

IBM

CICS
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CICS
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Program
Debugging
Reference
Summary





CICS
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Customer
Information
Control System
CICS/OS/VS

Program Product
Version 1.7

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Program
Debugging
Reference
Summary

SX33-6048-0

First Edition (November 1985)

This edition applies to Version 1 Release 7 (Version 1.7) of the IBM program product Customer Information Control System/Operating System/Virtual Storage (CICS/OS/VS), program number 5740-XX1.

This edition is based on the earlier combined OS/DOS CICS/VS Program Debugging Reference Summary for CICS/VS 1.6, SX33-6010-4 (which remains applicable and current for users of Versions 1.6 and 1.6.1). Changes in OS information are indicated by vertical lines to the left of the changes.

The basic documentation is the authoritative source and will be the first to reflect changes. Information herein is extracted mainly from the CICS/OS/VS Problem Determination Guide, SC33-0242, CICS/OS/VS Messages and Codes, SC33-0226, and CICS/OS/VS Data Areas, LY33-6035. Changes are made periodically to the information herein; before using this publication in connection with the operation of IBM systems, consult the latest IBM System/370, 30XX, and 4300 Processors Bibliography, GC20-0001, for the editions that are applicable and current.

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ABBREVIATIONS

addr	address
alphanum	alphanumeric
appl	application
arg	argument
cmnd	command
cond	condition, conditional
cont	continue
ctrl	control
curr	current
dest	destination
facil	facility
hdr	header
ID	identifier, identification
immed	immediate
indic	indicator
init	initialize
instr	instruction
initlz	initialize
initlzn	initialization
int	interrupt
invld	invalid
jour	journal
max	maximum
mem	memory
msg	message
no.	number
op	operation
op sys	operating system
opt	option, optional
parm	parameter
prog	program
rcv	receive
recov	recover, recovery
reg	register
req	request
reqd	required
resp	response
spec	specific
stg	storage
strg	storage
sys	system
temp	temporary
termid	terminal identification
term1	terminal
trans	transaction
txfr	transformer
vol	volume
wrt	write

INTRODUCTION

This reference summary contains trace table and storage management information and descriptions of the storage areas that can be useful in debugging a CICS application program. For programs at the command-level, the EXEC interface trace table information (Figure 3 on page 57) and the EXEC interface block (Figure 20 on page 82) will generally be sufficient.

The descriptions of the storage areas show the names and offsets of fields within the areas and include a brief description of the contents of a field. Layouts of the CSA, TCA, and TCT are included to illustrate chaining through these areas.

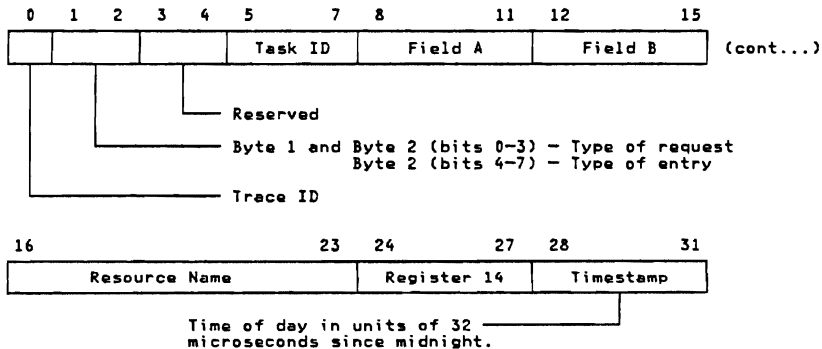
TRACE

The address of the trace table header is held in the field CSATRIBA in the CSA. The trace table header, which is separate from the trace table, holds pointers to the trace table as follows:

Bytes	Contents
0-3	Address of last-used entry
4-7	Address of first entry in table
8-11	Address of last entry in table

For a complete description of the trace table header, see the DSECT ZTRHEADR in the CICS/OS/VS Data Areas, LY33-6035.

The CICS trace table consists of a number of standard entries in main storage (for MVS/XA, in extended virtual storage), 32 bytes long, and aligned on a 32-byte boundary. The entries are stored in the trace table each time the associated command, or macro, is executed. In general, each entry has the following format:



Byte 2, bits 4-7 indicate the type of entry:

- X'1' FE entry
- X'2' User entry
- X'3' LIFO system entry
- X'4' System entry
- X'5' LIFO system exit
- X'D' Trace on/off entry

The type of request information is sometimes held in Fields A and B.

The resource name, when it occurs, is usually the name of a resource associated with the request being traced:

ID	Program	Request Type(s)	Resource
X'D5'	User exit interface	All requests	Exit program name
X'D6'	Allocation program	X'17' allocate	Modename
X'E3'	System spooling interface	Where appropriate	Data set ID token
X'E5'	Security program	X'04',X'08' sign-on X'0C' check auth.	User ID Resource name
X'EA'	Table management program	Where appropriate	Resource name
X'EE'	VTAM I/O trace	All requests	VTAM communications ID
X'F0'	Task control	X'0E',X'0F' CANCEL X'28' LOCATE X'29' LOCATE-REGION	Facility ID (if any) || abend code Transid Sysid || transid
X'F2'	Program control	Where appropriate	Program name
X'