.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

385

Explanation: The installation-written exit routine called by RACF during RACDEF SVC processing passed back an invalid return code to RACF. The code was not part of the defined interface.

System Action: The system abnormally terminates the task.

Programmer Response: Possible user error. Register 15 contains the return code from the exit routine. Verify that the exit routine is using valid return codes.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

3FB

Explanation: JES3 module IATSIAD could not obtain enough storage from subpool 230 to build a data set block (DSB) or from subpool 241 to build a data set status block (DSS).

System Action: The system terminates the user address space.

Programmer Response: Rerun the job with a SYSABEND DD statement. The problem may not recur. If it does, notify your system programmer.

3FC

Explanation: An error occurred during execution of the external first level interrupt handler. In an attempt to recover the system, the supervisory control program abnormally terminated the task or SRB that took the external interrupt.

Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	The first level interrupt handler (FLIH) detected (but does not support) a third recursion.
04	An error occurred during FLIH mainline processing.
08	An error occurred during a first recursion.
0C	An error occurred during a second recursion.

System Action: The system abnormally terminates the active task and writes an error record to SYS1.LOGREC.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 16, 23, 29.

400

Explanation: EXCP processing detected an error while processing an I/O request; the DCB (data control block) address in the DEB (data extent block) is not the same as the DCB address in the caller's IOB (input/output block). This situation can occur if the data set is not open or if the control blocks are prematurely freed or overlaid.

System Action: The system abnormally terminates the task.

Programmer Response: Verify that the data set was opened and that the control blocks were handled correctly in the problem program. Rerun the job.

In the abnormal termination dump, the TCB field TCBEXCPD (at offset C0) points to the EXCP problem determination area. The items in the problem determination area of interest are:

● Offset 10 contains a copy of the register contents present when EXCP processing detected the error.

● Offset 54 contains the contents of the request queue element (RQE), if allocated, when EXCP processing detected the error.

After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

402

Explanation: The EVENTS POST macro instruction routine encountered an error while processing an extended format ECB (event control block). The control program found an invalid EVENTS table address in the three low-order bytes of the ECB.

The EVENTS table address is placed in the ECB by the EVENTS macro instruction before the events associated with the ECB are completed. This address must remain in the ECB until a POST macro instruction places a completion code in the ECB.

Programmer Response: Make sure an EVENTS macro was issued to construct an EVENTS table, and that an EVENTS macro was issued to initialize the ECB in question. In addition, make sure that the contents of the ECB were not modified after it was initialized as an extended format ECB and before the POST macro instruction was issued. Correct the error, and execute the jobstep again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, and 29.

406

Explanation: The error occurred during execution of a LINK, ATTACH, or XCTL macro instruction.

The requested program was marked by the linkage editor as only loadable. The program was produced by a linkage editor execution for which the EXEC statement contained OL in the PARM parameter field.

Programmer Response: Rewrite the problem program so that it specifies only loading, but not execution, of the only loadable program. Then recompile and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

40A

Explanation: The error was detected during execution of an R-form FREEMAIN macro instruction:

● The macro instruction specified the release of all subpool zero storage. The entire subpool zero cannot be released by problem programs, that is, programs with storage protection keys other than zero.

● An authorized program specified that all of one of the following subpools was to be freed:

    SQA

    CSA

    LSQA (subpool 254 or 255)

    An invalid subpool (subpools 129 to 228, 231, 232, 234, 235, 238 to 249)

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: If you intended the FREEMAIN macro instruction to release

subpool zero, remove it from the program. The control program releases subpool zero when a job step terminates. If you did not intend the FREEMAIN macro instruction to release subpool zero, check for program errors that incorrectly modify the FREEMAIN macro expansion.

ABEND

Only subpools defined as eligible for subpool FREEMAIN may be freed as an entire subpool. All other subpool storage areas must be freed by individual requests explicitly describing the area. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

40D

Explanation: This completion code is found only in ASCBs. Because recursive errors occurred while trying to terminate a task, the system had to terminate the address space.

System Action: The RTM attempts to terminate the address space. A dump may have been written to the SYS1.DUMP data set.

Programmer Response: Correct the original error.

Problem Determination: Table I, items 1, 5, 11, 16, 19, 29.

413

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on magnetic tape or on a direct access device. This system completion code is accompanied by message IEC145I. Message IEC145I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC145I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

414

Explanation: The error occurred during execution of a CLOSE macro instruction for a data set on a direct access device. This system completion code is accompanied by message IEC212I. Message IEC212I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC212I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

417

Explanation: The error occurred during execution of a BSAM CLOSE macro instruction with a TYPE = T operand for a data set on a direct access device. This system completion code is accompanied by message IEC221I. Message IEC221I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC221I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

42A

Explanation: The error was detected during execution of an ATTACH macro instruction.

The ECB operand specified an invalid address for the event control block (ECB) to be posted when the subtask terminates. The address was invalid for one of the following reasons:

● It was not on a fullword boundary.

● The addressed virtual storage is not allocated, or the storage key does not match the protection key of the issuer of the ATTACH.

Programmer Response: Change the ATTACH macro instruction to specify the correct ECB, and ensure that the specification was not

incorrectly modified by the problem program. Recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

42D

Explanation: During execution of an overlay program, an error occurred while processing a SEGLD macro instruction.

Programmer Response: Check the subtask completion code in the SEGLD ECB, which is located at offset X'14' in the SEGTAB. Register 12 contains the address of the SEGTAB. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 9, 29.

430

Explanation: The error occurred during execution of a DEQ macro instruction.

The control program found that the parameter list created from the macro instruction was invalid.

Programmer Response: Correct the DEQ macro instruction specification or the program errors that incorrectly modified the parameter list. Recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

435

Explanation: SVC 53, which obtains and releases exclusive control of a resource associated with a BDAM data set, found that:

● The DEB pointed to by the input DCB (DCBDEBAD) was not on any DEB chain associated with the job step TCB, or did not point back to that DCB, or was not for a BDAM data set.

● The IOB has been altered by other than a system routine.

Programmer Response: Make sure that the input DCB address is correct and that the DCBDEBAD field of the input DCB has not been overlaid.

Problem Determination: Table I, items 5b, 16, 29.

437

Explanation: The error occurred at an end-of-volume. This system completion code is accompanied by message IEC025I. Message IEC025I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC025I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

438

Explanation: The error occurred during execution of an ENQ macro instruction.

The control program found that the parameter list created from the macro instruction was invalid.

Programmer Response: Correct the specification of the macro instruction or the program errors that incorrectly modified the parameter list. Recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

43E

Explanation: The ECB address was not valid when the task terminated. The ECB address is specified with the ECB parameter in the ATTACH macro instruction that created the task.

System Action: The ECB is not posted. The task that originated the task with the invalid

ECB address is abnormally terminated. The invalid ECB address is contained in field TCBECB of the subtask's TCB.

Programmer Response: Determine if the area containing the ECB was freed before the subtask completed processing. Correct the error and run the job again.

Note: The ECB in question is specified at the time of the ATTACH macro, and is checked for validity at that time. An invalid ECB at DETACH of the subtask or at the end-of-task would probably be caused by a FREEMAIN of the storage containing the ECB.

Problem Determination: Table I, items 5a, 16, 19, 23, 29.

444

Explanation: The error occurred during the execution of SYNADAF, where it was determined that the DECB address was invalid.

Programmer Response: Register 15 contains the DECB address in error:

● For BDAM, BPAM, and BSAM, the DECB address should be passed to SYNADAF as the PARM2 operand on the macro instruction. For these access methods, the DECB address was in register 0 on entry to the user's SYNAD routine.

● For BISAM, the IOBECBPT field of the IOB in error should contain the DECB address. Make sure that the PARM2 operand in the SYNADAF macro instruction (the address of the first sense byte within the IOB) is correctly specified, and that the IOBECBPT has not been overlaid.

Correct the error, and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

451

Explanation: The error occurred during the execution of SETPRT. Either the DCB whose address was passed in the SETPRT parameter list is invalid, the DEB address located through the DCB was invalid, the DCB EXIT LIST address located through the DEB was invalid, or the IOBs located through the DCB are invalid.

This system completion code is accompanied by message IEC918I. Message IEC918I identifies the terminated task and explains the return code in register 15.

Programmer Response:

● For return code 01, make sure that DCBEXLIST points to a valid exit list in your region.

● For return code 02, make sure that the DCB fields DCBIOBAD and DCBIOBA have not been overlaid since the DCB was opened. Make sure that the IOB or ICB link fields have not been overlaid.

● For return code 03, make sure that the DCB field DCBDEBAD has not been overlaid since the DCB was opened.

● For return code 04, make sure that the SETPRT macro instruction correctly specifies the address of an open DCB within your region.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

45F

Explanation: Quiesce (SYSEVENT 18) failed while a TRANSWAP (SYSEVENT 14) or REQSWAP (SYSEVENT 43) was pending. Retry was not possible.

System Action: The system terminates the address space being swapped.

Programmer Response: Probable system error. Resubmit the job, or restart the terminated function.

Problem Determination: Table I, items 1, 2, 4, 5a, 18, and 29.

478

Explanation: The error was detected during execution of an RC or RU form FREEMAIN macro instruction:

● The macro instruction specified the release of all subpool zero storage. The entire subpool zero cannot be released by problem programs, that is, programs with storage protection keys other than zero.

● An authorized program specified that all of one of the following subpools was to be freed:

   SQA

   CSA

   LSQA (subpool 254 or 255)

   An invalid subpool (subpools 129 to 228, 231, 232, 234, 235, 238 to 249)

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: If you intended the FREEMAIN macro instruction to release subpool zero, remove it from the program. The control program releases subpool zero when a job step terminates. If you did not intend the FREEMAIN macro instruction to release subpool zero, check for program errors that incorrectly modify the FREEMAIN macro expansion.

Only subpools defined as eligible for subpool FREEMAIN may be freed as an entire subpool. All other subpool storage areas must be freed by individual requests explicitly describing the area. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

47A

Explanation: The error occurred during execution of an EVENTS macro instruction. The control program found that an incorrect number of entries was specified on the request to create an EVENTS table. The number of entries must be from 1 to 32,767.

Programmer Response: Make sure the number of entries specified on the ENTRIES= operand of the EVENTS macro is from 1 to 32,767.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

47D

Explanation: The error occurred during execution of an EVENTS macro instruction. The control program found that the address specified on the LAST= parameter of the EVENTS macro was incorrect.

The LAST specification must be an address between the first and last valid entries in the EVENTS table in question.

Programmer Response: Make sure that the LAST address is for a valid table entry that has not been previously purged from the EVENTS table.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

482

Explanation: While RACF was performing RACHECK SVC processing, the RACF manager returned an invalid return code.

System Action: The system terminates the task.

Programmer Response: Register 15 contains the hexadecimal return code from the RACF manager:

Return Code	Explanation
00	Successful operation.

04	RACF was unable to invoke the function. If register 0 contains code 0, RACF was unable to establish the ESTAE environment. If register 0 contains code 1, the function code, which is in the third byte of the parameter list, contains invalid data.
08	The name to be added to the RACF data set already exists.
0C	The name does not exist.
14	No space was available on the RACF data set.
18	An input/output error occurred on the RACF data set.
1C	RACF is inactive; access to the RACF data set is denied.
24	The input parameter list contains an error, as indicated by the code in register 0:

Code	Error
1	Invalid entry name.
2	Action specified for delete.
3	Invalid field name.
4	Test specified for rename request.
7	Incorrect entry type.

2C	The user work area is not large enough to hold all the data.
30	The user work area is smaller than the minimum allowable size.
34	A test, which was not associated with action, failed.
38	RACF found a duplicate data set name, but VOLUME was not specified.
3C	The VOLUME specified does not match a volume entry in any data set profile.
40	User attempted to delete a restricted entry.
44	The ALTERI request was invalid.
48	The maximum number of index levels was exceeded.
4C	The index pointer chain was invalid.
50	The RACF data set has been used as input to utility ICHUT400 and was extended to a larger copy of itself. The input data set can no longer be modified.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

ABEND

483

Explanation: While RACF was performing RACINIT SVC processing, the RACF manager returned an invalid return code.

System Action: The system terminates the task.

Programmer Response: Register 15 contains the return code from the RACF manager. This code is given in completion code 482.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

485

Explanation: While RACF was performing RACDEF SVC processing, the RACF manager returned an invalid return code.

System Action: The system terminates the task.

Programmer Response: Register 15 contains the return code from the RACF manager. This code is given in completion code 482.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

4FB

Explanation: One of the following errors occurred:

● JES3 could not obtain sufficient storage from subpool 241 for a SSISERV macro request.

● JES3 could not obtain sufficient storage from subpool 230 for user address space buffers.

● JES3 detected an error while processing the record allocation block (RAB) refresh element (RRE) for additional track groups.

System Action: The system terminates the user address space.

Programmer Response: Rerun the job with a SYSABEND DD statement. The problem may not recur. If it does, notify your system programmer.

Problem Determination: Table I, item 5A.

4FC

Explanation: An error occurred during execution of the program check first level interrupt handler. In an attempt to recover the system, the supervisory control program abnormally terminated the task that suffered the program check.

System Action: The system abnormally terminates the active task.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 16, 23, 29.

500

Explanation: EXCP processing detected an error while handling an I/O request. Possible causes are:

● The IOB was incorrectly built or modified.

● Byte three of the UCB (unit control block) as specified in the UCB address field of a DEB (data extent block) did not contain X'FF'.

● The index of an ISAM data set contained errors.

System Action: The system abnormally terminates the task.

Programmer Response: Be sure your program correctly built or modified the IOB. If the program is correct, the problem is a system problem. Before calling the system programmer, rerun the job, requesting an abnormal termination dump.

In the dump, the TCB field TCBEXCPD (at offset C0) points to the EXCP problem determination area. The items in the problem determination area of interest are:

● Offset 10 contains a copy of the register contents when EXCP processing detected the error.

● Offset 50 contains the contents of the request queue element (RQE), if allocated, when EXCP processing detected the error.

If the dump shows no errors, check the index of the ISAM data set. If the index contains errors, reorganize it.

After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

502

Explanation: The error occurred during execution of a POST macro instruction. The control program found that the EVENTS table specified in the ECB had no available entries to contain the posted ECB address.

Programmer Response: Make sure that the EVENTS table is large enough to contain entries for all ECBs that can be posted to it. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

504

Explanation: The error was detected during execution of a GETMAIN macro instruction that requested allocation of one or more areas of virtual storage. The macro instruction contained an LA operand (address of a list of lengths) and an A operand (address of a list of beginning addresses for the areas).

The length list and the address list occupied overlapping storage locations.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that no program errors incorrectly modify the macro

expansion. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

505

Explanation: The error was detected during execution of a FREEMAIN macro instruction that requested release of one or more areas of virtual storage. The macro instruction contained an LA operand (address of a list of lengths) and an A operand (address of a list of beginning addresses for the areas).

The length list and the address list occupied overlapping storage locations.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that no program errors incorrectly modify the macro expansion. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

506

Explanation: The error occurred during execution of a LINK, LOAD, ATTACH, or XCTL macro instruction in an overlay program.

If the requested program had been loaded, not enough virtual storage would have remained for the overlay supervisor.

Programmer Response: Reduce the size of the entire program or of the overlay segment. If this is not possible, change the program from an overlay program to a dynamically loaded program. Then recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29. Table II, format 1: trace option - *TRACE=SYS.*

ABEND

50D

Explanation: The program tried to use the OPEN, OPEN-J, CLOSE, CLOSE-T, EOV, or FEOV function while holding exclusive control of the TIOT (task input/output table) resource.

Register 15 contains a code that identifies the function issuing the abnormal termination.

Code	Function
00	OPEN
04	OPEN-J
08	CLOSE
0C	CLOSE-T
10	EOV
14	FEOV

System Action: The system abnormally terminates the task.

Programmer Response: Correct the program so that it releases control of the TIOT resource before one of these functions is requested. Recompile, and execute the job step again.

513

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on tape. This system completion code is accompanied by message IEC146I. Message IEC146I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC146I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

522

Explanation: All of the tasks in a job step were in an SVC wait state for the time specified in the JWT parameter.

The event control block (ECB) specified in the wait request was never posted. This error could be the result of waiting on the wrong ECB or not posting the correct ECB.

Programmer Response: Correct any errors, and execute the job step again. If no errors are found and the wait is expected for that particular job step, specify TIME = 1440 on the EXEC statement to bypass all job step timing.

Problem Determination: Table I, items 7ab, 29.

52A

Explanation: The error occurred during execution of an ATTACH macro instruction. Although the STAI operand was not specified in this macro instruction, it was specified for an antecedent task in the subtask queue for the job step. LSQA storage is too small to copy the necessary STAI information for the subtask specified by this ATTACH macro instruction.

System Action: The subtask is not attached, and the task that issued the ATTACH macro instruction is abnormally terminated.

Programmer Response: Notify your system programmer, and resubmit the job.

Problem Determination: Table I, items 1, 2, 5a, 7a, 29. If the problem persists in a TSO environment, have the terminal sheet available.

530

Explanation: The error was detected during execution of a DEQ macro instruction.

A DEQ macro instruction was issued in an asynchronous exit routine for a resource previously enqueued by another routine in the same task. However, the task had not yet received control of the resource.

Programmer Response: Correct the program so that the DEQ macro instruction is issued only after the task has control of the resource. If possible, avoid issuing the DEQ macro instruction in the exit routine. Recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

535

Explanation: SVC 53, which obtains and releases exclusive control of a resource associated with a BDAM data set, issued a GETMAIN for storage to be used in its processing and found that no storage was available.

Programmer Response: Rerun the job. If the problem continues, storage may have to be freed by others before the exclusive control function is used.

Problem Determination: Table I, items 3, 4, 5a, 13, 16, 29.

53E

Explanation: An error occurred during end-of-task processing before an ECB for the terminating task could be posted, or before an end-of-task exit routine could be scheduled, or before it was determined that the task had neither an ECB nor an end-of-task exit routine.

The task has an end-of-task ECB if the ECB parameter was specified on the ATTACH macro instruction that created the task. The task has an end-of-task exit routine if the EXTR parameter was specified on the ATTACH macro.

System Action: The originating task for the task that suffered the error is abnormally terminated.

Programmer Response: Run the job again.

Problem Determination: Table I, items 5a, 16, 29.

544

Explanation: During execution of SYNADAF, the IOB address was found to be invalid.

System Action: Register 15 contains the IOB address in error:

● For BDAM, BPAM, and BSAM, SYNADAF obtained the IOB address from the DECIOBPT field of the DECB; for

these access methods, the DECB address was passed to SYNADAF as the PARM2 operand in the SYNADAF macro instruction, and was contained in register 0 on entry to the user's SYNAD routine. Verify that the PARM2 operand was correctly specified and that the DECIOBPT field has not been overlaid.

ABEND

● For QSAM, BISAM, and QISAM, SYNADAF received a pointer to the IOB as the PARM2 operand in the SYNADAF macro instruction. The address passed to SYNADAF should have been the address contained in register 0 on entry to the user's SYNAD routine. Verify that the PARM2 operand was coded correctly.

● For the EXCP access method, verify that the PARM1 operand of the SYNADAF macro instruction specified the correct IOB address.

Programmer Response: Correct the error, and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

55F

Explanation: An error was encountered during the execution of the cross memory post SRB scheduled by swap out complete (SYSEVENT 15). The post was to notify a REQSWAP or TRANSWAP issuer that either the swap had to be turned around or the swap is complete.

System Action: Copy the current ASCB and OUCB into the dump buffer area in SQA (use of the buffer is mapped by SDMPBUFF in module IRARMSRV). Issue a SDUMP and terminate the address space that is waiting.

Programmer Response: Determine if a valid ECB address is being passed to the SYSEVENT TRANSWAP or REQSWAP. Resubmit the job, or restart the terminated function.

Problem Determination: Table I, items 1, 2, 4, 18, and 29.

56D

Explanation: SVC 109 with routing code X'11' in register 15 (the Sort SVC) was issued. One of the following errors exists:

● Some task other than Sort issued SVC 109 with routing code X'11'. Only Sort is authorized to issue it.

● The task that issued the SVC passed a record that was not in the task's authorized area.

● The task passed a record that contained one or more invalid fields.

● The task passed a DCB (data control block) pointer with an invalid DEB (data extent block).

System Action: The system abnormally terminates the task.

Programmer Response: If this ABEND occurred because some task other than Sort issued SVC 109 with routing code X'11', correct the task.

If this ABEND occurred while Sort was executing, a system error exists. Notify the system programmer.

Problem Determination: Table I, items 4, 5a, 16, and 29.

56F

Explanation: The error occurred during end-of-job processing for a JES2 job that was being processed by an execution batch monitor. The execution batch monitor pseudo job select procedure found that another task was holding or waiting for a lock on the SJB (subsystem job block).

System Action: The system abnormally terminates the job.

Programmer Response: Notify the system programmer or installation manager.

Problem Determination: Table I, items 5a, 16, 29.

57D

Explanation: The error occurred during execution of an EVENTS macro instruction.

The macro expansion contained an invalid event control block (ECB) address, or the program issuing the EVENTS macro instruction is running under a protection key (8 through 15) that is different from the storage protection key of the ECB.

Programmer Response: Make sure that the ECB address specified is a valid virtual storage address and that it was not incorrectly modified. Also, be sure the ECB is initialized with the same storage key as the protection key of the program issuing the EVENTS macro instruction, or that the program is running under protection key 0 through 7. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 19, 29.

582

Explanation: RACF was not able to verify a user when called to perform RACHECK SVC processing.

System Action: The system abnormally terminates the task.

Programmer Response: Register 15 contains a hexadecimal reason code:

Reason Code	Meaning
00	No access control environment (ACEE) was available to describe the user.

Identify and correct the indicated error.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

585

Explanation: RACF was not able to verify a user when called to perform RACDEF SVC processing.

System Action: The system abnormally terminates the task.

Programmer Response: Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	No access control environment (ACEE) was available to describe the user.
04	No UCB was found to contain a volume serial that matched the volume serial passed to RACF in the RACDEF macro instruction for a TYPE = DEFINE operation.
08	ADDVOL function requested and user did not have at least UPDATE authority to the data set.
0C	ADDVOL function requested and (1) the volume serial number is already defined (for DATASET class), or (2) the new tape volume is already defined (for TAPEVOL class).

Identify and correct the indicated error.

Problem Determination: Table I, items 3, 4, 13, 16, 33.

5FB

Explanation: During execution of an MVS-JES3 allocation subsystem interface routine, an error occurred; it is indicated by a hexadecimal reason code in register 15:

Reason Code	Explanation
1	In common allocation, the number of devices requested by MVS does not equal the number to be allocated by JES3. Register 3 contains the number requested by MVS; register 5 contains the number passed by JES3. Register 2 contains the address of the ddname.
2	During unallocation processing, JES3 cannot successfully issue an ESTAE.
3	JES3 cannot obtain storage for a dynamic allocation buffer.
4	JES3 cannot obtain storage for a change ddname buffer.
5	JES3 cannot find in any address space header the address space ID (ASID) associated with the request. Register 2 contains the address of the job step control block (JSCB); register 3 contains the ASID.
6	A job summary table (JST) pointer error occurred during common allocation or unallocation.
7	IATSICA cannot find an active MEMDATA entry for the address space. Register 2 contains the address of the job step control block (JSCB); register 3 contains the address space ID (ASID) of the requesting address space; register 8 contains the address of the MEMDATA header.
8	IATSIMS cannot find an active MEMDATA entry for the address space. Register 4 contains the address of the subsystem identification block (SSIB); register 6 contains field SSIBSUSE of the SSIB. However, both registers 4 and 6 may be invalid.
9	JES3 found a duplicate volume. The volume cannot be loaded. Register 2 contains the address of the SETUNIT; register 6 contains the address of the job summary table (JST).
A	The GETMAIN macro failed for a work area for the subsystem interface (SSI) of the mass storage system (MSS). IATSIMS abnormally terminates all MSS-related SSIs except mount equalization.

For codes 2, 3, 4, 6, and A, register 3 contains the macro return code.

System Action: The system abnormally terminates the affected task.

Problem Determination: Table I, items 1, 3, 5A, 15, 16, 29.

5FC

Explanation: An error occurred during execution of the restart first level interrupt handler. In an attempt to recover the system, the supervisory control program abnormally terminated the task that took the restart interrupt.

System Action: The system abnormally terminates the active task.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 16, 23, 29.

604

Explanation: The error occurred during execution of a GETMAIN macro instruction:

- The address in the A or LA operand specified a location outside the private area assigned to the task or was not a multiple of 4.

- The address of the parameter list for the macro instruction was erroneous. This address was in register 1.

- The parameter list, or the length list, or both, were not valid for read access in the user's key.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the length list and address are aligned on word boundaries, and that no program errors incorrectly modify the parameter list. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

605

Explanation: The error occurred during execution of a FREEMAIN macro instruction:

- The address in the A or LA operand specified a location outside the private area assigned to the task or was not a multiple of 4.

- The address of the parameter list for the macro instruction was erroneous. This address was in register 1.

- The parameter list, or the length list, or both, were not valid for read access in the user's key.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the length list and address are aligned on word boundaries, and that no program errors incorrectly modify the parameter list. After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

613

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on magnetic tape. This system completion code is accompanied by message IEC147I. Message IEC147I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC147I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

614

Explanation: The error occurred during execution of a CLOSE macro instruction for a data set on a direct access device. This system completion code is accompanied by message IEC214I. Message IEC214I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC214I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

622

Explanation: The system terminated initiation of execution of a task entered from a TSO terminal for one of the following reasons:

1. The system encountered one of the following errors while constructing control blocks for TSO:

   a. A multiple-step procedure was found.
   b. The prompting task terminated abnormally.

2. The operator issued a MODIFY TCAM,TS = STOP command.

3. The terminal user signaled ATTN during LOGON scheduling.

4. The user submitting the job disconnected his terminal from the system.

5. TCAM disconnected the terminal because of an I/O error.

6. The terminal malfunctioned.

System Action: In cases 1 and 2, the system issued terminal messages that describe the error conditions.

Programmer Response: In the first case, respond to the terminal messages that accompany this termination:

● For case 1a, specify a different procedure or consult your system programmer. Attempt to execute the job again.

● For case 1b, consult your system programmer.

In the second case, attempt to execute the job again when TSO is started.

In the third case, LOGON again; make sure that you do not signal ATTN inadvertently.

In the fourth case, attempt to execute the job again when the terminal is reconnected to the system.

In the fifth case, find the cause of the I/O error, correct the condition, and rerun the job.

In the sixth case, contact IBM for hardware support.

Problem Determination: In all cases, have the terminal sheet available or record the current display on the graphics device before contacting IBM for programming support.

630

Explanation: An out-of-storage condition occurred during the execution of a DEQ macro instruction.

Operator Response: Notify your system programmer, and resubmit the job.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

637

Explanation: The error occurred at an end-of-volume for a data set on magnetic tape or an end-of-volume during concatenation. This system completion code is accompanied by message IEC026I. Message IEC026I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC026I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

638

Explanation: An out-of-storage condition occurred during the execution of an ENQ macro instruction.

Operator Response: Notify your system programmer, and resubmit the job.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

ABEND

644

Explanation: The error occurred during the execution of SYNADAF, where it was determined that the message buffer obtained in the user's region had been modified or freed.

Programmer Response: Register 15 contains the address of the message buffer area. Make sure that your program does not modify or free this area until SYNADAF execution is complete. Correct the error, and rerun the job step.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

67A

Explanation: An error occurred during the processing of an MSSFCALL SVC. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
01	IEAVMSF has found a storage protection error for one or more input parameters. One of the following describes the error:
	● The calling program is not in supervisor state or PSW key 0 - 7, and one or more input parameters do not match the caller's key.
	● A buffer passed as input is less than 8 bytes or more than 2048 bytes long.
02	IEAVMSF has determined that the calling program is not in supervisor state or PSW key 0 - 7, and requested a command other than a TP command. All commands except the TP commands can be executed only by a supervisor state, PSW key 0 - 7 caller.
03	One of the following describes the error:
	● IEAVMSF has determined that the calling program is attempting to execute a TP command but does not have session control. The caller's address space must hold the ENQ resource MSFDC,SESSIONCONTROL.
	● The ASID of a program requesting the TP port does not match the ASID of the current TP port owner.
04	IEAVMSF has found that a calling program doing a branch entry tried to execute a TP command.
05	IEAVMSF has detected a possible overlay of the MSFCB or MSFAB control blocks.

06	IEAVMFIH has received control following an unexpected MSSF interrupt.
07	IEAVMFIH found invalid flags in the MSFCB.
08	IEAVMFIH found invalid flags in the MSFAB while processing the MSFAB.
09	IEAVMFIH found invalid flags in the MSFAB while processing the recovery disconnect block.
0A	IEAVMSFS found invalid flags in the MSFCB.
0B	IEAVMSFS found invalid flags in the MSFAB.
0C	The caller of entry point IEAVMSF2 in module IEAVMSF requested an MSSF (maintenance and service support facility) command other than code 0071 read restart reason command.
0D	The MSSF (maintenance and service facility) SLIH (second level interruption handler) detected invalid flag settings in the MSFKB (MSSF communications block).

System Action: For reason codes 01, 02, 03, 04, 05, and 0C, the system abnormally terminates the task that issued the MSSFCALL SVC.

For reason codes 06, 07, 08, 09, 0A, 0B, and 0D, the system records the error in SYS1.LOGREC and attempts to recover.

For reason codes 07, 08, 09, 0A, 0B, and 0D, when the error occurs, the system puts the invalid flags and the ASID into register 2 and the TCB address into register 3. Check the contents of these registers in SYS1.LOGREC and in the dump (if one is written) for the values at the time the error occurred. When it enters the recovery routine, the system records the invalid flags, the ASID, and the TCB address in the SDWA variable work area. If the values in the SDWA work area are different from the values in registers 2 and 3, it is because other system processing changed the values between the time the error occurred and the time the system entered the recovery routine.

Programmer Response: For reason codes 01, 02, 03, and 04, correct the problem, and rerun the job. Reason codes 05, 07, 08, 09, 0A, 0B, 0C, and 0D indicate probable system errors.

Problem Determination: For reason code 06, Table 1, items 2, 18, 29, and 30. For reason codes 07, 08, 09, 0A, 0B, 0C, and 0D, Table I, items 2, 18, and 29.

67D

Explanation: The error occurred during execution of an EVENT macro instruction.

The macro instruction specified an event control block (ECB) whose wait flag was already on. This indicated that a previous EVENTS or WAIT macro instruction was already waiting for posting of the ECB.

Programmer Response: Change the problem program to eliminate a double wait on a single event. If no double wait is found, make sure that the ECB was not incorrectly modified by the program. Then execute the job step again.

Problem Determination: Table I, items 1, 2, 5a, 15, 19, 29.

683

Explanation: The module calling RACINIT is not authorized to use the SVC function. To issue the RACINIT SVC with the NEWPASS keyword, the calling module must be authorized (APF-authorized, in system key 0-7, or in supervisor state). To issue the RACINIT SVC without the NEWPASS keyword, the calling module must either be authorized (APF-authorized, in system key 0-7, or in supervisor state) or in the RACF-authorized caller table and fetched from an authorized library.

System Action: The task is terminated.

Programmer Response: Possible user error. If NEWPASS was specified, verify that the calling module was executing in an authorized state. If NEWPASS was not specified, verify that the module name was entered in the RACF-authorized caller table and that the calling module was link edited into an authorized library.

Problem Determination: Table I, items 5, 13, and 16.

684

Explanation: The module calling the RACF manager or the RACLIST function is not authorized to the SVC function. The module calling the RACF manager must be authorized (APF-authorized, in system key 0-7, or in supervisor state). The module calling the RACLIST function must either be authorized (APF-authorized, in system key 0-7, or in supervisor state) or in the RACF-authorized caller table and fetched from an authorized library.

System Action: The system abnormally terminates the task.

Programmer Response: Possible user error. If the RACF manager was called, verify that the calling module was executing in an authorized state.

If the RACLIST function was called, verify that the module name was entered in the RACF-authorized caller table and that the calling module was link edited into an authorized library.

Problem Determination: Table I, items 5, 13, and 16.

685

Explanation: The module calling RACDEF is not authorized to use the SVC function. To issue the RACDEF SVC, the calling module must be authorized (APF-authorized, in system key 0-7, or in supervisor state).

System Action: The system abnormally terminates the task.

Programmer Response: Possible user error. Verify that the calling module was executing in an authorized state.

Problem Determination: Table I, items 5, 13, and 16.

6FB

Explanation: During JES3 processing, module IATSSCM or IATSSRE detected an error and issued this system completion code. The error is identified by a hexadecimal reason code in the high-order byte of register 15 and, for some reason codes, a hexadecimal return code in the low-order byte of register 15.

Reason Code   **Explanation**

00   The subsystem interface common service (SSICS) routine detected an error in its calling parameters or in the system status. Return codes are:

     18   The caller of SSICS is not in system protection key 0 through 7.

     1C   The SYSID parameter in a SSISERV macro specified a processor that is not defined.

     20   An invalid combination of the fields SELECBF, SELEXIT, SELBUFF was found in the IATYSEL control block for a WAIT or REPLY type SSISERV macro request.

     24   An error occurred when the SSICS routine attempted to write a staging area.

     28   The primary and all secondary staging area extents have been exhausted.

     2C   The service entrance list (SEL) contained an invalid MEMDATA pointer.

     30   The channel-to-channel adaptor (CTC) address is invalid.

     34   An attempt was made to post a wait that cannot be posted.

01   The IATXBGM or IATXBFM macro passed an error return code back to JES3 module IATSSCM:

     08   A GETMAIN or FREEMAIN failed.

02   The MVS FREECELL macro passed an error return code back to JES3 module IATSSCM:

     04   The cell was not allocated from the subpool indicated by the specified cell pool ID.

     08   The cell address is invalid.

     0C   FREECELL could not find the cell pool.

     10   The cell pool ID was invalid.

03   The MVS BLDCPOOL macro passed an error return code back to JES3 module IATSSCM:

     04   GETMAIN failed.

     08   The cell pool ID was invalid.

     0C   The specified subpool was not global.

     10   The cell size was greater than the pool size.

     14   BLDCPOOL found a DELETE subpool in progress for the specified pool.

04   The MVS GETCELL macro passed an error return code back to JES3 module IATSSCM:

     04   GETCELL could not find any available cells.

     08   The chain pointers had been destroyed.

     0C   The cell pool format was invalid.

     10   The cell pool ID was invalid.

05   The JES3 subsystem interface read-end module IATSSRE failed to obtain storage; the storage would have held a copy of a staging area destined for an FSS address space. The three low-order bytes of register 15 contain the return code from the MVS GETMAIN service.

06   The JES3 subsystem interface read-end module IATSSRE could not find the FSID in the staging area; the FSID identifies the dynamic destination queue (DESTQ) for which the staging area is intended.

07   The JES3 subsystem interface read-end module IATSSRE could not find the proper control block structure required for queuing the staging area in an FSS address space.

11   A JES3 routine issued the IATXSSXM macro to call a specific routine in module IATSSXM. IATSSXM returns in the low-order byte of register 15 the ECODE parameter value from the IATXSSXM macro.

     JES3 SPL: User Modifications and Macros describes the IATXSSXM macro.

13   The system abnormally terminated JES3 during staging area initialization.

14   The system abnormally terminated JES3 during processing to move a staging area to make it a dedicated staging area.

15   The system abnormally terminated the processing following an end of memory (EOM) or an end of task (EOT) call.

16   The system abnormally terminated FREEMAIN processing of the staging area wait queue (SAW Q).

17	The system abnormally terminated FREEMAIN processing of the staging area pending queue (SAP Q).
18	The system abnormally terminated an attempt to page-fix the staging area pending queue (SAP Q).
19	The system abnormally terminated copying of the staging area pending queue (SAP Q) from JES3 auxiliary storage to the common service area (CSA).
1A	Module IATSSCM detected an error, which may have caused another ABEND, during GETCELL processing for JES3 auxiliary storage.
1B	Module IATSSCM detected an error during validation of a staging area queue.
40	The passed staging area was not found on the staging area queue.

System Action: The system writes the common service area (CSA), system queue area (SQA), and the MVS trace table to a SYS1.DUMP data set and abnormally terminates the current address space. If the address space is the JES3 address space, the system does not write a dump.

Problem Determination: Table III, items 4, 5, 6, 20.

6FC

Explanation: An error has occurred while the program check first level interrupt handler was setting up for a SPIE exit routine. In an attempt to recover the system, the supervisor control program has abnormally terminated the task that attempted the SPIE exit.

System Action: The system abnormally terminates the active task.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 16, 23, 29.

700

Explanation: A program check occurred during EXCP processing of an I/O request. The program check occurred in a supervisor service routine called by EXCP.

System Action: The system abnormally terminates the task and writes an error record to SYS1.LOGREC.

Programmer Response: Not a programmer error. Rerun the job requesting an abnormal termination dump before calling the system programmer.

For the system programmer, the problem is probably in one of the several service routines used by EXCP. In the abnormal termination dump, the TCB field TCBEXCPD (at offset C0) points to the EXCP problem determination area. The items in the problem determination area of interest are:

- Offset 4 contains a copy of the program status word (PSW) for the service routine in which the program check occurred.
- Offset E contains the interruption code when the program check occurred.
- Offset 10 contains a copy of the register contents when the program check occurred.
- Offset 54 contains the contents of the request queue element (RQE), if allocated, when the program check occurred.

After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

702

Explanation: An error occurred during an attempt to interface with one of the POST service routines. Either invalid input data or an unauthorized POST exit routine request was encountered.

This code is associated only with extended ECB processing. If an extended ECB was being posted, ensure that it contains valid data.

Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	POST service routine IEA0PT0E encountered an invalid function request.

04 POST service routine IEA0PT0E encountered a delete request for an exit not currently defined.

08 During an attempt to post an extended ECB, the descriptor word of the ECB extension contained invalid data.

0C During an attempt to post an extended ECB, the ECB extension contained an invalid exit routine address.

10 A post of an extended ECB was attempted from a POST exit routine.

14 During an attempt to post an extended ECB, either the ECB address or ECB extension address was invalid.

Programmer Response: Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

704

Explanation: A system error, uncorrectable machine error, or error that cannot be determined occurred during execution of a GETMAIN macro instruction.

System Action: The system abnormally terminates the requesting task.

Programmer Response: Rerun the job. If the error recurs, notify the system programmer or the installation manager.

Problem Determination: Table I, items 1, 2, 3, 5a, 16, 18, 29, or 30.

705

Explanation: A system error, uncorrectable machine error, or error that cannot be determined occurred during execution of a FREEMAIN macro instruction.

System Action: The system abnormally terminates the requesting task.

Programmer Response: Rerun the job. If the error recurs, notify the system programmer or the installation manager.

Problem Determination: Table I, items 1, 2, 3, 5a, 16, 18, 29, or 30.

706

Explanation: The error occurred during execution of a LINK, XCTL, ATTACH, or LOAD macro instruction.

The requested load module was marked by the linkage editor as not executable.

Programmer Response: Correct the errors that were found by the linkage editor in the load module, have the module edited by the linkage editor again, recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

70A

Explanation: A system error, uncorrectable machine error, or error that cannot be determined occurred during execution of an R-form GETMAIN or FREEMAIN macro instruction.

System Action: The system abnormally terminates the requesting task.

Programmer Response: Execute the job again. If the error recurs, notify the system programmer or the installation manager.

Problem Determination: Table I, items 1, 2, 3, 5a, 16, 18, 29, or 30.

713

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on tape or on a direct access device. This system completion code is accompanied by message IEC148I. Message IEC148I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC148I.

Problem Determination: Table I, items 1, 2, 3, 5a, 15, 16, 29.

714

Explanation: The error occurred during execution of a CLOSE macro instruction for a data set on tape. This system completion code is accompanied by message IEC215I. Message IEC215I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC215I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

717

Explanation: The error occurred during execution of a BSAM CLOSE macro instruction with a TYPE = T operand for a data set on tape. This system completion code is accompanied by message IEC222I. Message IEC222I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC222I.

Problem Determination: 1, 3, 5a, 15, 16, 29.

722

Explanation: One of the following output limits was exceeded:

● The output limit specified by the OUTLIM keyword on the SYSOUT DD statement.

● The job output limit specified in the LINES and CARDS parameters of the JES2 JOBPARM statement.

● The job output limit specified in the BYTES, CARDS, LINES, and PAGES parameters on the STANDARDS initialization statement or the JES3 MAIN statement.

Programmer Response: Probable user error. Check for input/output loops. Verify that the parameter value does not conflict with any

installation requirements; then, increase the value.

Problem Determination: Table I, items 5a, 7a, 7b, 29.

72A

Explanation: During execution of an ATTACH macro instruction, the system found an invalid parameter address.

Programmer Response: Correct the parameter addresses, ensuring that they are valid virtual addresses. Recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 15, 16, 19, 29.

730

Explanation: An unexpected error occurred during execution of a DEQ macro instruction.

System Action: The system abnormally terminates the task and records related information in SYS1.LOGREC.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 1, 5a, 16, 18, 23, 29.

737

Explanation: The error occurred at an end-of-volume or during allocation of a secondary quantity of direct access storage as requested in the SPACE parameter of the DD statement for the data set. This system completion code is accompanied by message IEC027I. Message IEC027I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC027I.

Problem Determination: If the data set does exist on the specified volumes and the problem recurs, see Table I, items 1, 3, 5a, 15, 16, 25b, 29

738

Explanation: An unexpected error occurred during execution of an ENQ macro instruction.

System Action: The system abnormally terminates the task and records related information in SYS1.LOGREC.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 1, 5a, 16, 18, 23, 29.

744

Explanation: A program check occurred during the execution of SYNADAF or SYNADRLS. This error could not be attributed to invalid user input.

System Action: The SYNADAF recovery routine tried to write a dump of LSQA and the user's region. The dump header includes the job name, step name, and procedure step name. See message IEC907I to determine whether the dump was successfully written. A software error record was written to SYS1.LOGREC.

Programmer Response: Rerun the job step.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 18, 29.

778

Explanation: A system error, uncorrectable machine error, or error that cannot be determined occurred during execution of an RC or RU form GETMAIN or FREEMAIN macro instruction.

System Action: The system abnormally terminates the requesting task.

Programmer Response: Rerun the job. If the error recurs, notify the system programmer or the installation manager.

Problem Determination: Table I, items 1, 2, 3, 5a, 16, 18, 29, or 30.

77D

Explanation: The error occurred during execution of an EVENTS macro instruction. The control program found that the input parameter flags contained an invalid combination.

Programmer Response: Verify the EVENTS macro input parameters and the contents of register 0 when the EVENTS service routine was invoked.

Problem Determination: Table I, items 1, 3, 5a, 19, 29.

7FB

Explanation: An uncorrectable error occurred during execution of the MVS-JES3 dynamic device reconfiguration (DDR) subsystem interface (SSI) routines.

System Action: The system terminates the reconfiguration.

Operator Response: If you initiated the reconfiguration, retry it. If the system initiated the reconfiguration, notify the system programmer.

Problem Determination: Table I, items 5a, 16, 29.

800

Explanation: EXCP (execute channel program) processing encountered one of the following errors while processing an I/O request:

● If SVC 0 (EXCP) was issued, an error occurred during page-fix processing.

● If SVC 114 (EXCPVR) was issued, an error occurred in either the page-fix or page-unfix processing.

● The IDA bit was set to one in a virtual channel program (detected in module IECVTCCW).

Notes:

1. *This abend can occur if the job's JCL concatenates data sets with unequal blocksizes because SAM-E is installed on the system. The job terminates with system completion code 171, which in turn causes the 800 ABEND.*

2. *When SVC 0 or SVC 114 is issued, page-fix errors can occur when EXCP processing tries to fix pages that are not assigned to the caller's ASID.*

System Action: The system abnormally terminates the task and writes an error record to SYS1.LOGREC.

Programmer Response: Rerun the job, requesting an abnormal termination dump before calling the system programmer.

If SAM-E is installed on your system, check to see if the job concatenated data sets with unequal blocksizes.

In the abnormal termination dump, the TCB field TCBEXCPD (at offset C0) points to the EXCP problem determination area. The items in the problem determination area of interest are:

● Offset 10 contains a copy of the register contents when EXCP processing detected the error.

● Offset 54 contains the contents of the request queue element (RQE), if allocated, when EXCP processing detected the error.

● If SVC 0 was issued, the fix list is contained in the fix list block.

● If SVC 114 was issued, the pointer to the fix list is located at offset 0C in the TCCW block.

After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

804

Explanation: The error occurred during the execution of an EU, LU, or VU form GETMAIN macro instruction:

● More virtual storage was requested than was available.

● A negative length was specified (EU or VU form only).

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that no program errors incorrectly modify the macro expansion. If necessary, change the program to request more storage for the job. Then execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

806

Explanation: An error occurred during execution of a LINK, XCTL, ATTACH, or LOAD macro instruction, in which the EP or EPLOC operand was specified. The error was detected by the control program routine for the BLDL macro instruction.

Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	The LOAD macro instruction was issued with the ADDR= parameter, or the LSEARCH=YES parameter, but the specified module could not be found.
04	The program whose entry point was specified in the EP or EPLOC operand was not found in the indicated library (private library, job library, or link library). This situation can occur when the LOAD macro instruction includes the ADDR= parameter but does not include the DCB parameter.
08	An uncorrectable input/output error occurred when the BLDL control program routine attempted to search the directory of the library that contained the program whose entry point was specified in the EP or EPLOC operand. This can

occur if the specified library is an uninitialized partitioned data set.

An invalid data extent block (DEB) has been detected by the BLDL control program. The DEB was built in other than storage protection key 0-7.

0C   An SVC routine required by the system could not be found in the link pack area.

10   The supervisor found that the data control block (DCB) for the library, used by the BLDL control program routine to locate the requested module, was not open or was not valid.

Programmer Response: If register 15 contains a X'04', it is a probable user error. Make sure that the requesting program was not incorrectly modified. Make sure that the source library was indicated correctly and that the indicated library does contain the requested program. Correct the error, and execute the job step again.

If register 15 contains X'0C', report this completion code to the system programmer.

If register 15 contains a X'10', it is a probable user error. Make sure that the DCB for the library is valid and open. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 25c, 29. If register 15 contains a X'08', see Table II, format 1: trace option - *TRACE=IO*.

80A

Explanation: The error occurred during execution of an R-form GETMAIN macro instruction:

● More virtual storage was requested than was available.

● A negative length was specified.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that no program errors incorrectly modify the macro expansion. If necessary, change the program to request less virtual storage. Then execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

813

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on tape. This system completion code is accompanied by message IEC149I. Message IEC149I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC149I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

822

Explanation: A region required to run the step could not be obtained.

System Action: Message IEF085I or IEF186I is written to the programmer, depending upon whether the job was an ordinary job or a deferred checkpoint restart.

Programmer Response: Respond as indicated for the message.

Problem Determination: Table I, items 1, 2, 3, 7a, 29.

82A

Explanation: An invalid subpool ID was specified by an authorized task with the NSHSPV or the NSHSPL parameter on the ATTACH macro instruction. An authorized task is in storage protection 0-7, supervisor state, or APF-authorized.

System Action: The new subtask is not created. The system abnormally terminates the task that issued the ATTACH macro instruction.

Programmer Response: Change the invalid parameter (only subpool 236 or 237 may be specified with the NSHSPV or the NSHSPL parameter).

Problem Determination: Table I, items 5a, 16, 19, 29.

837

Explanation: The error occurred at an end-of-volume for a sequential data set. This system completion code is accompanied by message IEC028I. Message IEC028I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC028I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

838

Explanation: An ENQ macro instruction request was denied due to serious damage of the ENQ/DEQ control blocks.

Operator Response: Notify the system programmer.

Programmer Response: Resubmit the job after the system has been reinstated.

Problem Determination: Table I, items 1, 5a, 16, 19, 29.

878

Explanation: The error occurred during execution of an RC or RU form GETMAIN macro instruction:

● More virtual storage was requested than was available.

● A negative length was specified.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the program correctly modifies the macro expansion. If necessary, change the program to

request less storage. Then execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

87D

Explanation: The error occurred during execution of an EVENTS macro instruction. The control program found that the EVENTS table specified in the event control block (ECB) had no available entries to contain the posted ECB address.

Programmer Response: Make sure that the EVENTS table is large enough to contain entries for all ECBs that can be posted to it. Correct the error, and execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

8FB

Explanation: An uncorrectable error occurred during execution of an interpreter DSP-related function. One of the following failed: the converter/interpreter (CI) subtask under control of the DSP, the dynamic support program (DSP) itself, or the JES3 interface (module IATIIII) creating the system work area (SWA). Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
05	An error occurred in the SWA-create interface (module IATIIII), indicating a problem reading or mapping SWA control blocks. Register 9 points to the interpreter work area (IIW).
06	An error occurred in a JES3 user spool access method (USAM) POINT or WRITE operation for an interpreter subtask.
07	During initialization of the data set status block (DSS) or the data set block (DSB), the converter/interpreter found that the DSS or DSB was invalid.
08	An error has occurred in JES3 user spool access method (USAM) buffer initialization for an interpreter subtask.
09	Module IATIICX found too many JCL statements; a JCL statement count overflow occurred.

15   The reader/interpreter passed an invalid return
      code back to JES3. The system writes a dump to
      SYS1.DUMP and detaches the current task.

System Action: The system terminates the job and continues other processing.

Operator Response: Notify your system programmer. Save all associated print output.

Programmer Response: Supply the system programmer with the dump, a listing of the JCL for the job, a listing of the JCL for JES3, and the JES3 initialization statements. For a return code of 5, rerun the job with the DEBUG = ALL option after a //* PROCESS CI JECL statement.

Problem Determination: Table I, item 3. Table III, items 1, 4, 5, 7, 14a (only for return code 5), 20.

905

Explanation: The error occurred during the execution of a FREEMAIN macro instruction. The address of the storage area to be released is not on a doubleword boundary.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that no program errors incorrectly modify the macro expansion. If necessary, change the program to request less storage. Then execute the job again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

906

Explanation: The error occurred during execution of a LINK, LOAD, XCTL, and ATTACH. Either the maximum use count has been exceeded, or the maximum use count and the maximum responsibility count have both been exceeded. This count is '7FFF' for OS/VS2, Release 3.7.

System Action: The system terminates the task.

Programmer Response: Check for program errors, such as endless loops, that cause macro instructions to be executed too often. Make corrections, recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

90A

Explanation: The error occurred during the execution of an R-form FREEMAIN macro instruction.

The address of the storage area to be released was not on a doubleword boundary.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that no program errors incorrectly modify the address of the virtual storage area to be released. Then execute the job again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

913

Explanation: The error occurred during execution of an OPEN macro instruction. This system completion code is accompanied by message IEC150I. Message IEC150I identifies the terminated task and explains the return code in register 15.

Programmer Response: Respond as indicated in message IEC150I.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

922

Explanation: With the initiator in control, an ABEND, program check, depression of the RESTART key, or machine check took place. The system terminates the job being processed at the time.

System Action: The system writes a record describing the error to SYS1.LOGREC, unless the ABEND was an OPEN failure, and writes a dump to SYS1.DUMP, when applicable.

Programmer Response: Resubmit the job.

Problem Determination: Table I, items 1, 2, 3, 7a, 16, 18, 29.

92A

Explanation: During execution of an ATTACH macro instruction, an environmental error occurred; the error was not the result of any action on the part of the current task. Register 15 contains a hexadecimal reason code:

Reason Code	Explanation
00	An error occurred in the ESTAE SVC issued to establish a recovery environment for ATTACH processing.
04	Storage in subpool 255 was not available for the new SVRB, SPQEs, and parameter save area.
08	An error occurred in SVC 60 (STAI/ESTAI) issued to propagate STAI/ESTAI SCBs from the current TCB to the new TCB, and to build a new SCB if STAI or ESTAI was specified in the ATTACH macro instruction. The SVC 60 issued was a STAI entry if the STAI keyword was specified in the ATTACH macro instruction; otherwise, it is an ESTAI entry.
0C	An error occurred when SETLOCK was entered to obtain the local lock.
10	An error occurred when SETLOCK was entered to release the local lock.

System Action: The new subtask is not created. The system abnormally terminates the task that issued the ATTACH macro instruction.

Operator Response: Run the job again.

Problem Determination: Table I, items 5a, 16, 29.

930

Explanation: The job issued a DEQ macro instruction that included the TCB operand, but the TCB operand identified a task that was in the process of terminating.

System Action: The system records the error in SYS1.LOGREC.

Programmer Response: Determine why the task identified in the TCB operand was terminated. Correct that error, and resubmit the job.

Problem Determination: Table I, items 1, 5a, 15, 18, and 23.

937

Explanation: The error occurred at an end-of-volume for a checkpoint data set or a RACF-protected data set. This system completion code is accompanied by message IEC029I. Message IEC029I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC029I.

Problem Determination: Table I, items 1, 3, 4, 5a, 29.

938

Explanation: The job issued an ENQ macro instruction that included the TCB operand, but the TCB operand identified a task that was in the process of terminating.

System Action: The system records the error in SYS1.LOGREC.

Programmer Response: Determine why the task identified in the TCB operand was terminated. Correct that error, and resubmit the job.

Problem Determination: Table I, items 1, 5a, 15, 18, and 23.

978

Explanation: The error occurred during the execution of an RC or RU form FREEMAIN macro instruction. The address of the storage area to be released is not on a doubleword boundary.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that no program errors incorrectly modify the address specified for the storage area to be released.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

9FB

Explanation: JES3 output service module IATOSDR or IATOSPS abnormally terminated an MVS service routine, usually SETPRT, in order to process a JES writer function or an operator command. This completion code does not indicate a program failure.

Programmer Response: None.

A00

Explanation: During EXCP processing of an I/O request, a program check occurred in an appendage called by EXCP.

System Action: The system abnormally terminates the task and writes an error record to SYS1.LOGREC.

Programmer Response: Probably not a programmer error unless you are using EXCP for I/O operations. Rerun the job, requesting an abnormal termination dump before calling the system programmer.

In the dump, the TCB field TCBEXCPD (at offset C0) points to the EXCP-provided debugging area. The items in the debugging area of interest are:

- Offset 2 contains a flag byte indicating which appendage was active when the program check occurred. The bit pattern is as follows:

Bit	Meaning
1...	Error in SVC portion of EXCP
.1..	Error in SRB portion of EXCP
..1.	Error in PCI appendage
...1	Error in CHE appendage
.... 1...	Error in ABE appendage
.... .1..	Error in EOE appendage
.... ..1.	Error in PGFX appendage
....1	Appendage is active
....	Error in SIO appendage

- Offset 4 contains a copy of the program status word (PSW) before RTM was entered, giving the location in the appendage where the error occurred.

- Offset E contains the interruption code.

- Offset 10 contains a copy of the register contents when EXCP processing issued the ABEND macro instruction.

- Offset 54 contains the contents of the request queue element (RQE) for the I/O request being processed.

After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 19, 29.

A03

Explanation: The error occurred when a task attempted to terminate normally with a RETURN macro instruction or a branch to the return address in register 14. The task had initiated one or more subtasks that had not terminated.

Programmer Response: Change the program so that, before termination of the task, all its subtasks will terminate. A task can determine that its subtasks have terminated by specifying ECB operands in the ATTACH macro instructions used to initiate the subtasks and then issuing WAIT macro instruction(s) that specify the event control blocks (ECB) representing the subtask terminations.

If WAIT macro instruction(s) had been issued and had indicated that all subtasks had terminated, check for program errors that incorrectly modified the WAIT macro instructions or ECBs.

Make corrections, recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

A05

Explanation: The error occurred during execution of a FREEMAIN macro instruction:

● The control program found that the address and length specifications in the release request defined an area to be freed that overlapped a free area in virtual storage. Specifications for free areas are contained in the free area queue, which is composed of queue elements defining each free area.

● Part of the area being freed is still fixed in real storage. Fixed storage blocks cannot be freed.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure the address or length of the storage that the FREEMAIN is supposed to free is not incorrectly specified or modified. Also, for any storage that a GETMAIN macro instruction obtains and a program subsequently fixes, a PGFREE must be issued before it can be released by a FREEMAIN macro instruction. Probably the storage is still being used by an authorized function and should not be freed at that time.

Correct the error, and execute the job again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

A06

Explanation: The error was detected during execution of either a LINK, LOAD, XCTL or ATTACH macro instruction.

An RB (request block) is requesting a serially reusable program. However, another RB associated with the same task as the first RB is requesting the same serially reusable program, and the request has not yet been satisfied.

Programmer Response: Change the program to wait until the serially reusable load module is executed before issuing the LINK, LOAD, XCTL or ATTACH macro instruction for the load module. Make corrections, recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

A0A

Explanation: The error occurred during the execution of an R-form FREEMAIN macro instruction.

● The control program found that the address and length specifications in the release request defined an area to be freed that overlapped a free area in virtual storage. Specifications for free areas are contained in the free area queue, which is composed of queue elements defining each free area.

● Part of the area being freed is still fixed in real storage. Fixed storage blocks cannot be freed.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task. If the FREEMAIN macro instruction represents a FREEPART request, the system terminates the current address space.

Programmer Response: Make sure the address or length of the storage that the FREEMAIN is supposed to free is not incorrectly specified or modified. Also, for any storage that a GETMAIN macro instruction obtains and a program subsequently fixes, a PGFREE must be

issued before it can be released by a FREEMAIN macro instruction. Probably the storage is still being used by an authorized function and should not be freed at that time.

Correct the error, and execute the job again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

A13

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on tape. This system completion code is accompanied by message IEC151I. Message IEC151I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC151I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

A14

Explanation: The error occurred during execution of a CLOSE macro instruction for a data set on a direct access device. This system completion code is accompanied by message IEC216I. Message IEC216I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC216I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

A22

Explanation: The operator entered the FORCE command for the job, possibly for one of the following reasons:

● The job may have been forced if CANCEL was unable to remove the job.

● The job may have been canceled to correct a system interlock condition (for example, where two tasks were enqueued on a resource without an intervening dequeue).

● The job may have been canceled if an installation-established procedure was violated.

The program may contain no errors.

System Action: The system terminates the address space and all tasks running in the address space.

Programmer Response: Find out why the operator canceled the job. Make any necessary corrections. Rerun the job, ensuring that the operator enters the command CANCEL jjj,DUMP, if necessary.

Problem Determination: Table I, items 1, 2, 3, 4, 5a, 7d, 13, 16, 18, 23, 29.

A23

Explanation: During execution of an XMPOST macro instruction issued by the communications task, the ECB address specified was found to be invalid.

Operator Response: Probable system error. Re-IPL the system, and run the job again.

Problem Determination: Table I, items 2, 16, 29.

A37

Explanation: The error occurred during end-of-volume processing. This system completion code is accompanied by message IEC015I. Message IEC015I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC015I.

Problem Determination: Table I, items 1, 4, 5a, 15, 16, 29. Table II, format 3.

A78

Explanation: The error occurred during the execution of an RC or RU form FREEMAIN macro instruction.

● The control program found that the address and length specifications in the release request defined an area to be freed that overlapped a free area in virtual storage. Specifications for free areas are contained in the free area queue, which is composed of queue elements defining each free area.

● Part of the area being freed is still fixed in real storage. Fixed storage blocks cannot be freed.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure the address or length of the storage that the FREEMAIN is supposed to free is not incorrectly specified or modified. Also, for any storage that a GETMAIN macro instruction obtains and a program subsequently fixes, a PGFREE must be issued before it can be released by a FREEMAIN macro instruction. Probably the storage is still being used by an authorized function and should not be freed at that time.

Correct the error, and execute the job again.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

AFB

Explanation: While JES3 dynamic support program (DSP) for systems network architecture (SNA) remote job processing (RJP) was executing as a JES3 subtask or under an SRB, a JES3 module IATSNDA, IATSNDE, IATSNDM, IATSNDR, IATSNDT, IATSNDU, or IATSNDV attempted to reuse a still-active request parameter list (RPL).

System Action: The system cancels the session associated with the RPL and writes a dump.

The system continues processing all other sessions, including those associated with the same work station.

Programmer Response: Analyze the dump to determine which RPL was about to be overlaid and what data was about to be sent or received.

B00

Explanation: During EXCP processing of an I/O request, a program check occurred in an EXCP procedure.

System Action: The system abnormally terminates the task and writes an error record to SYS1.LOGREC.

Programmer Response: Normally not a program error. Rerun the job requesting an abnormal termination dump before notifying the system programmer.

In the dump, the TCB field TCBEXCPD (at offset C0) points to the EXCP debugging area. The items in the debugging area of interest are:

● Offset 2 contains a flag byte indicating where the error occurred. The bit pattern is as follows:

1...	Error in SVC portion of EXCP
.1..	Error in SRB portion of EXCP
..1.	Error in PCI appendage
...1	Error in CHE appendage
.... 1...	Error in ABE appendage
.... .1..	Error in EOE appendage
.... ..1.	Error in PGFX appendage
....1	Appendage is active
....	Error in SIO appendage

● Offset 4 contains a copy of the program status word (PSW) before RTM was entered.

● Offset E contains the interruption code.

● Offset 10 contains a copy of the register contents at the time of the error.

● Offset 50 contains the translation exception address, if applicable.

● Offset 54 contains the contents of the request queue element (RQE) for the I/O request being processed, if allocated.

- Offset 80 is the start of the 160-byte blocks involved in the I/O request, if allocated.

After making corrections, execute the job step again.

Problem Determination: Table I, items 1, 3, 5b, 15, 19, 29.

B04

Explanation: The error occurred during execution of a GETMAIN macro instruction:

- A subpool number greater than 127 was specified by a problem program, which is not authorized to use subpool numbers greater than 127.

- An authorized program requested an invalid subpool.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the request was specified correctly and not modified incorrectly.

Problem Determination: Table I, items 1, 5a, 16, 23, 29

B05

Explanation: The error occurred during execution of a FREEMAIN macro instruction:

- A subpool number greater than 127 was specified by a problem program, which is not authorized to use subpool numbers greater than 127.

- An authorized program requested an invalid subpool.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the request was specified correctly and not modified incorrectly.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

B06

Explanation: During input/output activity, a system error task operating for a user task was abnormally terminating. Rather than have the system error task fail, the supervisor reinstated the error task and abnormally terminated the user task.

Programmer Response: Retry the task.

Problem Determination: Table I, items 5a, 16, 23, 29.

B0A

Explanation: The error occurred during execution of an R-form GETMAIN or FREEMAIN macro instruction:

- A subpool number greater than 127 was specified by a problem program, which is not authorized to use subpool numbers greater than 127.

- An authorized program requested an invalid subpool.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the request was specified correctly and not modified incorrectly.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

B13

Explanation: The error occurred during execution of an OPEN macro instruction for a data set on a 1403 printer that has the universal character set (UCS) special feature. This system completion code is accompanied by message IEC152I. Message IEC152I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC152I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

B14

Explanation: The error occurred during execution of a CLOSE macro instruction for a partitioned data set opened for output to a member. This system completion code is accompanied by message IEC217I. Message IEC217I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC217I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

B23

Explanation: The task issued a WTOR (write-to-operator with reply) request that was still unanswered when a communications task ABEND occurred.

System Action: The task issuing the WTOR is scheduled for termination.

Operator Response: Probable system error. Follow the Operator Response instructions for message IEE824A or IEE824E, which is issued when the communications task terminated. Then, if the task issuing the WTOR request terminated, restart the task.

Problem Determination: Table I, items 2, 16, 29.

B2D

Explanation: During execution of a FETCH ESTAE routine for an overlay program, a program check occurred while FETCH processing attempted to load a segment of the overlay program.

Programmer Response: Check the linkage editor input to be sure the overlay program is specified correctly.

Problem Determination: Table I, items 1, 5a, 16, 29.

B37

Explanation: The error was detected by the end-of-volume routine. This system completion code is accompanied by message IEC030I. Message IEC030I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC030I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 29.

B78

Explanation: The error occurred during execution of an RC or RU form GETMAIN or FREEMAIN macro instruction:

● A subpool number greater than 127 was specified by a problem program, which is not authorized to use subpool numbers greater than 127.

● An authorized program requested an invalid subpool.

Message IEA700I accompanies this message.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that the request was specified correctly and was not modified incorrectly.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

BFB

Explanation: During JES3 abnormal termination recovery processing, JES3 was unable to invalidate the spool space allocation checkpoint record (PTC). The invalidation failed due to an error in the checkpoint access method or an unrecoverable I/O error in the checkpoint data set(s).

Message IAT6352 accompanies this completion code. JES3 could not invalidate the spool space allocation checkpoint record (PTC) during JES3 abnormal termination recovery processing.

When message IAT1025 accompanies this completion code, JES3 could not invalidate the only copy or both copies of a partition track allocation table (PTAT) during JES3 initialization or after JES3 failsoft processing.

System Action: After issuing the message, JES3 terminates. IAT6352 contains the checkpoint access method return code, which identifies the error.

If message IAT1025 appears, the system writes an error record to SYS1.LOGREC.

Programmer Response: Using message IAT6352, analyze the return code and correct the error, then restart JES3.

For message IAT1025, analyze the error record in SYS1.LOGREC and the accompanying messages. In case the error is caused by a bad track, assign another track to the checkpoint data set and restart JES3 with a warm start. Otherwise, reallocate the checkpoint data set and perform a cold start.

Problem Determination: Table III, item 3.

C03

Explanation: The error occurred when a task attempted to terminate normally with a RETURN macro instruction or a branch to the return address in register 14. The task had opened one or more data sets that had not been closed.

The control program received a nonzero return code from the Data Management Resource Manager, TASK CLOSE, indicating one of the following:

● A subroutine called by TASK CLOSE returned a nonzero return code to TASK CLOSE.

● TASK CLOSE could not successfully close one or more data sets still open at termination because a previous error or ABEND had been ignored by a STAE routine or a DCB ABEND exit routine (for example, D37 ABEND).

● TASK CLOSE could not successfully close one or more of the task's data sets that were still open at termination, because the data control block (DCB) for the data set had been invalidly modified. Examples of how the DCB could be invalidly modified are:

   − A program containing an open DCB issued an XCTL macro instruction.

   − A program freed virtual storage that contained an open DCB.

   − The system program modified the DCB incorrectly.

Message IEC999I, giving the address of the DEB that could not be properly closed, may accompany this completion code.

Programmer Response: Correct the program error that incorrectly modified the data control block. Make corrections, recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

C0D

Explanation: A routine has found a condition that should not occur. For example, an invalid return code has been returned. This abnormal termination code may be used for entry into a recovery routine that will attempt retry.

Use the SYS1.LOGREC error record to obtain the names of the module and CSECT that failed.

If the routine is part of Real Storage Management or Auxiliary Storage Management, a reason code is provided that describes the error. See *OS/VS2 System Programming Library: MVS Diagnostic Techniques* for the reason codes and their meanings.

If the failing routine is part of the SVC Dump function of the Recovery Termination Manager, one of the following has occurred:

● For CSECT IEAVTSDT, an invalid post or resume of the dump was detected.

● For CSECT IEAVTSDH, an unsupported dump data set was detected after IPL.

● For module IECVSMGR, one of the following has occurred:

    — If register 7 contains X'F1F6F0C2' (160B in EBCDIC), a get request for a 160 byte block has failed. Register 11 contains the address of the 160-byte block.

    — If register 9 contains X'F1F6F0C2' (160B in EBCDIC), a free request for a 160-byte block has failed. Register 11 contains the address of the 160-byte block.

    — If register 7 contains X'F4F040C2' (40 B in EBCDIC, a get request or a free request for a 40-byte block has failed. Register 11 contains the address of the 40-byte block.

    — If register 7 does not contain X'F1F6F0C2' or X'F4F040C2' and register 9 does not contain X'F1F6F0C2' (that is, if none of the

three possibilities listed previously for module IECVSMGR is true), a get request or a free request for a small block has failed. Register 11 contains the address of the small block.

System Action: The system writes a software error record to the SYS1.LOGREC data set and/or writes a dump.

Programmer Response: Contact IBM for programming support.

Problem Determination: Table I, items 2, 4, 5a, 16, 18, 29.

C13

Explanation: The error occurred during execution of an OPEN macro instruction for a concatenated partitioned data set or a graphic device. This system completion code is accompanied by message IEC153I or, for graphics, message IEC157I. Message IEC153I or IEC157I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC153I or IEC157I.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

C22

Explanation: The EXCP processor found that the maximum number of outstanding EXCP/EXCPVR macro requests allowed for the address space has been exceeded. The maximum number allowed is defined in field ASCBXCNT, which has been initialized from field CVTXCPCT.

System Action: The system terminates the job step.

Programmer Response: Check the job for a loop that could result in EXCP/EXCPVR macros being repeatedly issued without intervening WAIT macros.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

C2D

Explanation: The error occurred during execution of an overlay program. Program fetch was unable to get enough storage for the module or control blocks.

Programmer Response: Increase the region size and execute the job step again.

Problem Determination: Table I, items 1, 5a, 9b, 29.

C37

Explanation: The error occurred when an input operation was requested. The data set was on a direct access device. This system completion code is accompanied by message IEC033I. Message IEC033I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC033I.

Problem Determination: Table I, items 1, 5a, 13, 25a, 29.

CFB

Explanation: One of the following occurred:

- During JES3 initialization, JES3 could not attach the JES3 auxiliary task, module IATAUX. ATTACH processing writes message IAT3005 to the console.

- After JES3 initialization, the JES3 auxiliary task, module IATAUX, could not recover from an error and abnormally terminated. The ESTAI routine in module IATABMN requests a dump of module IATAUX to the SYSABEND or SYSUDUMP data set.

System Action: JES3 terminates.

Programmer Response: If JES3 wrote message IAT3005 to the console, make sure that module IATAUX is in one of the following:

- The library concatenation defined by the JES3LIB initialization statements, if used.

- The STEPLIB concatenation defined in the JES3 procedure.

- The linklist specified in response to message IEA101A.

If JES3 did not write message IAT3005, look in the dump of module IATAUX to find the system completion code for the module's failure. Respond to that completion code.

Problem Determination: If module IATAUX could not be attached, see Table I, items 2, 5a, 7c, 13, 16, and Table III, items 2, 6, 21.

If module IATAUX abnormally terminated, see Table I, items 2, 5a, 13, 16.

D05

Explanation: The error occurred during execution of a FREEMAIN macro instruction. A task invoked a system function which, in turn, issued a FREEMAIN macro instruction. However, the FREEMAIN macro instruction attempted to free a local system queue area storage that was not owned by the task. For example, a task issues a CLOSE macro instruction for a data set that it does not own. During execution of the CLOSE macro instruction, a FREEMAIN macro instruction is issued.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Change the program to make sure that requests for system functions do not result in an invalid FREEMAIN macro instruction being issued; then, rerun the job.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

D06

Explanation: A program issued the LOAD
macro instruction for a module. The macro
instruction included some form of the GLOBAL
parameter. However, within the same job step
task structure, a TCB (task control block)
already loaded the requested module with
different variables on the GLOBAL parameter.
For example, a program issues the LOAD
macro instruction for a module with the
parameter GLOBAL = (YES,P). However, a
TCB already loaded that module with the
parameter GLOBAL = (YES,F) or
GLOBAL = NO.

System Action: The system issues message
IEA703I. The system abnormally terminates the
program that issued the LOAD macro
instruction, unless the macro instruction
included the ERRET parameter.

Programmer Response: Change the GLOBAL
parameter in the LOAD macro instruction.

Problem Determination: Table I, items 1, 5a, 16,
23, and 29.

D0A

Explanation: A task invoked a system function
that, in turn, issued an R-form FREEMAIN
macro instruction. The FREEMAIN attempted
to free local system queue area storage that was
not owned by the task.

For example, a task issues a CLOSE macro
instruction for a data set it does not own.
During execution of the CLOSE macro
instruction, the R-form FREEMAIN is issued.

Message IEA700I accompanies this completion
code.

System Action: The system abnormally
terminates the task.

Programmer Response: Change the program to
make sure that requests for system functions do
not result in an invalid FREEMAIN macro
instruction being issued; then, rerun the job.

Problem Determination: Table I, items 1, 5a, 16,
23, and 29.

D0D

Explanation: An error occurred during
abnormal termination of a subtask of the
jobstep task. RTM2 (recovery termination
management) was reentered invalidly; therefore,
the abnormal termination was altered to include
all tasks in the jobstep.

Note: The original completion code is in the
SVRB of the original SVC 13 SVRB queued
from the task that incurred the error.

System Action: RTM2 attempts to terminate the
job step. The system may have written a dump
to the SYSABEND or SYSUDUMP data set
and also to the SYS1.DUMP data set.

Programmer Response: Determine the
completion code for the original subtask, and
correct the error.

Problem Determination: Table I, items 1, 5, 11,
16, 19, 29.

D13

Explanation: The error occurred during
execution of an OPEN macro instruction for a
graphic data control block. This system
completion code is usually accompanied by
message IEC158I. Message IEC158I identifies
the terminated task and explains the return code
(rc in the message text) in register 15.

Programmer Response: Respond as indicated for
message IEC158I.

Problem Determination: Table I, items 1, 5a, 13,
23, 29.

D14

Explanation: The error was detected during
execution of a CLOSE macro instruction for a
graphic data control block.

The graphic device to be closed had not been
opened by the closing task.

Programmer Response: Issue the CLOSE macro
instruction within the task that issues the OPEN
macro instruction, or remove the invalid

CLOSE macro instruction. Then execute the job step again.

Problem Determination: Table I, items 1, 3, 5a, 15, 29.

D23

Explanation: The error occurred during execution of a WTO or WTOR macro instruction.

If the system does not successfully write a dump, the error is one of those described below. If the system successfully writes a dump, register 15 contains a hexadecimal error code in the format xxyy00zz. The xx field identifies the processing that was taking place when the error occurred. The yy field identifies the module that requested the ABEND. If xx is 10, the zz field identifies the cause of the error. If xx is 20 or greater, the zz field contains the return code that was issued by GETCELL, BLDCPOOL, or GETMAIN processing.

xx   Meaning

10   The error was found during a validity check of a parameter list. The zz field identifies the error:

    01   The parameter list supplied to the WTOR macro instruction does not begin on a fullword boundary.

    02   A multiple-line WTOR was specified.

    03   The parameter list the user passed does not reside in storage that the user can access.

    04   The user requested a WTOR with a text length of zero.

    05   The caller modified the WPL (WTO parameter list) during WTO processing.

20   A GETCELL for an ORE (operator reply element) failed.

21   A BLDCPOOL for an ORE failed.

22   A GETMAIN for an ORE failed.

30   A GETCELL for a WQE (write queue element) failed.

31   A BLDCPOOL for a WQE failed.

32   A GETMAIN for a WQE failed.

42   A GETMAIN for a dynamic work area failed.

yy   Meaning

01   IEAVVWTO requested the ABEND.

02   IEAVMWTO requested the ABEND.

Programmer Response: Correct the program issuing the WTO or WTOR macro instruction, recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

D2D

Explanation: The error occurred during execution of an overlay program.

The control program found an invalid record type when attempting to load a segment of the overlay program.

Programmer Response: Link edit the program again, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 9, 29.

D37

Explanation: The error occurred when an output operation to a direct access device was requested. This system completion code is accompanied by message IEC031I. Message IEC031I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC031I.

Problem Determination: Table I, items 1, 3, 5a, 15, 16, 25b, 29.

D78

Explanation: A task invoked a system function that, in turn, issued an RC or RU form FREEMAIN macro instruction. The FREEMAIN attempted to free local system queue area storage that was not owned by the task.

For example, a task issues a CLOSE macro instruction for a data set it does not own. During execution of the CLOSE macro

instruction, the RC or RU form FREEMAIN is issued.

Message IEA700I accompanies this completion code.

System Action: The system abnormally terminates the task.

Programmer Response: Change the program to make sure that requests for system functions do not result in an invalid FREEMAIN macro instruction being issued; then, rerun the job.

Problem Determination: Table I, items 1, 5a, 16, 23, and 29.

| DFB

| **Explanation:** During processing in a functional subsystem (FSS) address space, a JES3 module detected the error indicated by the hexadecimal reason code in register 15.

| Reason
| Code in
| Hex (Dec)   Explanation

| 01 (01D)   The connect subsystem interface (SSI) routine in module IATSICD determined that the START command for the FSS address space did not contain a token.

| 02 (02D)   The connect subsystem interface (SSI) routine in module IATSICD could not locate the MEMDATA header for the FSS address space.

| 03 (03D)   The connect subsystem interface (SSI) routine in module IATSICD could not establish the listen task, IATFCLT, for the FSS or the FSA.

| 0B (11D)   The common end-of-task exit routine in module IATSICD found that a task in the FSS address space had terminated unexpectedly.

| 0C (12D)   The common end-of-task exit routine in module IATSICD could not identify a task that had terminated.

| 15 (21D)   The writer FSA specific connect routine, IATFPCC, could not initialize for GETDS spool access using the block spooler.

| 16 (22D)   The writer FSA specific connect routine, IATFPCC, could not establish the read-ahead task for the FSA.

| 17 (23D)   The writer FSA specific connect routine, IATFPCC, could not establish the checkpoint writer task for the FSA.

| 1F (31D)   The FSI order interface routine, IATFCOR, received a nonzero return code from the FSS or FSA order routine.

| 20 (32D)   The FSI post interface routine, IATFCPT, received a nonzero return code from the FSA post routine.

| 29 (41D)   The C/I FSS order processing routine, IATIIFO, found that the FSI parameter list did not contain an order.

| 2A (42D)   The C/I FSS order processing routine, IATIIFO, received an invalid order type.

| 2B (43D)   The C/I FSS order processing routine, IATIIFO, received an invalid stop FSS order.

| 2C (44D)   The C/I FSS order processing routine, IATIIFO, could not locate the C/I communications block (CCB).

| 33 (51D)   The writer FSA quick-cell service routine, IATFPQC, failed to get an index, because the first free index was invalid.

| 34 (52D)   The writer FSA quick-cell service routine, IATFPQC, failed to get a buffer, because the first free buffer was invalid.

| 35 (53D)   The writer FSA quick-cell service routine, IATFPQC, failed to free an index, because the index passed in the request was invalid.

| 36 (54D)   The writer FSA quick-cell service routine, IATFPQC, failed to free a buffer, because the buffer passed in the request was invalid.

| 3D (61D)   While reading a data set checkpoint record, the writer FSA GETDS routine, IATFPGD, received an error return from the block spooler routine; the error return indicated that the parameter list was invalid.

| 3E (62D)   While reading a data set checkpoint record, the writer FSA GETDS routine, IATFPGD, received an error return from the block spooler routine; the error return indicated that the spool address was invalid.

| 3F (63D)   While reading a data set checkpoint record, the writer FSA GETDS routine, IATFPGD, received an error return from the block spooler routine; the error return indicated that an error occurred during a cross-address space move.

| 47 (71D)   While reading the scheduler work block (SWB), the writer FSA SWB processing service routine, IATFPSB, received an error return from the block spooler routine; the error return indicated that the parameter list was invalid.

| 48 (72D)   While reading the scheduler work block (SWB), the writer FSA SWB processing service routine, IATFPSB, received an error

ABEND

return from the block spooler routine; the error return indicated that the spool address was invalid.

49 (73D)   While reading the scheduler work block (SWB), the writer FSA SWB processing service routine, IATFPSB, received an error return from the block spooler routine; the error return indicated that an error occurred during a cross-address space move.

4A (74D)   The scheduler JCL facility (SJF) PUTSWB function returned an error code to the writer FSA scheduler work block (SWB) processing service routine, IATFPSB.

4B (75D)   The scheduler JCL facility (SJF) UPDATE function returned an error code to the writer FSA scheduler work block (SWB) processing service routine, IATFPSB.

4C (76D)   The scheduler JCL facility (SJF) DELETESWB function returned an error code to the writer FSA scheduler work block (SWB) processing service routine, IATFPSB.

51 (81D)   The writer FSA read-ahead task, IATFPRA, could not initialize for spool access using the block spooler.

52 (82D)   While reading data from spool, the writer FSA read-ahead task, IATFPRA, received an error return from the block spooler routine; the error return indicated that the parameter list was invalid.

53 (83D)   While reading data from spool, the writer FSA read-ahead task, IATFPRA, received an error return from the block spooler routine; the error return indicated that the spool address was invalid.

54 (84D)   While reading data from spool, the writer FSA read-ahead task, IATFPRA, received an error return from the block spooler routine; the error return indicated that an error occurred during a cross-address space move.

55 (85D)   The writer FSA read-ahead task, IATFPRA, found an error in the format of a spool data buffer.

56 (86D)   The writer FSA read-ahead task, IATFPRA, found an error in the format of a JESNEWS data buffer.

5B (91D)   The writer FSA checkpoint writer task, IATFPCW, could not initialize for spool access using the block spooler.

5C (92D)   While writing a data set checkpoint record, the writer FSA checkpoint writer task, IATFPCW, received an error return from the block spooler routine; the error return indicated that the parameter list was invalid.

5D (93D)   While writing a data set checkpoint record, the writer FSA checkpoint writer task, IATFPCW, received an error return from the block spooler routine; the error return indicated that the spool address was invalid.

5E (94D)   While writing a data set checkpoint record, the writer FSA checkpoint writer task, IATFPCW, received an error return from the block spooler routine; the error return indicated that an error occurred during a cross-address space move.

System Action: The system abnormally terminates the task.

Most failures in the read-ahead task, IATFPRA, and in the checkpoint writer task, IATFPCW, cause processing of the current data set to be terminated. The task is reinstated to resume processing with the next data set.

All other failures result in termination of the FSA or of the entire FSS address space.

Operator Response: Notify the system programmer. If the FSS address space was terminated and if this is not a recurring error, issue the appropriate command to restart the FSS.

Problem Determination: Table I, item 33. Table III, item 4.

E00

Explanation: An error occurred during EXCP processing of an I/O request. The IOSB was returned to EXCP termination processing with the IOSB completion code set to X'45'. The I/O request was terminated for one of the following reasons:

● A program check or machine check occurred while module IECIOSCN or IECVPST was executing.

● The operator pressed the RESTART key while the I/O request was being processed.

● A program check or machine check occurred while a nonresident ERP or ERP loader module was executing.

System Action: The system abnormally terminates the task and writes an error record to

SYS1.LOGREC. The previous error record in SYS1.LOGREC should indicate the cause of the ABEND.

Programmer Response: Usually not a program error. The E00 code indicates that no EXCP debugging area is provided. Check the message in SYS1.LOGREC for the probable cause of the termination.

Problem Determination: Table I, items 1, 3, 5b, 15, 19, 29.

E03

Explanation: The error occurred when a task attempted to terminate normally with a RETURN macro instruction or a branch to the return address in register 14. The task is operating in must-complete status and did not reset must-complete.

System Action: The system abnormally terminates the task.

Programmer Response: Make sure that each ENQ, RESERVE, or STATUS macro instruction requesting must-complete status is paired with a DEQ or STATUS macro instruction requesting 'reset must-complete.'

Problem Determination: Table I, items 1, 5a, 16, 19, 23, 29. Table II, format 1, TRACE = SVC.

E13

Explanation: The error occurred during execution of an OPEN macro instruction for a graphic data control block. This system completion code is accompanied by message IEC159I. Message IEC159I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC159I.

Problem Determination: Table I, items 1, 5a, 13, 23, 29.

E23

Explanation: The error occurred during execution of a WTOR macro instruction. The address of the event control block (ECB), the address of the request block (RB) in the ECB, or of the virtual storage area for the reply was invalid.

Programmer Response: Correct the macro instruction or program errors that incorrectly modified the macro expansion. Be sure that the ECB address is a fullword on a fullword boundary. Recompile, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 16, 23, 29.

E2D

Explanation: The error occurred during execution of an overlay program. The control program found an invalid address when attempting to load a segment of the overlay program.

Programmer Response: Link edit the program again, and execute the job step again.

Problem Determination: Table I, items 1, 5a, 9, 29.

E37

Explanation: The error occurred when an output operation was requested. The data set was on a direct access or magnetic tape device. This system completion code is accompanied by message IEC032I. Message IEC032I identifies the terminated task and explains the return code (rc in the message text) in register 15.

Programmer Response: Respond as indicated for message IEC032I.

Problem Determination: Table I, items 1, 3, 5b, 15, 16, 29.

E82

Explanation: Disabled code was executing and invoked SVC 130 (RACHECK macro). However, SVC 130 is inactive because RACF (resource access control facility) is not installed on the system.

System Action: The system abnormally terminates the task.

Programmer Response: None.

Problem Determination: Table I, items 2, 3, 4, 5a, 13, 16, 17a, 17b.

E83

Explanation: Disabled code was executing and invoked SVC 131 (RACINIT macro). However, SVC 131 is inactive because RACF (resource access control facility) is not installed on the system.

System Action: The system abnormally terminates the task.

Programmer Response: None.

Problem Determination: Table I, items 2, 3, 4, 5a, 13, 16, 17a, 17b.

E84

Explanation: Disabled code was executing and invoked SVC 132 (RACLIST macro). However, SVC 132 is inactive because RACF (resource access control facility) is not installed on the system.

System Action: The system abnormally terminates the task.

Programmer Response: None

Problem Determination: Table I, items 2, 3, 4, 5a, 13, 16, 17a, 17b.

E85

Explanation: Disabled code was executing and invoked SVC 133 (RACDEF macro). However, SVC 133 is inactive because RACF (resource access control facility) is not installed on the system.

System Action: The system abnormally terminates the task.

Programmer Response: None

Problem Determination: Table I, items 2, 3, 4, 5a, 13, 16, 17a, 17b.

Fnn

Explanation: One of the following occurred:

1. The error occurred during execution of an invalid supervisor call (SVC) instruction. The last 2 digits of this completion code are the operand of the SVC in hexadecimal. For example, completion code F0D means that the error occurred during execution of SVC X'0D', which is SVC 13.

2. If nn is 13, 14, 17, or 37, an OPEN/CLOSE/EOV problem determination routine failed to recognize the passed abnormal termination code. Register 12 contains the abnormal termination code.

Programmer Response: In the first case, probable user error. Make sure that the SVC was not incorrectly modified. Check the operand against the valid codes for the control program being used, and determine if the SVC that was issued had been generated into the system. Correct the error and execute the job step again.

In the second case, see message IEC900I.

Problem Determination: Table I, items 5a, 16, 23, 29.

Wait State Codes

WT CDS

Wait State Code	The wait state code is found in the program status word (PSW) when the computer is in wait state.
Program Producing Code	Input/output supervisor, initial program load (IPL), nucleus initialization program (NIP) machine-check handler, supervisor, 3211 utility.
Audience and Where Produced	For operator: displayed in console lights.

Program Status Word (PSW) Format	yyyyyyyyxxxxxzzz
	
	yyyyyyyy
	    Left half of PSW. This half has two forms:
	        FF0s0000
	        If the wait state code (zzz in the right half of the PSW) is 000, no tasks are ready in the system. Otherwise, the error, indicated by zzz, has occurred.
	        000s0000
	        System wait state caused by an error.
	    In each of the above forms, s represents bits 12-15 (the CMWP bits).
	
	xxxxxzzz
	    Right half of PSW. The wait state code, zzz, indicates the error.

IMPORTANT Comments	If the system enters a wait state during IPL execution and the wait state resulted from an input/output error, display the contents of register 10 in the console lights. Register 10 will contain the unit address of the last device referenced in an input/output operation. Because this device could have caused the error, disable or demount the device, if possible, before starting the system again.

001

Explanation: During execution of the IPL program a "not operational" condition code was produced in response to a Test I/O instruction. The Test I/O instruction was issued to determine the current status of the volume containing the nucleus being loaded. The two-byte address of the device on which the error occurred can be found in real storage at decimal address 185 (X'B9').

This wait state may result if the operator attempts to load (IPL) the system with the IPL volume on a device not supported for systems residence.

Operator Response: Ensure that the device on which the volume was mounted is ready. If the problem recurs, call IBM for programming support.

002

Explanation: During execution of the IPL program, an input/output operation was not initiated; the channel status word (CSW) was stored; and the channel was not busy. The two-byte address of the device on which the error occurred can be found in real storage at decimal address 185 (X'B9').

Operator Response: Probable hardware error. Re-IPL the system. If the problem recurs, call IBM for hardware support.

003

Explanation: During execution of the IPL program, an input/output operation was not initiated because a not operational response was received from an SIO instruction. The channel status word (CSW) was not stored, and the channel was not busy. The two-byte address of the device on which the error occurred can be found in real storage at decimal address 185 (X'B9').

Operator Response: Probable hardware error. Restart the system.

Problem Determination: Table I, item 30.

004

Explanation: During execution of the IPL program, an input/output operation was not initiated. The channel status word (CSW) was not stored and the channel was not busy following execution of a Test I/O instruction. The two-byte address of the device on which the error occurred can be found in real storage at decimal address 185 (X'B9').

Operator Response: Probable hardware error. Re-IPL the system. If the problem recurs, call IBM for hardware support.

005

Explanation: During execution of the IPL program, either SYS1.NUCLEUS is in multiple extents, or an input/output interruption occurred because of a unit check.

In the case of an input/output interruption, the two-byte address of the device on which the error occurred is in real storage at decimal address 185 (X'B9'). The address of the channel command word (CCW) causing the original unit check is at address X'4C'. The first four sense bytes describing the unit check are at address X'54'. A sense operation to determine the cause of the unit check did **not** find any of the following:

● No record found.
● File mask violation.

● End of cylinder.
● Track condition check.

Operator Response: Probable hardware error. Verify that SYS1.NUCLEUS does not have secondary extents. Re-IPL the system.

Problem Determination: Table I, items 11, 17b, 30.

006

Explanation: During execution of the IPL program one or more of the following occurred:

● An interface control check.
● A channel control check.
● A channel data check.
● A program check.
● A channel chaining check.

The problem can occur if secondary extents have been allocated for SYS1.NUCLEUS and IPL is attempting to load a member from a secondary extent.

Operator Response: Verify that SYS1.NUCLEUS does not have secondary extents. Re-IPL the system.

Problem Determination: Table I, items 11, 17b, 29.

007

Explanation: During execution of NIP, a console was not available.

Operator Response: Ensure that a console is available. Then restart the system.

Problem Determination: Table I, items 17b, 29.

00A

Explanation: This wait state is preceded by message IEA326I. The catalog entry for the SYS1.LINKLIB data set could not be found on, or could not be retrieved from, the system catalog.

Operator Response: Notify the system programmer.

Programmer Response: Make sure that the SYS1.LINKLIB data set is in the catalog. Then re-IPL the system.

Problem Determination: Table I, items 11 and 29.

00B

Explanation: During initialization, the master scheduler terminated abnormally. A dump was written to the SYS1.DUMP data set.

Operator Response: Attempt to re-IPL the system.

Problem Determination: Table I, items 2, 16, 29.

00C

Explanation: The active nucleus member is not edited in scatter format. This nucleus cannot be loaded by the IPL program.

Operator Response: Notify the system programmer.

Programmer Response: Make sure that the IEANUC0x member of SYS1.NUCLEUS has been link-edited with the SCTR option of the linkage editor. If not, link-edit the IEANUC0x member again, specifying the linkage editor JCL as indicated in the SYS1.NUCLEUS link-editing step of system generation for this system.

Problem Determination: Table I, items 11, 29. Also do the following:

● Execute the IEHLIST utility program to obtain a directory listing of the SYS1.NUCLEUS data set and have the listing available.

● Have available, if possible, a copy of the last link-editing step for the failing nucleus member, IEANUC0x.

● Have available the name of the IEANUC0x member that was selected for the failing IPL process. Unless altered by one of the specialized operator IPL procedures, which

are described in *Operator's Library: OS/VS2 MVS System Commands*, the member name is IEANUC01.

00D

Explanation: During initialization, the master scheduler terminated abnormally. No dump was written.

Operator Response: Attempt to re-IPL the system.

Problem Determination: Table I, items 2, 11, 16, 29.

00E

Explanation: The IPL program cannot locate the SYS1.NUCLEUS data set or the active member, IEANUC0x, of SYS1.NUCLEUS on the IPL volume. The two-byte address of the device searched by the IPL program is in real storage at decimal address 185 (X'B9').

Operator Response: If an alternate nucleus was selected during IPL through one of the specialized operator IPL procedures, which are described in *Operator's Library: OS/VS2 MVS System Commands*, make sure that the alternate nucleus ID (the x of IEANUC0x) was correctly entered in its EBCDIC form at absolute storage location 9. If the error persists, report it to the system programmer.

If an alternate nucleus was not selected, the active member is IEANUC01.

Programmer Response: Ensure that the correct IEANUC0x of SYS1.NUCLEUS is in the SYS1.NUCLEUS data set.

Problem Determination: Table I, items 11, 29. Also do the following:

● Execute the IEHLIST utility program to obtain a directory listing of the SYS1.NUCLEUS data set, and have the listing available.

● Provide the name of the IEANUC0x member that was not found.

00F

Explanation: A volume has been IPLed, but it does not contain IPL text.

Operator Response: Correct the load unit switches to address the correct volume to be IPLed. Verify that the correct volume is mounted. Re-IPL the system.

Problem Determination: Table I, items 11, 29.

013

Explanation: During execution of NIP, an error occurred from which recovery is impossible. Check the system completion code to determine the problem.

Operator Response: Re-IPL the system.

Problem Determination: Table I, items 11, 17b, 29.

014

Explanation: Recursive translation exceptions have occurred because the master address space's segment table or common page tables have not been initialized correctly or have been overlaid. This code is associated with message IEA999W. Additional information is saved in the MCH logrec buffer to aid in diagnosing the recursive translation exception.

Programmer Response: Probable system error. Determine why the master address space's segment tables and/or page tables have been overlaid.

Problem Determination: Table I, items 2, 11, 29.

015

Explanation: When NIP issued the MSSFCALL macro instruction, one of the following occurred:

● The MSSFCALL instruction was issued to obtain the SCPINFO data block from MSSF (maintenance and service facility). The instruction resulted in a condition code of 2, indicating that the MSSF was busy.

However, this condition code is not expected during NIP. Probable hardware error.

● When NIP requested load parameters or a write restart text, MSSF was busy. Probable hardware error.

● The SCPINFO data block did not contain the required information, such as the parameter for physical storage, the processor, or HSA.

Operator Response: Re-IPL the system. Notify the system programmer.

Programmer Response: Call IBM for hardware support.

Problem Determination: Table I, item 30.

016

Explanation: NIP issued the MSSFCALL instruction to obtain the SCPINFO data block from MSSF. The instruction resulted in a condition code of 0, indicating that MSSF accepted the instruction and had responded, but the response received was not the expected one. Probable hardware error.

Operator Response: Re-IPL the system. Notify the system programmer.

Programmer Response: Call IBM for hardware support.

Problem Determination: Table I, item 30.

017

Explanation: During execution of the IPL program, a unit check occurred following a successfully started I/O operation. The start I/O operation was either a sense I/O or an attempt to read the home address and record 0 of a track that previously caused a track condition check. The two-byte address of the device on which the error occurred can be found in real storage at decimal address 185 (X'B9').

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, items 11, 17b, 30.

018

Explanation: During execution of the IPL program, one of the following was found:

● The nucleus was too big for the machine size; that is, the space available for relocation dictionary (RLD) records was exceeded.

● SYS1.NUCLEUS is in multiple extents.

Operator Response: Notify the system programmer.

Programmer Response: Regenerate the system, decreasing the nucleus size by removing options. If the problem recurs, call IBM for programming support.

019

Explanation: During execution of the IPL program, an unexpected program interruption occurred. IPL did not finish loading the resident nucleus. The IPL program is in error, the storage in which IPL resides is failing, or the IPL program attempted to load a member of the SYS1.NUCLEUS data set that is in a secondary extent.

Operator Response: Be sure the SYS1.NUCLEUS data set does not have secondary extents. If it does not, the error is probably a hardware problem. When the problem is corrected, re-IPL the system.

Problem Determination: Table I, item 30.

01A

Explanation: An attempt was made to execute multiprocessing modules not included in the nucleus when the system was generated. The multiprocessing modules were not included as a result of specifying the parameter ACRCODE = NO on the CTRLPROG system generation macro instruction. This wait state occurs only in a system generated with a subset of multiprocessing code deleted and then only when a system error caused an attempt to execute a deleted module.

System Action: The system enters a disabled wait state.

Operator Response: Probable system error. Notify the system programmer.

Problem Determination: Table I, items 11, 29.

01B

Explanation: The error conditions specified on a SLIP command have been met, and the system is placed in a wait state, as requested.

System Action: The system is in a disabled wait state, with restart capability.

Operator Response: Notify the system programmer that the SLIP trap has been entered. With the system programmer's approval, restart the system by pressing the console RESTART key or, on systems without a RESTART key, executing the operator restart function.

Note: If the system programmer requests diagnostic data, do not restart the system. Write a stand-alone dump, then re-IPL the system.

01C

Explanation: Supervisor control has suffered a double recursive abnormal termination in supervisor control super FRR. This wait state code is associated with message IEA967W.

Operator Response: Probable software error. Report this wait state code to the system programmer. Re-IPL the system.

Problem Determination: Table I, items 2, 13, 29.

01D

Explanation: The system configuration contains channel set switching, but the identifier for the channel set connected to one of the processors cannot be determined.

Operator Response: Probable hardware error. Re-IPL the system. If the problem recurs, call IBM for hardware support.

01F

Explanation: This wait state occurs during execution of NIP in a multiprocessing configuration.

Either this processor has microcode support for cross memory instructions (the PC, PT, and SSAR instructions, for example) and the IPL processor does not have that support, or this processor does not have microcode support for cross memory instructions and the IPL processor does have that support.

Operator Response: Do one of the following:

- Move the operating system to a multiprocessing configuration in which each processor has microcode support for cross memory instructions or each processor does not have that support, and re-IPL.

- Load an operating system that does not require microcode support for cross memory instructions, and re-IPL.

- Keep the current operating system, but switch to uniprocessing mode.

Problem Determination: Record the contents of this wait state PSW. Table I, items 29 and 30.

021

Explanation: During nucleus initialization, an input/output error occurred on the main console following an EXCP operation.

Register 1 contains the address of the input/output block (IOB) for the failing EXCP operation. You can find Register 1 in the trace table entry for the initial SRB dispatch of IECVPST. This entry follows the entry for the I/O interrupt that contains the error status.

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, item 30.

022

Explanation: A page fault has occurred for a page with a primary and secondary copy (duplexed page), but the primary and secondary devices are either in a quiesced or 'not ready' state. The error occurred in a system facility (such as WTO) invoked by direct access volume verification (DAVV).

Operator Response: Re-IPL the system. If the system is restarted, the current volume verification will not be completed. This could lead to an integrity exposure if an incorrect volume is mounted. Before restarting the system, check to be sure that the correct volume is mounted. This can be done by displaying the contents of register 7, which contains the address of the UCB for the device and volume being verified. The UCB in turn contains the device address and volume serial number of the volume that should be mounted.

024

Explanation: The system termination facility failed to receive an expected interrupt while attempting to write a record to the SYS1.LOGREC data set.

Operator Response: Probable hardware and programming errors. Check the READ/WRITE switch on all disk devices, then re-IPL the system.

Problem Determination: Table I, items 11, 29, or 30.

026

Explanation: One of the following occurred:

1. A power interruption occurred. All of real storage was dumped to one of the power warning data sets (SYS1.WARNA or SYS1.WARNB).

2. The operator replied 'REST' to message ICFTIM21, and real storage has been successfully refreshed from a SYS1.WARNx data set. (Note: In a multiprocessing configuration, an 026 wait state in both processors indicates a successful refresh.)

System Action: The system terminates.

Operator Response: In case 1, re-IPL to refresh real storage from a SYS1.WARNx data set or erase and reformat the data sets.

In case 2, re-IPL the system. IMS/VS users should refer to *IMS/VS Version 1 Operator's Reference Manual* for the power warning termination procedure.

027

Explanation: This code is issued as a result of one of the following:

1. The operator replied 'STOP' to one of the power warning initialization messages.

2. The operator replied 'REST' to message ICFTIM21, but real storage has not been successfully refreshed from a warm data set.

3. A power interruption occurred. All of real storage has not been successfully dumped to one of the power warning data sets (SYS1.WARNA or SYS1.WARNB).

System Action: The system terminates.

Operator Response: In case 1, respond to the preceding message, and re-IPL the system. In cases 2 and 3, re-IPL the system.

029

Explanation: NIP has found the time-of-day clock in error; the system is put into a wait state to allow the clock to be set.

Operator Response: Re-IPL the system while holding the TOD-clock switch in the enable-set position so that NIP will set the clock. The switch needs to be held only until the first NIP message is printed.

WT CDS

02A

Explanation: While attempting to signal a logically online processor, the SIGP resulted in a condition code 3, that is, the hardware could not signal the other processor because it appeared not to exist.

Operator Response: Place the other processor in the manual state. Then, initiate the STORE STATUS function on the processor that entered the wait state. After the STORE STATUS function has been initiated, invoke the RESTART function on the waiting processor. When alternate recovery (ACR) has configured the other processor out of the system, a message saying ACR has completed will be sent to the operator's console. Then schedule the EREP service aid program for execution.

Call IBM for hardware support.

Problem Determination: Table I, items 18 and 30.

02B

Explanation: While attempting to signal a logically online processor, the SIGP resulted in a condition code 3, that is, the hardware could not signal the other processor because it appeared not to exist. However, the other processor had experienced a similar problem and had already entered a 02A wait state.

Operator Response: Check the other processor for a 02A wait state. Respond as indicated for the 02A wait state.

Problem Determination: Table I, items 18 and 30.

02C

Explanation: While attempting to signal a logically online processor, the SIGP resulted in a condition code 3, that is, the hardware could not signal the other processor because it appeared not to exist. Normally a 02A wait state would have occurred, but NIP is active and alternate recovery (ACR) will not be initiated.

Operator Response: Call IBM for hardware support. Re-IPL the system.

Problem Determination: Table I, item 30.

02D

Explanation: Mass storage system (MSS) devices are not supported during NIP. Either the unit address of a 3850 type device, or the VOLSER of a volume mounted on a 3850 type device, was specified for a volume required during system initialization. In the latter case, message IEA314I will specify the unit address with the conflicting volume.

Operator Response: Ensure that the unit address of a 3850 type device is not specified as a system parameter value and that an online 3850 volume serial number is not the same as that for a volume required during system initialization.

02E

Explanation: Auxiliary storage manager (ASM) is unable to function due to unrecoverability or an unusual number of permanent I/O errors on necessary page data set(s).

System Action: The system is terminated. Message ILR008W was issued before the wait state. Messages ILR007I, ILR009E and ILR010I may have been issued previously; these messages should indicate what conditions led to the 02E wait state.

Operator Response: Notify the system programmer. Provide the system programmer with the console sheet for problem analysis. If necessary, at the next IPL, replace the page data sets referenced in the messages or add more page data sets.

Programmer Response: Analyze the console output provided by the operator to determine the cause of the I/O error (see *MVS Diagnostic Techniques*). Analyze any I/O, machine check, missing interrupt handler, or disabled console communication messages that occurred before the wait. Determine which page data sets are no longer usable. Correct or replace these data sets.

Problem Determination: Table I, items 2, 18, 24, 28, 29, 30, 34.

02F

Explanation: A direct access device containing a page data set is unavailable for an I/O operation. Location X'40C' points to an area that contains the pertinent data. The format of the area is as follows:

Byte 0-3	Number of bytes of data in the following area
Byte 4-7	Wait state code
Byte 8-15	Time stamp
Byte 16	Reason code. The values are as follows:

X'80'	Pack mounted does not contain the proper volume serial number as specified in the UCB for this device
X'40'	Intervention required for the specified device
X'20'	Device not operational
X'10'	Permanent I/O error reading the volume serial number for the specified device

Byte 17	Reserved
Byte 18-19	Device address
Byte 20-21	First two bytes of the sense data
Byte 22-23	Reserved
Byte 24-27	Address of the complete sense data

Operator Response: Verify that the proper pack is mounted on the device specified, then ready the device. Restart the system. If the reason code indicates that the device is not operational, also verify that the channel and the control unit are powered on and properly connected.

Problem Determination: Table I, items 2, 11, 24.

030

Explanation: During NIP, an unanticipated request for abnormal task termination (ABEND) has occurred. The system completion code is in bits 36-47 of the wait state PSW.

Operator Response: Record the contents of the wait PSW, and notify the system programmer.

Programmer Response: Refer to the description of the ABEND code for further problem determination data.

The ABEND SVC entry in the system's SVC table reflects the address of a 'trap' routine in NIP, and not the address of the ABEND SVC. The registers at the time of the ABEND SVC request are found in the Type I SVC save area.

Problem Determination: Table I, items 11, 29. Have available the recorded contents of the wait PSW.

031

Explanation: The IPL volume resides on a unit for which no UCB exists.

Operator Response: Remove the system residence volume from its present unit, and mount it on a unit defined at system generation. Re-IPL the system.

Programmer Response: Perform an I/O device system generation specifying the addresses of all devices accessible to the system in the IODEVICE macro instruction.

Problem Determination: Table I, items 11, 29.

032

Explanation: A required NIP module has not been found (through BLDL) in the SYS1.NUCLEUS data set.

System Action: The missing module is identified in hexadecimal in bits 36-47 of the wait state PSW, as follows:

Bits 36-47

Value	Module Name
001	IEAVNP01
003	IEAVNP03
004	IEAVNP04
005	IEAVNP05
006	IEAVNP06
007	IEAVNP07
009	IEAVNP09
010	IEAVNP10
011	IEAVNP11
013	IEAVNP13
015	IEAVNP15
016	IEAVNP16
017	IEAVNP17
019	IEAVNP19
01B	IEAVNP1B
023	IEAVNP23
033	IEAVNP33
047	IEAVNP47
057	IEAVNP57
0A1	IEAVNPA1
0A2	IEAVNPA2
0A6	IEAVNPA6
0A8	IEAVNPA8
0B2	IEAVNPB2
0B6	IEAVNPB6
0B8	IEAVNPB8
0C6	IEAVNPC6
0C8	IEAVNPC8
0E6	IEAVNPE6
0F2	IEAVNPF2
0F5	IEAVNPF5
7D4	IEAVNIPM
7E7	IEAVNIPX
7F1	IEAVNPX1

Operator Response: Record the contents of the wait state PSW. Notify the system programmer.

Programmer Response: Make sure that the missing module is included in the SYS1.NUCLEUS data set.

Note: If bits 36-48 of the wait state PSW are X'7D4', the system may have been loaded by the OS/360 IPL program. The system must be loaded using the OS/VS2 IPL program (IEAIPL00) distributed in SYS1.PARMLIB.

Problem Determination: Table I, items 11 and 29. Also do the following:

● Execute the IEHLIST utility program to obtain a directory listing of the SYS1.NUCLEUS data set and have the listing available.

● Have available the recorded contents of the wait state PSW.

033

Explanation: An I/O error occurred during BLDL processing for a required NIP module. The module can be identified as described for wait state code 032.

Operator Response: Probable hardware error. Record the address of the IPL device on which the input/output error occurred and have it available. Record the contents of the wait state PSW. Notify the system programmer. Re-IPL the system.

Problem Determination: Table I, item 30.

034

Explanation: An operating system that requires one or more of the following features has been loaded on a processor or version of microcode that does not include the feature(s).

● System/370 processor, or 4300 processor (with System/370 IML).

● System/370 Extended Facility.

● System/370 Extended Feature.

● Dynamic address translation (DAT) feature.

● Clock comparator feature.

● CS/CDS instructions.

● IPK/SPKA instructions.

Operator Response: Do one of the following:

● IML a version of microcode that includes the required features, and re-IPL.

● Move the operating system to a processor that includes the required features, and re-IPL.

● IPL an operating system that does not require the features, such as MVT.

Record the contents of the wait PSW and have this information available.

Problem Determination: Table I, item 29.

036

Explanation: An attempt was made to expand the storage allocated to the SQA before initialization of the paging subsystem. This error occurred because of an unusual demand for storage (more than 20,480 bytes) in the SQA during the early stages of the IPL procedure.

Operator Response: If system messages were incorrectly responded to, restart the system. If this error recurs, notify the system programmer.

Problem Determination: Table I, items 2, 11, 29.

037

Explanation: The DSCB for SYS1.LOGREC, SYS1.SVCLIB, SYS1.PARMLIB, or SYS1.LINKLIB could not be read from the volume where the data set resides for one of the following reasons:

● The data set does not exist on this volume.

● An unrecoverable I/O error occurred during the attempted read.

Register 1 contains a pointer to the IOB for the failing I/O operation (EXCP). Diagnostic messages explaining the reason for the wait state and identifying the name of the data set involved precede the system wait.

Operator Response: Report this wait state code and the preceding messages to the system programmer.

Programmer Response: Correct the error that caused the DSCB read I/O operation to fail, and restart the system.

Problem Determination: Table I, items 2, 11, 25, 29.

038

Explanation: IPL processing cannot initialize the system because there is not enough real storage. One of the following is true:

● Not enough online frames that are usable.

● Not enough contiguous frames near the low-address end or near the high-address end.

A defective frame near the low-address end or near the high-address end of real storage might cause a shortage of contiguous frames.

Operator Response: Notify the system programmer.

Programmer Response: Make sure that there is enough real storage available for IPL processing. You may have to reduce the number of optional system facilities selected for this system configuration. For further details concerning the storage requirements of the current configuration, see *OS/VS2 System Programming Library: System Generation Reference.*

If the problem is a defective frame, real storage may have to be reconfigured or replaced.

Problem Determination: Table I, items 11, 29, and 30.

039

Explanation: A required direct access volume could not be successfully mounted because of a conflict with another online volume. The conflict could not be resolved since both volumes were required by the system, and, although both volumes had the same volume serial, the volume that was to be mounted required a different device type than that containing the online volume.

Operator Response: Notify the system programmer.

Programmer Response: Change the volume where one of the two data sets resides. If the moved data set is cataloged, the catalog must be updated.

Problem Determination: Table I, items 2, 11, 29, 34a.

03A

Explanation: An error occurred during an attempt to build the link pack area (LPA) with a cold start. Messages preceding message IEA304W identify the error condition.

Operator Response: Report this wait state code and the preceding messages to the system programmer.

Programmer Response: Correct the conditions that caused the LPA cold start to fail, and restart the system.

Problem Determination: Table I, items 2, 11, 29.

03B

Explanation: A module required for continued system operation cannot be found in the system link pack area (LPA).

Operator Response: Notify the system programmer. Save the console listing.

Programmer Response: Examine the console listing to determine the name of the missing module (see message IEA363I). Execute the IEHLIST utility program to obtain a directory listing of the SYS1.LPALIB data set. Examine this list to determine which required system modules are missing. The missing modules should then be copied into SYS1.LPALIB from the starter system libraries or from a similar back-up source. Restart the system, and add the missing module to the LPA either by requesting an LPA cold start or by using the MLPA or FIX options.

Problem Determination: Table I, items 2, 11, 29. Have the contents of the wait PSW available.

03C

Explanation: ASM detected insufficient auxiliary storage resources for system operation:

● During IPL, either the required number of page data sets was not specified by the user or ASM has detected a problem with a required page data set.

- After IPL, ASM has run out of space to write PLPA, COMMON or LOCAL pages. One of the following is true:

  - The duplex data set is full and the PLPA data set and/or the COMMON data set is bad or full.

  - The PLPA and COMMON data sets are full and duplexing is not available.

  - All local page data sets are full or bad.

System Action: During IPL, message IEA935W precedes this wait state. After IPL, message ILR008W precedes this wait state if PLPA or COMMON space is unavailable. No message precedes this wait state if local paging space was unavailable.

Operator Response: Report this wait state to the system programmer. Re-IPL the system, specifying larger page data sets or additional page data sets.

Programmer Response: Provide sufficient auxiliary storage for system operation.

Problem Determination: Table I, items 2, 29, 34.

03D

Explanation: During NIP, subroutine IEAVCSEG returned a nonzero code, indicating an error in creating:

- A segment table entry.
- A page table.
- An external page table.

The IEAVCSEG subroutine is used in initializing space for the common service area (CSA) and for the SQA.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 2, 11, and 29.

03F

Explanation: A NIP function has been improperly invoked.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 2, 11, 29.

040

Explanation: A request for abnormal task termination (ABEND) has occurred during NIP processing. The system completion code is in bits 31-47 of the wait state PSW.

Operator Response: Record the contents of the wait PSW, and notify the system programmer.

Programmer Response: Refer to the description of the ABEND code for further problem determination data.

The ABEND SVC entry in the system's SVC table reflects the address of a 'trap' routine in NIP, and not the address of the ABEND SVC. The registers at the time of the ABEND SVC request are found in the SVRB that represents the ABEND SVC.

Problem Determination: Table I, items 11, 29. Have available the recorded contents of the wait PSW.

041

Explanation: A processor failed. The I/O supervisor found devices reserved on channels that can be accessed only by the failing processor. The devices must be rereserved to channels accessible by the operative processor.

To maintain data integrity during recovery processing, all systems sharing the reserved devices with the failing system must be stopped.

Operator Response: Try to rereserve the devices as follows:

- Stop all systems sharing devices that are reserved on channels accessible by the failing processor. The I/O restart reserve table contains a list of the reserved devices.

Use the console display facility to obtain the address at location X'40C'. This address points to the I/O restart reserve table. The reserve table consists of 104-byte segments:

- The first word (4 bytes) contains the address of the next segment in the table.

- The second word is not meaningful.

- The third word is the beginning of the first entry in the table. This segment contains 12 entries; each entry is 8 bytes long. The address of the reserved device is in the second 2 bytes of each entry.

- The last segment of the table has zeros in the first word.

Stop only those systems that share any of the reserved devices found in the table.

● Restart the operative processor to continue processing. If a device can be rereserved on an alternate path, the device remains online. If an alternate path is not available, the device is forced offline and message IEA026I is issued.

● Restart the stopped systems after message IEA858I appears.

For devices that could not be rereserved, re-IPL the system. To maintain data integrity, you should also re-IPL any system that shares the reserved devices; however, if the sharing system is part of the same JES3 complex and the devices are managed by JES3, only the original system needs to be re-IPLed.

Problem Determination: Table I, items 2, 29, or 30.

042

Explanation: The I/O supervisor has found devices that are reserved from the failing processor and that have no logically online paths from the operative processor. If the console RESTART key is pressed, the I/O supervisor will attempt to reserve each of these devices on all physical paths.

Operator Response: Take one of the following actions:

● Press the console RESTART key. This action causes the I/O supervisor to attempt to reserve devices on any physical path to the device. (Determine which devices are involved as indicated in wait state code 041.)

● Re-IPL the system. To ensure data integrity, any shared processor should also be re-IPLed.

Problem Determination: Table I, items 2, 29, or 30.

043

Explanation: The I/O supervisor cannot reserve a device that was previously reserved to the failing processor. This is a nonrecoverable wait state. If the console RESTART key is pressed, the I/O supervisor will cause the system to reenter the 043 wait state.

Operator Response: Re-IPL the system, after determining which resources are unavailable (to prevent a repetition of the problem). The responsible device can be identified by locating the first nonzero entry in the table described in wait state code 041. To ensure data integrity, any sharing processor should also be re-IPLed.

Problem Determination: Table I, items 2, 29, or 30.

044

Explanation: During execution of NIP, a machine check occurred on a processor in the configuration. The logical processor address of the processor on which the machine check occurred is in bits 40-47 of the wait state PSW.

A logical processor address is a physical processor address with a 4 in front of it. For example, logical address 40 stands for physical address 0.

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, items 2, 12, 30.

045

Explanation: During execution of NIP, a BLDCPOOL request for a cellpool in SQA failed. System initialization cannot continue.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 2, 11, 29.

046

Explanation: During execution of NIP, an unexpected program check occurred.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 2, 11, 29.

047

Explanation: During execution of NIP for a multiprocessor configuration, a malfunction alert interrupt was received by a processor in the configuration. The logical processor address of the processor that generated the malfunction alert is found in bits 40-47 of the wait state PSW.

Operator Response: Probable hardware error. Record the contents of the wait state PSW, and re-IPL the system. Notify the system programmer.

Problem Determination: Table I, items 2, 30. Also, have available the recorded contents of the wait state PSW.

048

Explanation: During execution of NIP, subroutine IEAVPCB returned an undefined return code.

IEAVPCB allocates a cellpool and a pool of page control blocks (PCBs) for the real storage management (RSM) component of the supervisor.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 2, 11, 29.

049

Explanation: While analyzing the devices attached to an unavailable channel, the system found at least one to be reserved by the processor that received a machine check interruption. The reserve for the device was released. See message IEA410I for information.

Operator Response: Re-IPL the system. The device(s) that were reserved but have been released can be found by locating the nonzero entries in the table described in wait state code 041. To ensure data integrity, any sharing processor should also be re-IPLed.

Problem Determination: Table I, items 2, 11, 18, 30.

04A

Explanation: A TOD Clock on one of the processors in the configuration is in an error state. The clock must be set to avoid generating a machine check later in NIP processing.

Operator Response: Press the RESTART button on the IPL processor, or invoke the restart function on systems without a RESTART button. Then operate the clock security switch for several seconds. The initialization process will then continue.

Note: If all clocks in the configuration are bad, a 04A wait state may occur for each processor.

04B

Explanation: A machine check interruption routine found a group of channels temporarily unavailable.

Operator Response: Respond by storing one of the following action codes in location X'30E':

Action Code	Explanation
01	Used to force the unavailable channels offline. Message IEA410E is issued for each channel. Any waiting or active I/O is restarted on alternate paths. If an alternate path is not available, message IEA004I is issued, and the I/O is not completed.

02   Used to attempt to recover the unavailable channels. Wait 60 seconds to allow recovery processing to complete. If recovery is successful, the channels are available for use. Any waiting or active I/O is restarted using these channels. If recovery is not successful, the system proceeds as if the reply were X'01'.

You should try action code X'02' first. However, if the system suffers continuously from the 04B wait state, specify action code X'01'. If any code other than X'01' or X'02' is stored, the 04B wait state code is reloaded.

Perform the RESTART function to restart the system.

For additional diagnostic information, the channel mask can be located as follows:

● Using the console display facility, locate the channel mask that is pointed to by location X'40C'.

● The channel mask is 32 bits long.

    — Bits 0-15 correspond to the 16 channels (0-15) of the processor.

    — Any available channel will have a 1 in the corresponding bit position (0-15).

    — Bits 16-31 are the channel set ID.

Problem Determination: Table I, items 2, 11, 18, and 30.

04C

Explanation: A machine check interruption routine found a group of channels temporarily unavailable. Devices are reserved on these channels.

To maintain data integrity for the devices or volumes on the devices attached to the unavailable channels, all systems that share devices with this system must be stopped before recovery processing continues.

Operator Response: Stop all systems that share any devices with this system. Then, respond by storing one of the following action codes in location X'30E':

Action Code   **Explanation**

01   Used to force the unavailable channels offline. Message IEA410E is issued for each channel. Each device reserved on one of the channels is rereserved over an alternate path. If a device cannot be rereserved, it is varied offline, message IEA026I is issued, and all I/O requests for the device are terminated in error until the device is varied online. Any waiting or active I/O is restarted on alternate paths. If an alternate path is not available, message IEA004I is issued, and the I/O is not completed.

WT CDS

02   Used to attempt to recover the unavailable channels. Wait 60 seconds to allow recovery processing to complete. If recovery is successful, the channels are available for use and the reserved devices are rereserved on these channels. Any waiting or active I/O is restarted using these channels. If recovery processing is not successful, the system proceeds as if the reply were X'01'.

If any code other than X'01' or X'02' is stored, the 04C wait state code is reloaded.

Perform the RESTART function to restart this system. Start the other stopped systems after message IEA421E appears.

Note: The table of devices reserved through the failing channel can be located as follows:

● Using the console display facility, locate the channel mask that is pointed to by location X'40C'.

● The channel mask is 32 bits long.

    — Bits 0-15 correspond to the 16 channels (0-15) of the processor.

    — Any unavailable channel will have a 1 in the corresponding bit position (0-15).

    — Bits 16-31 are the channel set ID.

● The reserve table immediately follows the channel mask. It consists of 104-byte segments.

    — The first word (4 bytes) contains the address of the next segment in the table.

    — The second word is not meaningful.

    — The third word begins the first entry in the table. The segment contains 12 entries; each entry is 8 bytes long. The

address of the reserved device is in the second 2 bytes of each entry.

- The last segment in the table has zeros in the first word.

Problem Determination: Table I, items 2, 18, and 30.

04D

Explanation: An I/O interruption indicates that a channel is unavailable for use. At least one device is reserved on the channel.

To maintain data integrity for the devices or volumes on the devices attached to the failing channel, all systems that share devices with this system must be stopped before recovery processing continues.

Operator Response: Stop all systems that share any devices with this system. Then restart this system to continue recovery processing.

If recovery processing is successful, the channel is available for use, and the reserved devices are rereserved on the channel. The system restarts any waiting or active I/O using the channel.

If recovery processing is not successful, the system marks the channel offline and issues message IEA410E. Each device reserved on the channel is rereserved over an alternate path. If a device cannot be rereserved, the system varies it offline, issues message IEA026I and terminates in error all I/O requests for the device until the device is varied online. Any waiting or active I/O is restarted on alternate paths. If an alternate path is not available, the system issues message IEA004I and does not complete the I/O.

Start the other stopped systems after message IEA421E appears.

Note: The table of devices reserved through the failing channel can be located as follows:

- Using the console display facility, locate the channel mask that is pointed to by location X'40C'.

- The channel mask is 32 bits long.

  - Bits 0-15 correspond to the 16 channels (0-15) of the processor.

  - Any unavailable channel will have a 1 in the corresponding bit position (0-15).

  - Bits 16-31 are the channel set ID.

- The reserve table immediately follows the channel mask. It consists of 104-byte segments.

  - The first word (4 bytes) contains the address of the next segment in the table.

  - The second word is not meaningful.

  - The third word begins the first entry in the table. The segment contains 12 entries; each entry is 8 bytes long. The address of the reserved device is in the second 2 bytes of each entry.

  - The last segment in the table has zeros in the first word.

Problem Determination: Table I, items 2, 11, 18, and 30.

04E

Explanation: The system encountered an error while attempting to place one or more devices offline in response to a previous hardware error. Message IEA151W precedes this wait state. Also, wait state 041, 04C, 04D, or 06F or message IEA427A, IEA438A, IEA439A, or IEA440A may precede this wait state.

Operator Response: Probable software error. If the failing device, control unit, or channel is identified by a previous wait state or message, bypass the problem by reconfiguring the system to physically remove the failing equipment. Write a stand-alone dump, and re-IPL the system.

If you do not know which unit encountered the hardware error, proceed with the problem determination items, and re-IPL the system.

Contact IBM for programming support.

Problem Determination: Table I, items 2, 11, 18, 29.

04F

Explanation: The system, while attempting to recover channels that are unavailable, detected the loss of an additional channel.

System Action: The system is unable to continue processing.

Operator Response: Re-IPL the system. If restart is attempted before the re-IPL, the wait state will be reloaded.

Problem Determination: Table I, items 2, 11, 18, 30.

050

Explanation: Alternate recovery (ACR) has determined that it has been recursively invoked. This wait state code is associated with message IEA856W.

System Action: The system places all processors in a wait state.

Operator Response: Probable hardware error on more than one processor. Write a stand-alone dump, and re-IPL the system. Then schedule execution of the EREP service aid program.

Problem Determination: Table I, items 11, 18, 30.

051

Explanation: Alternate recovery (ACR) has encountered an unrecoverable error while recovery was in progress for another processor. This wait state code is associated with message IEA857W.

System Action: The system places all processors in a wait state.

Operator Response: Probable software error. Re-IPL the system. Then schedule execution of the EREP service aid program.

Problem Determination: Table I, items 11, 18, 29, or 30.

052

Explanation: Alternate recovery (ACR) has encountered an unrecoverable error while recovery was in progress for another processor. This wait state code is associated with message IEA857W.

System Action: The system places all processors in a wait state.

Operator Response: Probable hardware error. Write a stand-alone dump, and re-IPL the system. Then schedule execution of the EREP service aid program.

Problem Determination: Table I, items 11, 18, 30.

058

Explanation: During execution of NIP for a multiprocessor configuration, subroutine IEAVSPSA returned a code indicating one of the following:

● A failure to obtain or free the SALLOC lock.

● A failure of a GETMAIN or FREEMAIN for space in SQA.

The IEAVSPSA subroutine is used to obtain space for, and build supervisor routine word/save areas for, each non-IPL processor in a multiprocessor configuration.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 2, 11, 29.

059

Explanation: During execution of NIP, a BLDL request returned an undefined return code. System initialization cannot continue.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 2, 11, 29.

05A

Explanation: During execution of NIP for a multiprocessor configuration, the processor being IPLed failed to set a synchronization flag for a processor that it had signaled. The signaled processor loads this wait state code.

The most probable reason that the processor being IPLed failed to set the synchronization flag is that it had a machine check.

Operator Response: Probable hardware error on the processor being IPLed. Re-IPL the system.

Problem Determination: Table I, items 2, 30.

05B

Explanation: During execution of NIP for a multiprocessor configuration, another processor was signaled by the processor being IPLed to begin initializing itself. One of the following has occurred:

● The signaled processor had detected that it was a 'runaway' and loaded this wait state code. The IPL process continues.

● The signaling processor has detected that the other processor could be a 'runaway'. The processor being IPLed has attempted to reset the other processor with a SIGP initial program reset but without success. It is unsafe to continue the IPL process with the other processor in an unknown state. Therefore, the processor being IPLed loads this wait state code and terminates the IPL.

A signaled processor is considered to be a 'runaway' if the SIGP instruction for restart to that processor, executed by the processor being IPLed, sets the condition code to indicate the SIGP function was unsuccessful. However, the requested function could have, in fact, been started on the signaled processor.

This contradiction between the SIGP instruction condition code and the fact that the function has been started is probably due to a hardware error on the signaled processor. Thus, this situation could arise on any of the processors not being IPLed in a multiprocessor configuration.

Operator Response: If the wait state was loaded on a processor that was not being IPLed, there is a probable hardware error on that processor. If the processor must be online, execute a VARY CPU ONLINE to it after system initialization is complete, or re-IPL the system. If the wait state was loaded on the processor being IPLed, there is a probable hardware error on the processor being IPLed. Configure the failing processor out, and re-IPL. If the failing processor must be online, execute a VARY CPU ONLINE to it after system initialization is complete. Register 1 contains the physical address of the failing processor.

Problem Determination: Table I, items 2, 30.

05C

Explanation: During execution of NIP, the pointer to the master catalog could not be obtained from the SYS1.NUCLEUS data set.

The pointer to the master catalog should be in the SYSCATLG or SYSCATnn member in the SYS1.NUCLEUS data set. The member is created at system generation time.

Operator Response: Possible causes are: I/O errors while attempting a BLDL to find the member, member not found, or I/O errors attempting to read records from the member.

Re-IPL the system, and notify the system programmer.

Programmer Response: IPL a different system, and use it to determine if the SYSCATLG or SYSCATnn member exists in the SYS1.NUCLEUS data set and is in the correct format. Add it to the data set as described in *OS/VS2 System Programming Library: System Generation Reference.*

Problem Determination: Table I, items 2, 17ab, 25c, 26c, 29 or 30.

05D

Explanation: For a VSAM master catalog, NIP could not find a DSCB (data set control block) for the VSAM master catalog or could not read a DSCB from the VTOC (volume table of contents) of the volume pointed to by the SYS1.NUCLEUS data set. The pointer to the master catalog is in the SYSCATLG member in the SYS1.NUCLEUS data set.

For an ICF (integrated catalog facility) master catalog, NIP could not find a DSCB for the VVDS (VSAM volume data set) or could not read a DSCB from the VTOC of the volume pointed to by the SYS1.NUCLEUS data set.

Operator Response: Possible causes are: hardware errors, the wrong volume mounted, or an incorrect pointer to the master catalog in the SYSCATLG member of the SYS1.NUCLEUS data set. Re-IPL the system, and notify the system programmer.

Programmer Response: IPL a different system, and use it to determine one of the following:

● If the VTOC of the volume containing the master catalog is correct.

● If the SYSCATLG member of the SYS1.NUCLEUS data set is in the correct format, as described in *OS/VS2 System Programming Library: System Generation Reference.*

Problem Determination: Table I, items 2, 25a, 26c, 30.

05E

Explanation: For a VSAM master catalog, an I/O error occurred when NIP tried to read the VSAM master catalog self-describing records.

Note: The first ten records of the VSAM master catalog data set describe the VSAM master catalog itself. They are the catalog entry for the VSAM master catalog.

For an ICF (integrated catalog facility) master catalog, one of the following occurred:

● An I/O error occurred when NIP tried to read the VVCR (VSAM volume control record) of the VVDS (VSAM volume data set).

● The VVCR did not specify the name of the ICF master catalog in the SYSCATLG member of the SYS1.NUCLEUS data set.

Operator Response: Probable hardware error, or an incorrect pointer to the ICF master catalog in the SYSCATLG member of the SYS1.NUCLEUS data set. Re-IPL the system. Notify the system programmer.

Programmer Response: For a VSAM master catalog, correct the VSAM master catalog as follows:

● Restore it to the proper volume, after the damage to that volume is corrected.

● Recreate it as described in *OS/VS2 System Programming Library: System Generation Reference.*

For an ICF master catalog, IPL a different system, and use it to determine if the SYSCATLG member of the SYS1.NUCLEUS data set is in the correct format as described in *OS/VS2 System Programming Library: System Generation Reference.*

Problem Determination: Table I, items 2, 26d or 34a, 30.

05F

Explanation: NIP found one of the following:

● The VSAM master catalog self-describing records were damaged. For example, the records were improperly written over or modified.

Note: The first ten records of the VSAM master catalog data set describe the VSAM master catalog itself. They are the catalog entry for the VSAM master catalog.

● The SYSCATLG member, or alternate SYSCATnn member, of SYS1.NUCLEUS contains incorrect data.

Operator Response: Notify the system programmer.

Programmer Response: Confirm that the data in the SYSCATLG member, or alternate SYSCATnn member, of SYS1.NUCLEUS, including the volume serial number and the device type, are correct. After correcting any errors found in the SYSCATLG member, or alternate SYSCATnn member, of SYS1.NUCLEUS, re-IPL the system. If the SYSCATLG member is correct, then restore the master catalog to the proper volume, if necessary, or recreate it as described in *OS/VS2 System Programming Library: System Generation Reference.* Re-IPL the system.

Problem Determination: Table I, items 2, 25d or 26b, 29.

060

Explanation: While saving or rebuilding the PLPA, ASM initialization detected an error while processing external page table entries (XPTEs):

● On a cold start, ASM initialization was unable to locate an XPTE.

● On a quick or warm start, ASM initialization could not locate an XPTE or found invalid information in the quick start record (ILRQSRCD).

System Action: Message IEA943W is issued, and IPL terminates.

Operator Response: Notify the system programmer.

Programmer Response: Re-IPL, specifying the CLPA system parameter.

Problem Determination: Table I, items 2, 11, 29.

061

Explanation: ASM initialization has detected an error with the time-of-day (TOD) clock while executing a store clock (STCK) instruction.

System Action: Message IEA945W is issued, and IPL terminates.

Operator Response: Correct the TOD clock, and re-IPL the system.

Problem Determination: Table I, items 2, 29.

063

Explanation: During execution of NIP, a conditional GETMAIN failed.

Operator Response: Notify the system programmer.

Programmer Response: The probable cause of this error is that insufficient SQA was available to provide the options requested for this IPL. Another possibility is a system error resulting in excessive demands on the NIP region. The subpool requested may be determined by examining the last GETMAIN entry reflected in the system trace table. If the request was for SQA, the problem can be corrected by specifying a larger value on the SQA initialization parameter ('SQA ='). For additional information, see the IEASYSxx section in *OS/VS2 MVS System Programming Library: Initialization and Tuning Guide.*

If the system was IPLed with insufficient real storage available to back the SQA requests, you may have to increase the amount of online storage before attempting to re-IPL, or to reduce the number of optional system facilities selected for this system configuration. For further details concerning the real storage requirements for the current configuration, see *OS/VS2 System Programming Library: System Generation Reference.*

Problem Determination: Table I, items 2, 11, 29.

064

Explanation: During execution of NIP, a software or hardware system error was detected and an attempt was made to enter the Recovery Termination Manager (RTM). This attempt was trapped by the NIP routines because the system is in a variable state of initialization and, in particular, RTM is not fully initialized. The first byte of the instruction address portion of the PSW (bits 40 through 47) contains a table entry code:

Table Entry Code	Explanation
01	A module took a branch to ABTERM.
02	Dynamic Address Translation error occurred.
03	Operator pressed the RESTART key.
04	Machine check.
05	Occurs when an SVC instruction is issued in an invalid mode (SRB, locked, etc.). However, this is usually not the actual error, because it is common for system routines to issue an ABEND (SVC 13) while holding a lock. Therefore, with a code 05, first determine if an SVC 13 was the last SVC issued by looking at the SVC OLD PSW or the trace table. If this is the case, the R1 field in the trace table contains the ABEND codes and the R15 field contains the reason code. The ABEND code may give some clue as to which SVC issued the ABEND. If it does, examine the trace table to find where the ABEND-issuing SVC was issued. The inputs to that SVC may be in error.
	If a code 05 occurs and SVC 13 was not the last SVC issued, the error was caused by the SVC. Perhaps a module is invalidly issuing an SVC while holding a lock. However, some routine that was previously in control may have returned to its caller without releasing a lock. In this case, the SVC-issuer is not at fault.
	Code 05 may have occurred while reading from SYS1.PARMLIB, which has gone to multiple extents, or while trying to process a non-executable load module, or if I/O errors occurred on the system residence volume.
06	Paging I/O error.
07	Call to ABTERM issued and no ASID provided.
08	Request for address space termination.
09	Indicates that a program check, other than a resolvable translation exception, has occurred. The program check OLD PSW indicates the type of exception and where it occurred. The registers at the time of the exception are saved at displacement X'48' into the LCCA. If it was a translation exception (program interrupt code X'10' or X'11',) location X'90' contains the address that could not be translated. The trace table also contains this information. Code 09 may occur on a warm or quick start if the previous cold start failed before or during master scheduler initialization. Attempt to restart the system, specifying 'CLPA' in the reply to message IEA101A.
0A	Alternate processor recovery.
0B	Cross-address space ABTERM and an ASID provided.

WT CDS

Operator Response: Check the READ/WRITE switch on the direct access devices; the system must be able to write on the system pack for LPALIB during IPL. Then notify the system programmer.

Problem Determination: Table I, items 2, 11, 29. Also have the recorded contents of the wait state PSW available.

065

Explanation: During execution of NIP, an attempt was made to execute a type 3 or 4 SVC. This attempt was trapped by the NIP routines because, at the time the attempt was made, the type 3 and 4 SVCs had not been loaded.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 2, 11, 29.

066

Explanation: IOS detected hot I/O (an invalid repeated interruption condition caused by a hardware malfunction) on a non-direct access device. No devices are reserved on the channel.

Operator Response: Respond as follows:

● Use the console display facility to locate the address of the hot non-direct access device and the operator reply area. Display the two words pointed to by location X'40C'.

The first word contains the address of the SCD (status collection data) control block. The second word contains the address of the operator reply area (used for reply X'03'), which is initialized to blanks. The pertinent information in the SCD is:

- Offset 0 contains the 2-byte channel set ID, in hexadecimal.

- Offset 2 contains the 2-byte device address, in hexadecimal.

● Correct the problem at the lowest possible level: device first, then control unit, then channel.

● Inform IOS of the action taken by storing one of the following action codes in location X'30E'.

Action Code	Explanation
01	No device, control unit or channel was physically removed. The device might have been reset.
02	The device was physically removed, for example, powered off.
03	The control unit was physically removed, for example, powered off or all interfaces disabled. The addresses of all the devices on the control unit must be stored in the operator reply area. For example, if devices 250 through 254 and 25E are on the control unit, store the following in the operator reply area:

02508254025E40 or 025E0250825440

Note: Each unit address must be preceded by 0 or 8. The 8 indicates a range of addresses of devices on the control unit. The range starts with the address preceding the 8, ends with the address following the 8, and contains all consecutive addresses in between. The reply must end in X'40'.

Action Code	Explanation
04 or 84	The channel was physically removed, for example, powered off or all interfaces disabled. Reset the channel if it is a stand-alone channel and store X'84'. If it is not a stand-alone channel, do not reset the channel; store X'04'.

● Perform the system restart function.

If necessary, contact hardware support personnel. When the device is repaired, it can be varied online.

System Action: The channel is disabled. The system waits for the operator to take corrective action and then enter a response. The action the system takes depends on the action code entered by the operator, as follows:

Action Code	Explanation
01	The channel is enabled and processing continues.
02	The device is boxed (forced offline) and message IEA026I is issued. The channel is enabled and processing continues.
03	The devices included in the reply are boxed (forced offline) and message IEA026I is issued. The channel is enabled and processing continues.
04	The system attempts to reset the channel. If the channel is reset successfully, message IEA071E is issued. The channel is left in the disabled state. See the description of message IEA071E.
	If the channel is not reset successfully, wait state 06A is issued; recovery has failed. The channel is left in the disabled state. See the description of wait state code 06A.
84	To complete the reset operation, the system issues a Halt Device and a Clear I/O instruction for each device on the channel.
	If the channel is reset successfully, message IEA071E is issued. The channel is left in the disabled state. See the description of message IEA071E.
	If the channel is not reset successfully, wait state 06A is issued; recovery has failed. The channel is left in the disabled wait state. See the description of wait state code 06A.

Problem Determination: Table I, items 2, 18, 30. For more information about the hot device, check the contents of the SCD. The format of the SCD is described in *OS/VS2 Data Areas* (JES2) or (JES3).

067

Explanation: IOS detected hot I/O (an invalid repeated interruption condition caused by a hardware malfunction) on a non-direct access device. Devices are reserved on the channel.

Operator Response: Respond as follows:

● Use the console display facility to locate the address of the hot non-direct access device and the operator reply area. Display the two words pointed to by location X'40C'. The first word contains the address of the SCD (status collection data) control block. The second word contains the address of the operator reply area (used for reply X'03'), which is initialized to blanks. The pertinent information in the SCD is:

   − Offset 0 contains the 2-byte channel set ID, in hexadecimal.

   − Offset 2 contains the 2-byte device address, in hexadecimal.

● Correct the problem at the lowest possible level: device first, then control unit, then channel.

● If you plan to reply X'04' or X'84', stop all systems that share reserved devices with this system before taking any action. The other systems must be stopped to maintain data integrity on the reserved volumes.

● Inform IOS of the action taken by storing one of the following action codes in location X'30E'.

Action Code	Explanation
01	No device, control unit or channel was physically removed. The device might have been reset.
02	The device was physically removed, for example, powered off.
03	The control unit was physically removed, for example, powered off or all interfaces disabled. The addresses of all the devices on the control unit must be stored in the operator reply area. For example, if devices 250 through 254 and 25E are on the control unit, store the following in the operator reply area.

   02508254025E40 or 025E0250825440 _

   Note: Each unit address must be preceded by 0 or 8. The 8 indicates a range of addresses of devices on the control unit. The range starts with the address preceding the 8, ends with the address following the 8, and contains all consecutive addresses in between. The reply must end in X'40'.

04 or 84	The channel was physically removed, for example, powered off or all interfaces disabled. Reset the channel if it is a stand-alone channel and store X'84'. If it is not a stand-alone channel, do not reset the channel; store X'04'.

● Perform the system restart function.

● Restart the stopped systems after message IEA421E appears.

If necessary, contact hardware support personnel. When the device is repaired, it can be varied online.

System Action: The channel is disabled. The system waits for the operator to take corrective action and then enter a response. The action the system takes depends on the action code entered by the operator, as follows:

Action Code	Explanation
01	The channel is enabled and processing continues.
02	The device is boxed (forced offline) and message IEA026I is issued. The channel is enabled and processing continues.
03	The devices included in the reply are boxed (forced offline) and message IEA026I is issued. The channel is enabled and processing continues.
04	The system attempts to reset the channel. If the channel is reset successfully, message IEA071E is issued. The channel is left in the disabled state and message IEA421E is issued. See the description of message IEA071E.
	If the channel is not reset successfully, wait state 06A is issued; recovery has failed. The channel is left in the disabled state. See the description of wait state code 06A.
84	To complete the reset operation, the system issues a Halt Device and a Clear I/O instruction for each device on the channel.
	If the channel is reset successfully, message IEA071E is issued. The channel is left in the disabled state and message IEA421E is issued. See the description of message IEA071E.
	If the channel is not reset successfully, wait state 06A is issued; recovery has failed. The channel is left in the disabled wait state. See the description of wait state code 06A.

Problem Determination: Table I, items 2, 18, 30. For more information about the hot device,

check the contents of the SCD. The format of the SCD is described in *OS/VS2 Data Areas* (JES2) or (JES3).

068

Explanation: IOS detected hot I/O (an invalid repeated interruption condition caused by a hardware malfunction) on a channel or a direct access device. The system cannot reset the channel. No devices are reserved on the channel.

Operator Response: Respond as follows:

● Use the console display facility to locate the address of the hot channel or direct access device. Display the word pointed to by location X'40C'. This word contains the address of the SCD (status collection data) control block. The pertinent information in the SCD is:

   – Offset 0 contains the 2-byte channel set ID, in hexadecimal.

   – Offset 2 contains the channel number in the format X'0Cxx' where C is the channel number.

● Reset the channel if it is a stand-alone channel and store X'80' in location X'30E'. If it is not a stand-alone channel, do not reset the channel; store X'00' in location X'30E'.

● Perform the system restart function.

If necessary, contact hardware support personnel. When the device is repaired, it can be varied online.

System Action: The channel is disabled. The system waits for the operator to take corrective action and then enter a reply.

If the operator replied X'80' to reset the channel, the system issues a Halt Device and a Clear I/O instruction for each device on the channel. The system then attempts to restart active I/O operations. The first time the problem occurs on this channel, the channel is enabled and processing continues. The second time the problem occurs, the channel is left in

the disabled state and message IEA071E is issued. See the description of message IEA071E.

If the operator replied X'00', thus not resetting the channel, wait state 06A is issued; recovery has failed. The channel is left in the disabled state. See the description of wait state 06A.

Problem Determination: Table I, items 2, 18, 30. For more information about the hot channel or direct access device, check the contents of the SCD. The format of the SCD is described in *OS/VS2 Data Areas* (JES2) or (JES3).

069

Explanation: IOS detected hot I/O (invalid repeated interruption condition caused by a hardware malfunction) on a channel or a direct access device. Devices are reserved on the channel.

Operator Response: Respond as follows:

● Use the console display facility to locate the address of the hot channel or direct access device. Display the word pointed to by location X'40C'. This word contains the address of the SCD (status collection data) control block. The pertinent information in the SCD is:

   – Offset 0 contains the 2-byte channel set ID, in hexadecimal.

   – Offset 2 contains the channel number in the format X'0Cxx' where C is the channel number.

● To maintain data integrity, stop any system that shares reserved devices with this system before taking any action; however, if the sharing system(s) are part of the same JES3 complex and the devices are managed by JES3, the sharing systems do not need to be stopped.

● Reset the channel if it is a stand-alone channel and store X'80' in location X'30E'. If it is not a stand-alone channel, do not reset the channel; store X'00' in location X'30E'.

● Perform the system restart function.

● Restart the stopped systems after message IEA421E appears.

If necessary, contact hardware hardware support personnel. When the device is repaired, it can be varied offline.

System Action: The channel is disabled. The system waits for the operator to take corrective action and then enter a reply.

After the reply is entered, the system attempts to reset the channel. If it cannot, the system checks to see if the operator replied X'80' to reset the channel. If the operator reset the channel, the system issues a Halt Drive and a Clear I/O instruction for each device on the channel.

If either the system or the operator reset the channel successfully, devices reserved on the channel are rereserved. If the system cannot rereserve a device, the system boxes it (forces it offline), issues message IEA026I, and attempts to restart active I/O operations. The first time the problem occurs on a channel, the system enables the channel, issues message IEA421E, and continues processing. The second time the problem occurs, the system leaves the channel disabled and issues messages IEA421E and IEA071E. See the description of IEA071E.

If the operator replied X'00', thus not resetting the channel, wait state 06A is issued; recovery has failed. The channel is left in the disabled state. See the description of wait state 06A.

Problem Determination: Table I, items 2, 18, 30. For more information about the hot channel or direct access device, check the contents of the SCD. The format of the SCD is described in *OS/VS2 Data Areas* (JES2) or (JES3).

06A

Explanation: A channel was not reset successfully following a hot I/O condition (an invalid repeated interruption caused by a

hardware malfunction). This wait state is preceded by wait state 066, 067, 068, or 069 or by message IEA066A, IEA067A, IEA068A, or IEA069I.

Operator Response: Notify the system programmer. Depending on the requirements of your installation, restart the system to continue processing, or re-IPL the system.

WT CDS

System Action: If the operator restarts the system, the channel is left disabled and offline. Each device on the channel that is not accessible over an alternate path is boxed (forced offline) and message IEA004I is issued. Active I/O is not redriven; that is, the system does not attempt to restart the I/O. Message IGF991E appears later for any active I/O. If any devices are reserved on the channel, the system neither releases them nor rereserves them over alternate paths.

Operator Response: Notify the system programmer. Depending on the requirements of your installation, restart the system to continue processing, or re-IPL the system.

Problem Determination: Table I, items 2, 18, 30. For more information about the hot channel or direct access device, check the contents of the SCD (status collection data) control block in the SYS1.LOGREC data set. The format of the SCD is described in *OS/VS2 Data Areas* (JES2) or (JES3).

06B

Explanation: While channel set switching was active, an attempt was made to change channel sets. However, the hardware was unable to connect any channel set to this processor, leaving the system with no I/O capability.

Operator Response: Probable hardware error. Call IBM for hardware support.

Programmer Response: Verify that the channel set table (CST) has not been overlaid.

Problem Determination: Table I, items 2, 11, 30.

06C

Explanation: A machine check interruption occurred because of a serious error in a channel. While attempting to check the channel paths to identify the channel in error, the system encountered one of the following:

● The disconnected channel path cannot be connected to this processor.

● The channel path that was connected to this processor at the time the error occurred cannot be reconnected to this processor.

Storage location X'414' contains the channel path ID of the channel path the system was attempting to connect to this processor.

Operator Response: Probable hardware error. Record the contents of storage location X'414' and call IBM for hardware support.

Problem Determination: Table I, items 2, 12, 18, 30.

06D

Explanation: During restart processing, IOS has found a missing interruption handler (MIH) condition waiting on paging device ddd for more than one installation-specified period of time. Storage location X'40C' contains the paging device number ddd.

System Action: The system enters the wait state.

Operator Response: Examine paging device ddd for hardware malfunctions, such as the SELECT LOCK indicator being on for a disk device. Check control units and switching units for proper connections. Then restart the system. If the device was just mounted, issue the VARY DEVICE ONLINE command to generate a simulated device end.

Problem Determination: Table I, items 2, 5a, 16, 24, 29, 30.

06E

Explanation: The operator has entered the VARY CHANNEL OFFLINE FORCE command. In order to take the channel offline, devices that are reserved on the channel must be rereserved on alternate paths. The system could not issue message IEA019A.

System Action: The system remains in the wait state.

Operator Response: Stop the processors that are sharing devices on the channel that is to be forced offline. Then restart the system. Message IEA421E or wait state code 0E6 is issued when the stopped processors can be started.

Problem Determination: Table I, items 2, 11, 16, 18, and 29.

06F

Explanation: One of the following was detected along a path to a device:

● An inoperative control unit.
● A channel error.
● An undetermined error.

The device on the failing path is a paging device. No device reservation or active I/O operation exists on the path to indicate which system owns the device.

Location X'40C'contains the address of a location that contains the address of an error information area. The failing path is identified by the following fields in the information area:

● Offset 0 contains the 2-byte channel set ID, in hexadecimal.

● Offset 2 contains the 2-byte device address, in hexadecimal.

System Action: The device is disabled. The processor waits for the operator to take corrective action and enter a response.

Operator Response: Verify that the device is owned by this operating system to ensure that your reply does not usurp another system's ownership of the device. Then, respond by storing one of the following action codes in location X'30E':

Action
Code   Explanation

01   Used to attempt to recover access to the device
        through an alternate path, if one exists.

        Warning: Data set integrity might be lost if the
        device is online to more than one system. In this
        case, quiesce any other systems that have access to
        the device and check with the system programmer
        before responding with action code X'01'.

        The system issues the unconditional reserve
        command. If the command is successful, the device
        is taken out of the quiesced state and an attempt is
        made to restart it. If the command is not successful,
        the system proceeds as if action code X'02' were
        stored.

02   Used to force the device offline, which prevents it
        from being allocated in the future. All I/O requests
        to the device are terminated in error. The device
        cannot be allocated again until the VARY command
        is used to make the device available.

00   Used to attempt to restart the device without
        making any attempt at recovery. If the error recurs,
        this wait state code is issued again.

078

Explanation: The master catalog could not be opened successfully. Message IEC161I precedes this wait state and identifies the specific failure.

Operator Response: Probable I/O error. Re-IPL the system, and notify the system programmer.

Programmer Response: Correct the error identified by message IEC161I. If the error is not correctable, the master catalog must be recreated as described in *OS/VS2 System Programming Library: System Generation Reference.*

Problem Determination: Table I, items 2, 25a, 34a, 29 or 30.

09x

Explanation: The processor (Py) in this wait state was in a spin loop while waiting for an event to occur on another processor (Pz). When the spin loop exceeded the time normally required for the event to occur, processor Py tried to issue the excessive spin notification message IEE331A through the disabled console communications facility (IEEVDCCR). The system put the processor into this wait state for one of three reasons: the notification message could not be issued, the response could not be read, or a response was not entered within the allotted time of two minutes.

WT CDS

The possible awaited events, identified by x in the wait state code, are:

x   Awaited Event
1   RISGNL response
2   Lock release
3   RPSGNL response
4   Restart resource
5   Address space to QUIESCE
6   PTLB SYNC
7   Intersect release
8   SIGP (equipment check)
9   SIGP (operator intervention)
A   SIGP (check stop)
B   SIGP (not ready)
C   SIGP (invalid order)
D   SIGP (receiver check)
E   Successful bind break release

System Action: Processor Py entered restartable wait state 09x, waiting for the operator to specify an action and restart it.

Operator Response: On a 308x system, first make sure that your system-console screen is associated with processor Py. After doing this you have two options in responding to this wait state:

1. Allow the wait state to continue: it might not indicate a problem.

    ● Issue a program restart to processor Py,
      which will continue in the spin-loop for
      another interval.

2. Initiate alternate CPU recovery (ACR) for processor *Pz* on which the expected event has not occurred:

- Identify processor *Pz* by displaying the word *pointed to by* location X'40C' in processor *Py* This word contains the ID (0 - F) of processor *Pz*

- Stop the processor (*Pz*) with this ID.

- Store action code X'AA' at location X'30E' of processor *Py*.

   For additional information on altering and displaying storage, consult the appropriate processor operator's guide.

- Finally, issue a program restart to processor *Py*.

- After ACR processing is complete, you can issue the VARY CPU(z), ONLINE command to bring processor *Pz* back into the configuration.

Problem Determination: Table I, items 2, 11, 29.

0E0

Explanation: During execution of NIP, IEAVNP09 could not signal an online processor to update control register 14.

System Action: The system terminates the IPL process.

Programmer Response: Probable hardware error. Try to re-IPL the system.

If this wait state recurs, switch to uniprocessor mode, and re-IPL the system. Then try to VARY the other processor online. If necessary, contact IBM for hardware support.

Problem Determination: Table 1, items 2 and 30.

0E1

Explanation: During VARY CPU OFFLINE processing, the CPU shutdown routine (IEEVSTOP) checked the CVTSPD field of the CVT (communication vector table) and found that the MSSF (maintenance and service support facility) was inoperative. Without the MSSF, the reconfiguration modules cannot issue SIGP instructions. Therefore, the processor being taken offline cannot be stopped.

System Action: IEEVSTOP places zeros in the prefix register of the processor being taken offline and places that processor in the 0E1 wait state. The system continues as a uniprocessor on the processor not in the 0E1 wait state.

Operator Response: Report this wait state to the system programmer. Loss of the MSSF is a serious problem. Do not try to restart the stopped processor or issue any reconfiguration commands.

Problem Determination: None.

0E6

Explanation: The operator has entered the VARY CHANNEL OFFLINE FORCE command to force a channel offline. In response to message IEA019A or wait state code 06E, the operator then stopped all the processors that are sharing devices on the channel to be forced offline. Once the devices on the channel have been rereserved on alternate paths, the operator can start the processors that were stopped in response to message IEA019A.

Note: The system could not issue message IEA421E.

System Action: The system remains in the wait state.

Operator Response: Start the processors that were stopped to rereserve devices. Then restart the system.

Problem Determination: Table I, items 2, 11, 16, 18, and 29.

101

Explanation: The error occurred during execution of a GETMAIN macro instruction for a program executing in supervisor mode. More bytes were requested from the system queue area (SQA) than were available.

Operator Response: Re-IPL the system. If this code occurs frequently, installation action is needed to increase the space allowed for the system queue; more space should be specified at system generation time or in response to message IEA101A during system IPL.

Problem Determination: Table I, items 2, 11, 29.

102

Explanation: The error occurred during execution of a GETMAIN macro instruction for a program executing in supervisor mode. More pages of real storage were requested for the system queue area (SQA) than were available.

Operator Response: Re-IPL the system. If this code occurs frequently, installation action is required to decrease the fixed real storage requirements of the system.

Problem Determination: Table I, items 2, 11, 29.

103

Explanation: Module IEAVEES compared the contents of storage with the contents of the cache in the receiving processor and found they did not match.

System Action: The system remains in the wait state.

Operator Response: Probable hardware error. Report this wait state code to the system programmer.

Problem Determination: Table 1, items 11, 29.

201

Explanation: A failure has occurred during the execution of the console communications address space create routine (IEAVN700). This wait state code is associated with message IEA366W.

Bits 32 through 47 of the wait state PSW contains a hexadecimal reason code:

Reason Code	Explanation
8001	A failure occurred while creating the console communications address space.
8002	A failure occurred in module IEAVN700.
Fccc	An ABEND occurred. where ccc is the system completion code.

Operator Response: Record the contents of the wait state PSW, and notify the system programmer. Re-IPL the system.

Programmer Response: If the reason code is in the format Fccc, refer to the description of ABEND ccc for problem determination. If the reason code is in the format 8xxx, refer to the following problem determination.

Problem Determination: Table I, items 2, 33, and 29.

202

Explanation: A failure has occurred during the execution of the console communications address space initialization routine (IEAVN701). This wait state code is associated with message IEA367A.

Location X'40C' (field PSAWTCOD in the PSA) contains a hexadecimal reason code:

Reason Code	Explanation
00008001	An ESTAE environment cannot be established.
00008002	An error occurred during ATTACH processing of module IEAVMQWR or IEEVWAIT.
00008003	An error occurred during POST processing for module IEAVN700.

00008004   An error occurred during POST processing for module IEAVN701.

00008005   An error occurred during updating of the command address space table.

0000Fccc   An ABEND occurred, where ccc is the system completion code.

Operator Response: Record the contents of location X'40C', and notify the system programmer. Re-IPL the system.

Programmer Response: If the reason code is in the format X'0000Fccc', refer to the description of ABEND ccc for problem determination. If the reason code is in the format X'00008xxx', refer to the following problem determination.

Problem Determination: Table I, items 2, 33, and 29.

A00

Explanation: A DAT (dynamic address translation) error occurred for a system address space. RTM (recovery termination manager) did not terminate the address space because the ASCBNOMT and ASCBNOMD fields of the ASCB show that the MEMTERM option of the CALLRTM macro instruction is not valid for the address space.

System Action: The system issues message IEA802W.

Programmer Response: Find and correct the DAT error, and re-IPL the system.

Problem Determination: Table I, items 2 and 18.

A01

Explanation: Either a predefined number of hard machine check interruptions occurred on the only online processor with input/output capability, or a hard machine check interruption occurred from which recovery is impossible.

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, items 18, 30. To recover possible unrecorded machine check error records, see Table I, item 11.

A18

Explanation: IOS received an unsolicited device end interruption for a volume containing a paging data set. Volume serial verification failed for at least one of the following reasons:

● The device address contained a volume with a different volume serial number.

● An I/O error occurred while attempting to read the volume label.

● The device changed from ready to not ready status (intervention required) by the time volume verification attempted to read the volume label.

System Action: The system enters this disabled wait state.

Operator Response: Probable operator error. Ensure that all volumes containing paging data sets are on the same device addresses as they were at IPL; make sure that all devices are ready. Re-IPL the system. If the system reenters this wait state, try again.

Note: Repeated failure indicates that a device containing a volume with a paging data set is giving uncorrectable I/O errors while trying to verify the volume containing the data set.

Problem Determination: Table I, items 11, 29 or 30.

A22

Explanation: An error occurred on one of the processors in a multiprocessing configuration. The processor is stopped manually while another processor in the configuration performs recovery processing.

System Action: The processor on which the error occurred waits for responses to the 'help' messages it sent to the console of the processor performing recovery. The 'help' messages were sent when the error occurred.

Operator Response: Check the master console or its alternate for a description of the conditions causing the problem, and perform the actions requested by any messages. The processor on

which the error occurred restarts automatically after it receives the replies to the messages it sent.

A23

Explanation: This wait state code is associated with message IGF910W. A program check interruption occurred while the machine check handler was being executed on the only online processor. No recovery was possible.

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, item 18, 30. To recover possible unrecorded machine check records, see Table I, item 11.

A24

Explanation: This wait state code is associated with message IGF910W. A loop was detected while the machine check handler was being executed on the only online processor. No recovery was possible.

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, item 18, 30. To recover possible unrecorded machine check records, see Table I, item 11.

A25

Explanation: A machine check interruption has occurred. The machine check interruption code indicates that system damage has been sustained. No recovery was possible.

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, items 18, 30. To recover possible unrecorded machine check records, see Table I, item 11.

A26

Explanation: A machine check interruption has occurred. The machine check interruption code is invalid. No recovery was possible.

Operator Response: Probable hardware error. Re-IPL the system.

Problem Determination: Table I, item 18, 30. To recover possible unrecorded machine check records, see Table I, item 11.

A27

Explanation: A processor terminated for one of the following reasons:

● The machine check handler externally linked to a routine in which a machine check interruption or a program check interruption occurred.

● The processor issued a malfunction alert (MFA) and did not enter or remain in check-stop state.

● A malfunction alert was simulated when the operator replied ACR to message IEE331A, and the processor did not enter or remain in check-stop state.

System Action: The processor enters a disabled wait state. Processing continues on other processors.

Operator Response: None.

Problem Determination: Table I, items 18, 30. To recover possible unrecorded machine check records, see Table I, item 11.

B01

Explanation: The 3203/3211 utility has completed normally.

Operator Response: Verify the printed image, and restart the system.

B02

Explanation: This wait state code is issued by the 3203/3211 utility. A control card is missing or out of order. The JOB and END control cards must be the first and last cards respectively. The DFN, UCS, and FCB statements can be included in any order.

Operator Response: Correct the control card sequence, insert any missing cards, and rerun the program.

Problem Determination: Table I, items 11, 29.

B03

Explanation: This wait state code is issued by the 3203/3211 utility. The JOB statement is incorrect.

Operator Response: Correct the JOB statement, and rerun the program. Have the 3203/3211 utility and control cards available.

Problem Determination: Table I, items 11, 29.

B04

Explanation: This wait state code is issued by the 3203/3211 utility. The DFN statement is incorrect.

Operator Response: Correct the DFN statement, and rerun the program. Have the 3203/3211 utility and control cards available.

Problem Determination: Table I, items 11, 29.

B05

Explanation: This wait state code is issued by the 3203/3211 utility. The UCS statement is incorrect.

Operator Response: Correct the UCS statement, and rerun the program. Have the 3203/3211 utility and control cards available.

Problem Determination: Table I, items 11, 29.

B06

Explanation: This wait state code is issued by the 3203/3211 utility. The FCB statement is incorrect.

Operator Response: Correct the FCB statement, and rerun the program. Have the 3203/3211 utility and control cards available.

Problem Determination: Table I, items 11, 29.

B07

Explanation: This wait state code is issued by the 3203/3211 utility. The END statement is incorrect.

Operator Response: Correct the END statement, and rerun the program. Have the 3203/3211 utility and control cards available.

Problem Determination: Table I, items 11, 29.

B0A

Explanation: This wait state code is issued by the 3203/3211 utility. An external interrupt has occurred.

Operator Response: Rerun the program.

B0B

Explanation: This wait state code is issued by the 3203/3211 utility. A program check interrupt has occurred.

Operator Response: Have the 3203/3211 utility and control cards available.

Problem Determination: Table I, items 11, 29.

B0C

Explanation: This wait state code is issued by the 3203/3211 utility. A machine check interrupt has occurred.

Operator Response: Execute the SEREP program, and save the output. Rerun the job.

Problem Determination: Table I, items 14, 30.

B11

Explanation: This wait state code is issued by the 3203/3211 utility. The reader is not online. This error will occur when the reader's control unit has no power or when the control unit has been switched off the I/O interface.

Operator Response: Put the specified control unit online, and rerun the program. If the error recurs, call IBM for hardware support.

B12

Explanation: This wait state code is issued by the 3203/3211 utility. The reader is not ready.

Operator Response: Ready the reader, and rerun the program.

B13

Explanation: This wait state code is issued by the 3203/3211 utility. The reader is not ready.

Operator Response: If the error is not apparent, display low storage location 3 for sense information. An interpretation of sense bit settings can be found in the component description manual for the control unit being used. Correct the faulty condition, and clear the reader check. Rerun the program. If reader checks occur frequently, use a card guide to check for off-punched cards. If the cards are punched correctly and are in good condition and read checks continue, call IBM for hardware support.

B14

Explanation: This wait state code is issued by the 3203/3211 utility. A reader channel error has occurred.

Operator Response: Probable hardware error. Rerun the job.

Problem Determination: Table I, items 12, 30.

B15

Explanation: This wait state code is issued by the 3203/3211 utility. No device end is indicated on the reader.

Operator Response: Probable hardware error. Rerun the job.

Problem Determination: Table I, items 12, 30.

B19

Explanation: This wait state code is issued by the 3203/3211 utility. The printer is not online. This error will occur when the printer's control unit has no power, when the control unit has been switched off the I/O interface, or when the control unit is not a part of the system.

Operator Response: Ensure that the address of the printer specified in the DFN statement is correct. Ensure that the control unit is online, and rerun the job. If the error recurs, call IBM for hardware support.

B1B

Explanation: This wait state code is issued by the 3203/3211 utility. A unit check has occurred on the printer.

Operator Response: If the error condition is not apparent, display low storage location 2-7 for sense information. An interpretation of sense bit settings can be found in *IBM 3203/3211 Printer and 3811 Control Unit Component Description*. Correct the faulty condition, and rerun the job. If the problem recurs, call IBM for hardware support.

B1C

Explanation: This wait state code is issued by the 3203/3211 utility. A printer channel error has occurred.

Operator Response: Probable hardware error. Rerun the job.

Problem Determination: Table I, items 12, 30.

B1D

Explanation: This wait state code is issued by the 3203/3211 utility. No device end is indicated on the printer.

Operator Response: Probable hardware error. Rerun the job. If the error recurs, call IBM for hardware support.

B20

Explanation: The operator executing the stand-alone version of the input/output configuration program (IOCP) terminated IOCP.

Operator Response: Notify the system programmer.

B21

Explanation: A program check interruption has occurred during execution of the stand-alone version of the input/output configuration program (IOCP).

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 11, 13, and 29.

B22

Explanation: A machine check interruption has occurred during execution of the stand-alone version of the input/output configuration program (IOCP).

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 13, 14, and 30.

B23

Explanation: An unrecoverable I/O error has occurred during execution of the stand-alone version of the input/output configuration program (IOCP).

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 13 and 30.

B24

Explanation: During execution of the stand-alone version of the input/output configuration program (IOCP), IOCP encountered an error in the hardware processor controller and cannot communicate with the IOCP operator.

Operator Response: Notify the system programmer.

Problem Determination: Table I, items 13 and 30.

CCC

Explanation: One of the following occurred:

● In a uniprocessor configuration, when the processor executed the QUIESCE function, the system was placed in restartable wait state CCC as part of normal operation.

● In a multiprocessor configuration, processors on which the QUIESCE function is not executing are placed in a manual stop state as well as the disabled wait state. The processor executing the QUIESCE function is then placed in disabled wait state CCC, but not in a manual stop state.

This wait state code is associated with message IEE082I.

Operator Response: Invoke the restart function.

E02

Explanation: A permanent input/output error occurred while the IBM 2250 Display Unit was being used as the primary console. At the time the error occurred, no alternate console was available.

System Action: The sense bytes are placed in the two high-order bytes of register 15, and the status bytes are placed in the two low-order bytes of register 15. Then the system is placed in wait state E02.

Operator Response: If an alternate console is available, start the system again, using the alternate console. If an alternate console is not available, call IBM for programming support.

WT CDS

Uncoded Wait States

A system wait state is indicated in one of several ways, depending on the model of the processor being used. It might be indicated by the WAIT light on the operator control section of the system control panel, the appearance of the word WAIT on the display console, or by a meter showing the percent of active processor time. A system wait state means that no instructions are being processed by the processor.

A system wait state is entered when bit 14 of the current program status word (PSW) is set to 1. To exit from this state, an interruption or initial program load (IPL) must occur to change the current PSW. When the right half of the PSW does not match any of the wait state codes listed in this publication, an uncoded wait state is occurring.

Explanation: An uncoded wait state could result from normal operation; for example, the system might wait for a series of specified operator actions before it can resume processing. An uncoded wait state can also be a symptom of abnormal operation; for example, the system might enter a wait state if a hardware malfunction causes an input/output interruption to be lost.

System Action: The system may exit from an uncoded wait state without operator intervention (1) if an input/output interruption occurs, for example when a user at a terminal signals attention, or (2) when an external interruption occurs, for example when a specified time interval has expired. Otherwise, the system continues to wait for an appropriate operator response before it can continue processing.

Operator Response: If you can communicate with the system through the master console device, do the following in order:

● Enter a DISPLAY R,LIST command. The system responds with message IEE110I or IEE112I if any operator action is required for previous messages. This required action can include replies to messages or mounting of volumes. If all system requests have been satisfied, message IEE111I is issued. For systems using JES3, enter *I,R and *I,R,S from a JES3 console. *I,R displays all outstanding messages except SETUP messages. *I,R,S displays all SETUP messages.

● Scan the console log to make sure that all messages requiring operator action have been satisfied. If JES2 issued message $HASP099, which indicates all JES2 functions were completed, the system has no more batch work, but TSO users might be logged on.

● Enter a DISPLAY A,LIST command to determine if there are active tasks. The system might be waiting for work. For systems using JES3, you can enter *I,A from a JES3 console to display all jobs currently active on one or all processors.

● Issue a DISPLAY U command. The system responds with message IEE450I, which lists the status of the devices in the system. The data listed includes indications of BSY (busy), MTP (mount pending), NRD (not ready), and other status information that might be useful to help you determine why the system is in the wait state. (This command might cause a lengthy type-out.)

● As a last resort, issue the following sequence of commands until the uncoded wait state condition is corrected:

1. If a SYS1.DUMP data set was created during or before nucleus initialization, issue the DUMP command to obtain a storage image dump of the condition causing the wait. Save the output in case the uncoded wait cannot be resolved.

   If the waiting processor is a JES3 local processor, it might be useful to request a dump of the JES3 global processor's storage.

2. For systems using JES2, enter $H Q to prevent initiation of new jobs. For systems using JES3, enter *F,Q,H from a JES3 console to place the entire job queue in a hold status.

3. Enter MN JOBNAMES,T to get information about jobs starting and stopping.

4. Enter DISPLAY A,LIST to get current job execution status. For systems using JES3, you can enter *I,A from a JES3 console to display all jobs currently active on one or all processors.

5. Cancel jobs in reverse order of their importance and request dumps (CANCEL,jjj,DUMP).

6. Enter DISPLAY A,LIST on a hardcopy console and TRACK A,LIST on a graphics console to monitor the changing environment. For systems using JES3, enter *I,A from a JES3 console to display all jobs currently active on one or all processors.

7. For systems using JES2, enter $A Q to resume normal processing. For systems using JES3, enter *F,Q,R from a JES3 console to release the entire job queue.

If you cannot communicate with the system through the master console device, do the following in order:

● Perform the RESTART function to activate the system's software recovery mechanisms.

● If the wait conditions are not eliminated, then follow the Problem Determination instructions listed below.

Problem Determination: If the problem cannot be corrected or communication with the system cannot be established, do the following before calling IBM for programming support:

● Record the contents of the current PSW.

● Have the hardcopy log available.

● Perform the STORE STATUS function.

● Execute the AMDSADMP service aid program to dump the contents of real storage and selected areas of the page data sets on tape.

● After restarting the system, execute the GO function of the AMDPRDMP service aid to print the real storage portion of the dump tape produced by AMDSADMP.

● Save both the tape from AMDSADMP (should further information from the tape be required) and the listing from AMDPRDMP.

If you cannot restart the system, execute the hardware system test for your system before calling IBM for hardware support.

Stand-Alone Dump Wait State Codes

During execution of a stand-alone dump, the SADMP program loads wait state codes in the right half of the PSW in order to communicate with the operator. These codes appear in the console lights as the last four bytes of the current PSW.

The SADMP program is described in *OS/VS2 MVS System Programming Library: Service Aids*.

X'00'

Explanation: The stand-alone dump program terminated normally. All tapes, if used, were tape marked, rewound, and unloaded.

Operator Response: None.

X'01'-'27'

Explanation: SADMP terminated, but could not write to the console. The code, converted to decimal, indicates the message ID that could not be written.

Operator Response: Check the message ID to diagnose the problem. Correct the error before re-executing SADMP.

X'28'

Explanation: SADMP could not perform virtual dumping. The CVT was written to the workfile and could not be retrieved.

Operator Response: None.

X'29'

Explanation: SADMP could not perform virtual dumping. The CVT pointer at X'4C' is invalid.

Operator Response: None.

X'2A'

Explanation: The CVT pointer to the LPA directory is zero. If the value is valid, system initialization was incomplete. If the value is invalid, SADMP cannot continue without overlaying unknown real storage data.

Operator Response: None.

X'2B'

Explanation: The segment table pointer at X'31C' is invalid. SADMP cannot perform virtual dumping.

Operator Response: None.

X'2C'

Explanation: An external interruption or a program check occurred while SADMP was performing termination processing.

Operator Response: To diagnose the problem in SADMP processing, restart SADMP.

X'2D'

Explanation: SADMP could not initialize the auxiliary storage management function.

Operator Response: None.

X'2E'

Explanation: The operator canceled SADMP by causing an external interrupt.

Operator Response: None.

SADMP

X'2F'

Explanation: SADMP terminated after encountering the maximum allowable number of internal errors.

Operator Response: None.

X'30'

Explanation: A permanent input/output error occurred on an output device.

Operator Response: None.

X'31'

Explanation: The page vector table (PVT) required for dumping is invalid.

Operator Response: None.

X'32'

Explanation: SADMP terminated after encountering the maximum allowable number of machine check errors.

Operator Response: None.

X'FD'

Explanation: The precursor routine cannot obtain the dump program from the SYS1.PAGEDUMP data set.

Operator Response: Reinitialize the SADMP program.

X'FE'

Explanation: The precursor routine cannot locate the SYS1.PAGEDUMP data set on the IPL volume. The format-4 DSCB (data set control block) on this volume may be invalid.

Operator Response: Reinitialize the SADMP program. If the format-4 DSCB is invalid, use another volume or correct the DSCB.

X'FF'

Explanation: The specified console address is not available.

Operator Response: Ready a console of the same type that was specified in the SADMP macro instruction. On an MP (multiprocessing) system, this console must be addressable by the IPLed processor.

X'4000'

Explanation: A machine check interruption occurred.

Operator Response: Execute the SEREP program to diagnose the machine check condition.

X'5000'

Explanation: PSW restart was attempted.

Operator Response: None.

X'E00cuu'

Explanation: SADMP is waiting for intervention on device cuu.

Operator Response: Ready device cuu.

X'F00cuu'

Explanation: SADMP is waiting for an I/O interruption from device cuu for a started I/O operation.

Operator Response: Ready device cuu.

X'FFFFFF'

Explanation: SADMP is currently executing on another processor.

Operator Response: None.

Loops

A loop is the repeated execution of a sequence of instructions until a terminal condition occurs. If the terminal condition does not occur, the sequence of instructions will be endlessly executed, and, in such a case, meaningful work is not accomplished. At times, it may be necessary for the operator to terminate such endless looping by canceling the looping job.

You can recognize a loop by:

● A steady glow in the lights of the system control panel with the SYSTEM light on.

● A pointless recurrence of input/output activity; for example, tape oscillating.

● A job that does not change status for a long period of time.

● The PSW display appears to be repeating the same addresses.

Explanation: A loop can result from several different causes, some of which are:

● A deliberate loop designed by the programmer. This might be a debugging loop built during program testing. Or it might be a loop to poll for an event before it will exit.

● An apparent loop. This situation is not actually a loop. It can occur, for example, when a scientific data reduction program is doing a lengthy repetitive operation on a large array of numbers.

● A loop due to a logic error or coding error by the programmer.

● A loop due to a logic error in a system component.

● A loop due to incorrect setup by the operator.

● A loop due to an error in the control program.

● A loop due to a hardware malfunction.

System Action: The system may exit from a loop, without operator intervention, if the execution time of the program exceeds the time limit specified in the TIME parameter of the EXEC statement or the standard time limit of the RDR procedure, assuming your installation included interval timing in the system.

Operator Response: If you can communicate with the system through the master console device, enter DISPLAY A,LIST. The system will list all active tasks. Use this command frequently. Identical entries occurring on successive uses of the DISPLAY A command beyond the estimated execution time of a job indicate a possible loop.

If you are reasonably certain the program is in an endless loop, enter CANCEL jjj,DUMP to terminate the job. The programmer will receive system completion code 122 with the output. Code 122 directs the programmer to take appropriate actions. A copy of the master console sheet should accompany the output if the programmer calls IBM for programming support.

Generally, if you cannot communicate with the system through the master console, record information about the loop.

On processors that support the operator's system control (SC) frame, you can record the information by selecting the loop recording option on the SC frame. Refer to Step 1 for instructions about when to select the loop recording option. This option records approximately 470 values of the instruction counter in the form of an instruction trace. This information becomes available when you write a stand-alone dump or when the MVS SVC dump program is invoked. Use the MVS print dump

program (AMDPRDMP) to format and print either dump.

If you cannot communicate with the system through the master console, do these specific steps:

Step 1: The first step depends on your processor and configuration.

- If your processor does not support the operator SC frame, your first step depends on your installation's priorities. Talk to your system programmer.

  If the system programmer wants specific information about the loop to use later in debugging, do step 3 and then step 2 (RESTART).

  If your installation's first priority is to get the system running again, go immediately to step 2.

  In either case, if the system is still looping after you do the RESTART, proceed with steps 3 and 4.

- If you have a uniprocessor and your processor supports the operator's SC frame, select the loop recording option. After this option records the instruction trace, it puts the system in the STOP state.

- If you have an MP or AP configuration, and your processors support the operator's SC frame, select the loop recording option on the processor that is looping. This option records the instruction trace only on the looping processor, but then puts both processors in the STOP state. Activate the loop recording option on the second processor.

Step 2: Perform the RESTART function.

If your processor supports the operator's SC frame, do the RESTART with REASON 0.

If you have an MP or AP configuration, do the RESTART on the processor that was looping.

Then perform the global MP/AP start function on that same processor to start the second processor.

If doing steps 1 and 2 does not eliminate the loop, do steps 3 and 4 before you call IBM for programming support.

Step 3: Record information about the loop.

If your processor does not support the operator's SC frame, do the following:

- Press stop.

- Record the contents of the PSW and the general purpose registers.

- Press start.

- Repeat the actions in the previous three bullets ten or more times in order to record the contents of the PSW and the registers at ten or more different locations in the loop.

If your processor or processors support the operator's SC frame, select the loop recording option.

Step 4: Write a stand-alone dump; remember to perform the STORE STATUS function first, if your processor does not have the automatic store status function.

After you write the stand-alone dump, re-IPL your system and use the print dump program (AMDPRDMP) to format and print the dump.

If you cannot re-IPL the system, execute the hardware system test appropriate for your system. Do this before you call IBM for hardware support.

Programmer Response: The actions that the operator and the system programmer take to recover from a loop may cause your job to abnormally terminate. Refer to the documentation for the system completion code associated with the abnormal termination. This code is most likely to be 122, 222, 322, or 071.

Problem Determination

Problem determination is the activity required to identify a failing hardware unit or program and determine who is responsible for support.

Problem determination is accomplished by using procedures specified by IBM. In some cases, these procedures may be initiated by a message or code which requires operator or programmer response. The response may include the requirement for additional problem-related data to be collected and

TABLE I

If the problem recurs, follow the problem determination aids specified by the associated message or code before calling IBM for support.

1. If MSGLEVEL = (1,1) was not specified in the JOB statement, specify it and rerun the job.

2. Save the console sheet from the primary console. For systems with remote consoles, save the remote console sheet. In systems with Multiple Console Support (MCS), save a copy of the hard copy log.

3. Save the job stream associated with the job.

4. Save the system output (SYSOUT) associated with the job.

5. Make sure that the failing job step includes a:

   a. SYSABEND DD statement.
   b. SYSUDUMP DD statement.
   c. PL1DUMP DD statement.
   d. SYSMDUMP DD statement.

6. Make sure that the PARM parameter of the EXEC statement specifies the following:

   a. MAP
   b. LIST
   c. DIAG
   d. MSG = AP
   e. CORE, if applicable
   f. XREF
   g. DUMP

7. If SMP is used to make all changes to the system, execute the LIST CDS and LIST PTFBY functions of SMP to

will attempt, where possible, to indicate "probable" failure responsibility.

Problem determination information is included for applicable messages and codes under the heading "Problem Determination." Standard problem determination actions are identified as items of Tables I and II. Unique actions are identified following the list of standard actions to be taken. In any case, it is intended that the specified actions be taken before calling IBM for support.

obtain a list of the current maintenance from the SMP control data set (CDS).

If any changes are made to the system without using SMP, execute the LISTIDR function of the AMBLIST service aid program to obtain a list of all members with a PTF or local fix, and save the output. Execute the program against the:

   a. SYS1.LINKLIB data set.
   b. SYS1.SVCLIB data set.
   c. library containing the program that issued the message.
   d. SYS1.LPALIB data set.

8. Execute the IMCJOBQD (stand-alone) or IMCOSJQD (system-assisted) service aid program to obtain a formatted copy of the contents of the SYS1.SYSJOBQE or SYS1.SYSWADS data sets, SWADS or the resident job list. (Not applicable for VS2 MVS.)

9. Execute the AMBLIST service aid program to obtain:

   a. an object module listing, specifying the LISTOBJ function.
   b. a load module map and cross-reference listing, specifying the OUTPUT = BOTH option of the LISTLOAD function.

10. Have a copy of the Message Control Program (MCP) available.

11. Execute the AMDSADMP service aid program to dump the contents of real storage and page data sets on magnetic tape.

   After restarting the system, execute the appropriate function of the AMDPRDMP service aid program to print the required portion of the dump tape produced by AMDSADMP.

Save both the tape from AMDSADMP (should further information from the tape be required) and the listing from AMDPRDMP.

12. Execute the SEREP program, and save the resulting output.

    (Note: the SEREP program is not supported on processors in the 4300 series.)

13. Save all the associated output.

14. The normal response to this message requests the programmer/operator to execute a specific program. Save all output from that program.

15. Save the program listing associated with the job.

16. Save the dump.

17. Have the system generation (SYSGEN) output available from:

    a. Stage I
    b. Stage II

18. Execute the EREP service aid, to dump the SYS1.LOGREC data set and save the resulting output.

    For MSS, execute the following program to dump the SYS1.LOGREC data set:

    a. Service aid IFCISDA0
    b. Program ISDASDA0 with the DETAIL(ALL) parameter.

19. Save the assembly listing associated with the job.

20. Save the control cards associated with the job.

21. Save the compiler output associated with the job.

22. Save the source input associated with the job.

23. Save the source program listing associated with the job.

24. Run OLTEP diagnostics for the problem device and save the output.

25. Execute the IEHLIST system utility program to obtain a list of the:

    a. volume table of contents of the associated volume, specifying the FORMAT option.
    b. volume table of contents of the associated volume, specifying the DUMP option.
    c. directory of the associated data set
    d. (Not applicable for MVS.)

26. Execute the IEBPTPCH data set utility to print the:

    a. directory of the applicable data set.
    b. applicable data set.
    c. applicable member.
    d. applicable procedure.

27. Have the linkage editor/loader map available.

28. Save the associated volume.

29. Contract IBM for programming support.

30. Contract IBM for hardware support.

31. Save the trace output data set.

32. Print the GTF trace data set with the AMDPRDMP service aid program using the EDIT statement.

33. Print the associated SVC Dump data set, using the AMDPRDMP service aid with the GO statement.

34. Execute the Access Method Services LISTCAT command to:

    a. list the contents of the applicable catalog.
    b. list the catalog entries for the applicable objects and any related objects.

35. Execute the following Access Method Services command:

    a. The MSS LISTMSF command for mountable volumes.
    b. The MSS LISTMSF command with the CARTRIDGES parameter.
    c. The PRINT command to list the contents of the mass storage volume control inventory data set.
    d. The LISTMSVI command.
    e. The LISTMSF command with the ALL parameter.

36. Execute the Access Methods Services PRINT command to print the repair workfile.

37. Execute the AMASPZAP service aid program using the ABSDUMP statement to print the contents of the applicable:

    a. Data set.
    b. Track.

38. Execute the Access Method Services AUDITMSS command with the following parameter:

    a. The CHECK parameter.
    b. The MAP parameter.
    c. The READLABEL parameter.

39. Execute the Access Method Services CHECKMSS command.

40. Execute the Access Method Services COMPARET command.

41. Execute the Access Method Services DUMPMSS command to dump the following:

    a. Formatted mass storage control storage.
    b. Mass storage control main storage.
    c. Mass storage control extended storage.
    d. Formatted Staging Adapter storage.
    e. Staging Adapter main storage.
    f. Staging Adapter extended storage.
    g. Mass storage control tables.

42. Save the latest output from the Mass Storage Control Table Create program.

43. Display units for units associated with the problem area. If specific unit(s) is not know, display range of all virtual units. See your configuration path chart for address ranges.

44. Obtain the RACF profile of the associated data set, where applicable.

45. Stop the processor and use the hardware ALTER/DISPLAY facility to display:

    a.   all general purpose registers.
    b.   the PSW.
    c.   main storage locations 0 through 200 (hexadecimal) and 7000 through 7080 (hexadecimal).

46. If the AMDSADMP program resides on tape, save the tape. If the AMDSADMP program resides on disk, use the DUMP feature of IEHDASDR to print the SYS1.PAGEDUMP data set and cylinder 0 track 0 of this residence disk.

47. Save the output (listings) of the stage 1 and stage 2 AMDSADMP initialization jobs.

48. Follow the procedures for item 9b of this table for load modules AMDSAPGE, AMDSAPRO and AMDSALDR of SYS1.LINKLIB. Use IEBUPDTE or IEBPTCH to print the AMDSADMP and AMDSADM2 macros from SYS1.MACLIB.

49. Save the AMDSADMP dump output (tape or listing).

50. If the program seems to be looping, use the display PSW feature of the hardware ALTER/DISPLAY facility along with the hardware instruction Step facility to trace the loop, instruction by instruction.

51. If there is an error in the contents of a page data set dump, restart the system using a different page data set, then dump the original page data set using the DUMP feature of IEHDASDR.

52. Use IEBCOPY to unload SYS1.IMAGELIB to tape.

53. Have a list of RACF-defined entities available.

54. Contract your IBM system engineer.

55. Save the console sheets from all active global resource serialization systems, and from any systems that are restarting or joining the global resource serialization complex.

TABLE II

GTF for Problem Determination

Format 1: Tracing Without Prompting for Event Keywords

Before reproducing the problem, have the system operator issue a START GTF command specifying tape output, MODE = EXT and TIME = YES. In response to message AHL100A she should type TRACE = opt, where opt is the trace option indicated for the particular message or code, within the text of his reply.

When data for the problem has been recorded, run the AMDPRDMP service aid program using the EDIT statement to format the trace output, specifying DDNAME = (ddname of the trace data set).

Format 2: Tracing With Prompting for Event Keywords

Before reproducing the problem, have the system operator issue a START GTF command specifying tape output, MODE = EXT and TIME = YES. In response to the message AHL100A she should specify the trace options indicated for the associated message or code within the text of her reply. Then, in response to the message AHL101A, she should specify the event keywords also indicated with the associated message or code.

When data for the problem has been recorded, run the AMDPRDMP service aid program using the EDIT statement to format the trace output, specifying DDNAME = (ddname of the trace data set).

Format 3: Specialized Tracing Action

Before reproducing the problem, have the system operator issue a START GTF command specifying tape output, MODE = EXT and TIME = YES. In response to message AHL100A she should type 'TRACE = SYS,USR,SLIP'. The DD statement for a data set in error should specify DCD = DIAGNS = TRACE.

When data for the problem has been recorded, execute the EDIT function of AMDPRDMP specifying the options SYS, USR = FFF, and SLIP.

Format 4: Specialized Tracing Action for VSAM

Before reproducing the problem, have the system operator issue a START GTF command specifying tape output, MODE = EXT and TIME = YES. In response to message AHL100A she should type 'TRACE = SYS,USR'. The DD statement for a data set in error should specify AMP = TRACE.

When data for the problem has been recorded, execute the EDIT function of AMDPRDMP specifying the options SYS and USR = (FFF,FF5).

TABLE III

If a problem occurs in JES3, one or more of the following steps may be taken to assist in determining the cause:

1. Take a stand-alone dump of the system by specifying DUMP = PRDMP on the OPTIONS card in the initialization deck and save the output (SYS1.DUMPnn).

2. Take a standard dump of the system by specifying DUMP = JES on the OPTIONS card in the initialization deck and save the output (JESABEND).

3. Take an operating system dump including the nucleus and SQA by specifying DUMP = MVS on the OPTIONS card in the initialization deck and save output (SYSABEND).

4. Save the MLOG listing or get a print of DLOG.

5. Provide listing of initialization deck (JES3OUT).

6. Provide console log from initialization.

7. Ascertain OS/VS level and JES3 PTF level.

8. Provide OS/VS nucleus LOADMOD map.

9. Issue *F T,L = linename, SNAPON and *X RJPSNPS.

10. Issue *F T,L-linename,TRCEON. This will give an RJP event trace on the MLOG console. Save MLOG output.

11. Take a system dump by placing an INTDEBUG,n, message-text$$ card in the initialization deck. The message-text field is compared for occurrences of the chosen message. The n field specifies the number of message occurrences before the system is dumped.

12. Issue *X DISPLAY and save output.

13. Issue *X DISPLAY,SNAPS and save the output.

14. Rerun job with //*PROCESS CBPRNT and save output.

   a. After Interpreter DSP
   b. After Main Service
   c. After Input Service

15. Rerun job with EXEC PGM = JCLTEST and save output.

16. Rerun job with EXEC PGM = JSTTEST and save output.

17. Rerun job with TYPRUN = SCAN specified on JOB card and save output.

18. Issue *X DISPDJC when problem occurs and save output.

19. Restart system with specifying a start type of WA (Warmstart with queue analysis) and save output (JES3SNAP).

20. Check SYSMSG data set for error indications.

21. Provide a listing of the JES3 startup procedure, containing all JCL used to start the subsystem.

22. Save the IOERR trace that will be printed.

23. Rerun job with DEBUG = All immediately following PROCESS CI or PROCESS RI card.

Appendix: Code to Module Tables

This appendix contains two tables. The first is for
system completion codes (ABEND codes); the
second is for wait state codes.

The tables identify the modules that detect the need
for each code and the modules that issue the code.

CD/MOD

System Completion Code to Module Table

System Completion Code	Module Detecting	Module Issuing
022	IGTDSR	IGTDSR
028	IEAVAMSI	IEAVAMSI
	IEAVFXLD	IEAVFXLD
	IEAVFXLD	IEAVPSI
	IEAVOUT	IEAVPSI
	IEAVPIOI	IEAVPIOI
	IEAVPSI	IEAVPSI
	IEAVRCF	IEAVRCF
	IEAVRCV	IEAVRCV
	IEAVSWIN	IEAVSWIN
	IEAVWND	IEAVWND
	ILRCMP	IEAVEPC
02C	HASPFSSM	HASPFSSM
	HASPWARM	CALLRTM
047	IEAVESVC	IEAVESVC
	IGC109	IGC109
	IGC116	IGC116
	IGC122	IGC122
04D	IEAVGM00	IEAVGM00
	IEAVGM03	IEAVGM03
054	IEFSJBLD	IEFSJBLD
	IEFSJDEF	IEFSJDEF
	IEFSJDEL	IEFSJDEL
	IEFSJFND	IEFSJFND
	IEFSJJDV	IEFSJJDV
	IEFSJEXT	IEFSJEXT
	IEFSJGET	IEFSJGET
	IEFSJPUT	IEFSJPUT
	IEFSJRET	IEFSJRET
	IEFSJUPD	IEFSJUPD
	IEFSJWRT	IEFSJWRT
	IEFSJINT	IEFSJINT
06C	IEAVTSLP	IEAVTSLP
06D	IEAVTADR	IEAVTADR
06E	IEAVTGLB	IEAVTGLB
	IEAVTLCL	IEAVTLCL
06F	IEAVTRT1	IEAVTRT1
072	IEAVEDS0	IEAVEDS0
073	IEAVELK	IEAVELK
074	IEAVELKR	IEAVELKR
075	IEAVESC0	IEAVESC0
076	IEAVEMCR	IEAVEMCR

System Completion Code	Module Detecting	Module Issuing
077	IEAVC700	IEAVC700
	IEAVG700	IEAVG700
	IEAVMNTR	IEAVMNTR
	IEAVQ700	IEAVQ700
078	IEAVAR00	IEAVAR00
	IEAVAR02	IEAVAR02
	IEAVAR03	IEAVAR03
079	IEAVAR04	IEAVAR04
07A	IEAVAR00	IEAVAR00
	IEAVAR02	IEAVAR02
07B	IEAVEDR	IEAVEDR
	IEAVERI	IEAVERI
	IEAVERP	IEAVERP
07C	IEAVESPR	IEAVESPR
07E	IEEVDEV	IEEVDEV
07F	IEAVECHO	IEAVECHO
081	IEAVEQR	IEAVEQR
	IEAVSQA	IEAVSQA
082	IEAVPRT0	IEAVGPRR
083	ILRSLSQA	ILRSLSQA
	ILRSRT	ILRSRT
084	ILRCMP	ILRCMP
	ILRPTM	ILRPTM
	ILRSWPDR	ILRSWPDR
085	ILRSAV	ILRSAV
086	ILRVSAMI	ILRVSAMI
087	ILRSAV	ILRSAV
	ILRACT	ILRACT
	ILRRLG	ILRRLG
	ILRVSAMI	ILRVSAMI
	ILRTMRLG	ILRTMRLG
0A1	IGG0193Y	IGG0193Y
0A2	IGG0203Y	IGG0203Y
0A3	IGG019OE	IGG019OE
0A4	IGG019OE	IGG019OE
0A5	IGG019OE	IGG019OE
0AE	IECVRSTS	IECVRSTS

System Completion Code	Module Detecting	Module Issuing
0B0	IEFQB550	IEFQB550
	IEFQB555	IEFQB555
	IEFQB580	IEFQB580
0B1	IEFJCNTL	IEFJCNTL
	IEFJJCLS	IEFJJCLS
	IEFJACTL	IEFJACTL
	IEFJWTOM	IEFJWTOM
0B2	IEFJJCLS	IEFJJOBS
0B3	IEFJACTL	IEFJACTL
0B4	IEFJNCTL	IEFJNCTL
0B5	IEFJNCTL	IEFJNCTL
0B7	IEEMPDM	IEEMPDM
	IEEMPS03	IEEMPS03
	IEEMPVST	IEEMPVST
	IEEVPTH	IEEVPTH
0B8	IEFJSWT	IEESB605
	IEESB601	IEESB605
0B9	IEESB605	IEESB605
0BA	IEFSD162	IEFSD162
	IEFSD166	IEFSD166
	IEFSD605	IEFSD605
0BB	IEFSD263	IEFSD263
0BD	IEEMB816	IEEMB816
0BE	IEEMB809	IEEMB809
0BF	IEEMB816	IEEMB816
0Cx (where x = 1-F)	IEAVEPC	IEAVEPC
	IEFAB4FC	IEFAB4FC
0D2	IEAVEPC	IEAVEPC
0D3	IEAVEPC	IEAVEPC
0D9	IEAVPIX	IEAVTRT1
0F8	IEAVESVC	IEAVESVC
0F9	IEAVESVC	IEAVESVC
0FA	IEAVESVC	IEAVESVC
0FB	IEAVEPC	IEAVEPC
101	IEAVGM00	IEAVGM00
	IEAVSY50	IEAVSY50
102	IEAVGM00	IEAVGM00
	IEAVSY50	IEAVSY50

System Completion Code	Module Detecting	Module Issuing
104	IEAVGM00	IEAVGM00
106	IEAVLK01	IEAVLK00
10A	IEAVGM00	IEAVGM00
10B	IEAVRT01	IEAVRT01
10D	IEAVTRTC	IEAVTRTC
10E	IEAVTB00	IEAVTB00
122	IEE3703D	IEE3703D
128	IEAVTB00	IEAVTB00
12A	IEAVEAT0	IEAVEAT0
12C	IEAVECH0	IEAVECH0
12E	IEAVRT00	IEAVRT00
12F	IEAVRT00	IEAVRT00
130	IEAVENQ1	IEAVENQ1
133	IEAVAD00	IEAVAD00
	IEAVTSDX	IEAVTSDX
138	IEAVENQ1	IEAVENQ1
13C	IGC00060	IGC00060
13E	IEAVEED0	IEAVEED0
147	IGC0007A	IGC0007A
149	IGC0007C	IGC0007C
14A	IGC0007D	IGC0007D
14B	IGC0007E	IGC0007E
14F	IEAVSETS	IEAVSETS
153	IEEMB830	IEEMB830
	IEASMFSP	IEASMFSP
157	IEAVXDOM	IEAVXDOM
15C	IECVEXCP	IECVEXCP
15F	IRARMINT	IRARMINT
16B	IEAVMODE	IEAVMODE
16D	IGC109	IGC109
	IGC116	IGC116
	IGC122	IGC122

System Completion Code	Module Detecting	Module Issuing	System Completion Code	Module Detecting	Module Issuing
171	IEAVFREE	IEAVPSI	23E	IEAVEED0	IEAVEED0
	IEAVFXLD	IEAVPSI			
	IEAVOUT	IEAVPSI	247	IGC0007A	IGC0007A
	IEAVPSI	IEAVPSI			
	IEAVRELS	IEAVPSI	253	IEEMB822	IEEMB822
				IEEMB827	IEEMB827
172	IECVEXCP	IECVEXCP		IEEMB830	IEEMB830
				IEEMB834	IEEMB834
177	IEAVTEST	IEAVTEST		IEEMB839	IEEMB839
178	IEAVGM00	IEAVGM00	25F	IRARMERR	IRARMINT
17A	IEAVEVT0	IEAVEVT0	260	IEAVAX00	IEAVAX00
17B	IEAVEPDQ	IEAVEPDQ	26D	IRBMFDWP	IRBMFDWP
				IRBMFIWK	IRBMFIWK
17D	IEAVEVT0	IEAVEVT0	271	IEAVPSI	IEAVPSI
182	ICHRCK00	ICHRCK00	27B	IGC123	IGC123
183	ICHRIN00	ICHRIN00	282	ICHRCK00	ICHRCK00
185	ICHRDF00	ICHRDF00	283	ICHRIN00	ICHRIN00
1FC	IEAVESVR	IEAVESVR	285	ICHRDF00	ICHRDF00
1FD	IRBMFEVT	IRBMFEVT	2F3	IEFIB605	IEFIB605
200	IECVEXPR	IECVEXPR	2FC	IEAVEIOR	IEAVEIOR
20|	IEAVSY50	IEAVSY50	300	IECVEXCP	IEAVEXCP
202	IEAVSY50	IEAVSY50	301	IEAVSY50	IEAVSY50
206	IEAVLK03	IEAVLK03	304	IEAVGPRR	IEAVGPRR
20B	IEAVRT01	IEAVRT01	305	IEAVGM00	IEAVGM00
20D	IEAVTRTE	IEAVTRTE	306	IEAVLK00	IEAVLK00
				IEAVLK01	IEAVLK00
20E	IEAVTB00	IEAVTB00	30A	IEAVGM00	IEAVGM00
222	IEE3703D	IEE3703D	30E	IEAVTB00	IEAVTB00
228	IEAVTB00	IEAVTB00	322	IEATLEXT	IEATLEXT
22A	IEAVEAT0	IEAVEAT0	328	IEAVTB00	IEAVTB00
22C	IEAVECH0	IEAVECH0	338	IEAVENQ1	IEAVENQ1
22E	IEAVRT00	IEAVRT00	33E	IEAVEED0	IEAVEED0
22F	IEAVRT00	IEAVRT00	35F	IEFSD263	IEFSD263
230	IEAVENQ1	IEAVENQ1	378	IEAVGM00	IEAVGM00
233	IEAVAD00	IEAVAD00	37A	IEAVEVT0	IEAVEVT0
	IEAVTSDT	IEAVTSDT			
	IEAVTSDX	IEAVTSDX	37D	IEAVEVT0	IEAVEVT0
238	IEAVENQ1	IEAVENQ1			

System Completion Code	Module Detecting	Module Issuing
382	ICHRCK00	ICHRCK00
383	ICHRIN00	ICHRIN00
385	ICHRDF00	ICHRDF00
3FC	IEAVEE1R IEAVEE2R IEAVEE3R	IEAVEE1R IEAVEE2R IEAVEE3R
400	IECVEXCP	IECVEXCP
402	IEAVSY50	IEAVSY50
406	IEAVLK00 IEAVLK01	IEAVLK00 IEAVLK00
40A	IEAVGM00	IEAVGM00
42A	IEAVEAT0	IEAVEAT0
430	IEAVENQ1	IEAVENQ1
438	IEAVENQ1	IEAVENQ1
43E	IEAVEED0	IEAVEED0
45F	IRARMEVT	IRARMEVT
478	IEAVGM00	IEAVGM00
47A	IEAVEVT0	IEAVEVT0
47D	IEAVEVT0	IEAVEVT0
482	ICHRCK00	ICHRCK00
483	ICHRIN00	ICHRIN00
485	ICHRDF00	ICHRDF00
4FC	IEAVEPCR	IEAVEPCR
500	IECVEXCP	IECVEXCP
502	IEAVSY50	IEAVSY50
504	IEAVGM00	IEAVGM00
505	IEAVGM00	IEAVGM00
522	IEATLEXT	IEATLEXT
52A	IEAVEAT0	IEAVEAT0
530	IEAVENQ1	IEAVENQ1
53E	IEAVEED0	IEAVEED0
55F	IRARMSRV	IRARMSRV
57D	IEAVEVT0	IEAVEVT0

System Completion Code	Module Detecting	Module Issuing
582	ICHRCK00	ICHRCK00
585	ICHRDF00	ICHRDF00
5FC	IEAVERER	IEAVERER
604	IEAVGM00	IEAVGM00
605	IEAVGM00	IEAVGM00
622	IKJEFLJ IKJEFLG	IEFSD263 IKJEFLG
630	IEAVENQ1	IEAVENQ1
638	IEAVENQ1	IEAVENQ1
67D	IEAVEVT0	IEAVEVT0
683	ICHRIN00	ICHRIN00
684	ICHRSV00	ICHRSV00
685	ICHRDF00	ICHRDF00
6FC	IEAVEPC	IEAVEPC
700	IGC109 IGC116 IGC122 IECVEXCP IECVEXPR	IGC109 IGC116 IGC122 IECVEXCP IECVEXPR
702	IEAVSV50	IEAVSY50
704	IEAVGM00	IEAVGM00
705	IEAVGM00	IEAVGM00
706	IEAVLK01	IEAVLK00
70A	IEAVGM00	IEAVGM00
72A	IEAVEAT0	IEAVEAT0
730	IEAVENQ1	IEAVENQ1
738	IEAVENQ1	IEAVENQ1
778	IEAVGM00	IEAVGM00
77D	IEAVEVT0	IEAVEVT0
800	IECVEXCP	IECVEXCP
804	IEAVGM00	IEAVGM00
806	IEAVLK00 IEAVLK01	IEAVLK00 IEAVLK00
80A	IEAVGM00	IEAVGM00

CD/MOD

System Completion Code	Module Detecting	Module Issuing
822	IEFSD263	IEFSD263
82A	IEAVEAT0	IEAVEAT0
838	IEAVENQ1	IEAVENQ1
878	IEAVGM00	IEAVGM00
87D	IEAVEVT0	IEAVEVT0
905	IEAVGM00	IEAVGM00
906	IEAVLK00	IEAVLK00
90A	IEAVGM00	IEAVGM00
922	IEFIB621	N/A
92A	IEAVEAT0	IEAVEAT0
978	IEAVGM00	IEAVGM00
A00	IECVEXCP	IECVEXCP
	IECVEXPR	IECVEXPR
A03	IEAVTSKT	IEAVTSKT
A05	IEAVMG00	IEAVGM00
A06	IEAVLK00	IEAVLK00
A0A	IEAVGM00	IEAVGM00
A23	IEAVMFRR	IEAVMFRR
A78	IEAVGM00	IEAVGM00
B00	IECVEXPR	IECVEXPR
B04	IEAVGM00	IEAVGM00
B05	IEAVGM00	IEAVGM00
B0A	IEAVGM00	IEAVGM00
B23	IEAVSTAA	IEAVSTAA
B78	IEAVGM00	IEAVGM00
C0D	IEAVAMSI	IEAVAMSI
	IEAVCSEG	IEAVCSEG
	IEAVDLAS	IEAVDLAS
	IEAVDSEG	IEAVDSEG
	IEAVEQR	IEAVEQR
	IEAVESC0	IEAVESC0
	IEAVFREE	IEAVFREE
	IEAVFXLD	IEAVFXLD
	IEAVGFA	IEAVGFA
	IEAVINV	IEAVINV
	IEAVIOCP	IEAVIOCP
	IEAVOUT	IEAVOUT

System Completion Code	Module Detecting	Module Issuing
	IEAVPFTE	IEAVPFTE
	IEAVPIOI	IEAVPIOI
	IEAVPIOP	IEAVPIOP
	IEAVPIX	IEAVPIX
	IEAVPRSB	IEAVPRSB
	IEAVPSI	IEAVPSI
	IEAVRCF	IEAVRCF
	IEAVRELS	IEAVRELS
	IEAVRFR	IEAVRFR
	IEAVSOUT	IEAVSOUT
	IEAVSQA	IEAVSQA
	IEAVSWIN	IEAVSWIN
	IEAVTERM	IEAVTERM
	ILRSLSQA	ILRSLSQA
	ILRGOS	ILRGOS
	ILRTERMR	ILRTERMR
	ILRSRBC	ILRSRBC
C22	IECVEXCP	IECVEXCP
CFB	IATABMN	IATABMN
D05	IEAVGM00	IEAVGM00
D0A	IEAVGM00	IEAVGM00
D0D	IEAVTRTE	IEAVTRTE
D23	IEAVVWTO	IEAVVWTO
D78	IEAVGM00	IEAVGM00
DFB	IATFCLT	IATFCLT
	IATFPCC	IATFPCC
	IATFPCW	IATFPCW
	IATFPGD	IATFPGD
	IATFPQC	IATFPQC
	IATFPRA	IATFPRA
	IATFPSB	IATFPSB
	IATIIFO	IATIIFO
	IATSICD	IATSICD
E00	IECVEXCP	IECVEXCP
E03	IEAVTSKT	IEAVTSKT
E23	IEAVVRP2	IEAVVRP2

Wait State Code to Module Table

Wait State Code	Detecting Module	Issuing Module	Wait State Code	Detecting Module	Issuing Module	Wait State Code	Detecting Module	Issuing Module
001	IEAIPL00	IEAIPL00	030	IEAVNIP0	IEAVNIP0	04E	IECVIRST	IECVIRST
							IECVHREC	IECVHREC
002	IEAIPL00	IEAIPL00	031	IEAVNIP0	IEAVNIP0		IECVRRSV	IECVRRSV
							IECVRSTI	IECVRSTI
003	IEAIPL00	IEAIPL00	032	IEAVNIPM	IEAVNIPM			
				IEAVNIP0	IEAVNIP0	050	IEAVTACR	IGFPTERM
004	IEAIPL00	IEAIPL00	033	IEAVNIPM	IEAVNIPM	051	IEAVTCR1	IGFPTERM
005	IEAIPL00	IEAIPL00	034	IEAVNIP0	IEAVNIP0	052	IEAVTCR1	IGFPTERM
006	IEAIPL00	IEAIPL00	036	IEAVNIPM	IEAVNIPM	058	IEAVNIP0	IEAVNIP0
007	IEAVNP01	IEAVNIPM	037	IEAVNPM3	IEAVNIPM	059	IEAVNIP0	IEAVNIP0
00A	IEAVNP03	IEAVNIPM	038	IEAVNIP0	IEAVNIP0	05A	IEAVNIP0	IEAVNIP0
				ILRASRIM	ILRIMMSG			
00B	IEEVIPL	IEEVIPL		IEAVNIPM	IEAVNIPM	05B	IEAVNIP0	IEAVNIP0
00C	IEAIPL00	IEAIPL00	039	IEAVNPM3	IEAVNIPM	05C	IEAVNP11	IEAVNIPM
00D	IEEVIPL	IEEVIPL	03A	IEAVNP05	IEAVNIPM	05D	IEAVNP11	IEAVNIPM
00E	IEAIPL00	IEAIPL00	03B	IEAVNP05	IEAVNIPM	05E	IEAVNP11	IEAVNIPM
				IEAVNP07	IEAVNIPM			
014	IEAVEPC	IGFPTERM		IEAVNIPX	IEAVNIPM	05F	IEAVNP11	IEAVNIPM
017	IEAIPL00	IEAIPL00	03C	ILRASRIM	ILRIMMSG	060	ILRASRIM	ILRIMMSG
				ILRIODRV	ILRIODRV			
018	IEAIPL00	IEAIPL00		ILRMSG00	ILRMSG00	061	ILRASRIM	ILRIMMSG
019	IEAIPL00	IEAIPL00	03D	IEAVNP08	IEAVNIPM	063	IEAVNP03	IEAVNIPM
							IEAVNP11	IEAVNIPM
01A	IEEVDUMY	IGFPTERM	03F	IEAVNPM2	IEAVNIPM		IEAVNP19	IEAVNIPM
				IEAVNP05	IEAVNIPM		ILRASRIM	ILRIMMSG
01B	IEAVTSLP	IEESTPRS	040	IEAVNIPM	IEAVNIPM	064	IEAVNIPM	IEAVNIPM
							IEAVNIP0	IEAVNIP0
01C	IEAVESPR	IGFPTERM	041	IECVRSTI	IECVRSTI	065	IEAVNIPM	IEAVNIPM
01D	IEAVNIP0	IEAVNIP0	044	IEAVNIPM	IEAVNIPM	066	IECVHREC	IECVHREC
				IEAVNIP0	IEAVNIP0			
021	IEAVNPM2	IEAVNIPM	045	IEAVNPA6	IEAVNIPM	067	IECVHREC	IECVHREC
				IEAVNIP0	IEAVNIP0	068	IECVHREC	IECVHREC
022	IECVDAVV	IECVDAVV	046	IEAVNIP0	IEAVNIP0	069	IECVHREC	IECVHREC
024	IGFPTREC	IGFPTREC	047	IEAVNIPM	IEAVNIPM	06A	IECVHREC	IECVHREC
026	ICFBIF00	ICFBIF00	048	IEAVNIP0	IEAVNIP0	06B	IECVCINT	IECVCINT
	ICFBDF00	ICFBDF00	04A	IEAVNIP0	IEAVNIP0	06C	IGFCCHED	IGFCCHED
027	ICFBIF00	ICFBIF00	04C	IECVIRST	IECVIRST	06D	IECVRSTS	IEESTPRS
	ICFBDF00	ICFBDF00	04D	IECVIRST	IECVIRST			
02D	IEAVNPM3	IEAVNIPM						
02E	ILRMSG00	ILRMSG00						
02F	IECVPST	IECVPST						
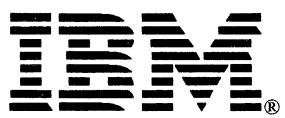
CD/MOD

Wait State Code	Detecting Module	Issuing Module
06E	IECVFCHN	IEESTPRS
06F	IECVDURP	IECVDURP
0E6	IECVFCHN	IEESTPRS
101	IEAVGM00	IEAVGM00
102	IEAVGM00	IEAVGM00
103	IEAVEES	IEAVEES
201	IEAVN700	IGFPTCON
202	IEAVN701	IEESTPRS
A01	IGFPMCIH	IGFPMCIH
A22	IEEVDCCR	IEEVDCCR
A23	IGF.?MCIH	IGFPMCIH
A24	IGFPMCIH	IGFPMCIH
A25	IGFPMCIH	IGFPMCIH
A26	IGFPMCIH	IGFPMCIH
CCC	IEEMPS03	IEESTPRS

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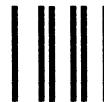
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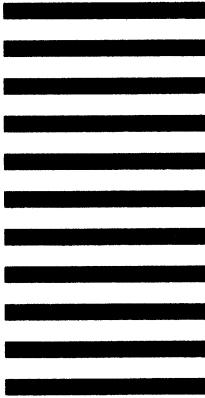
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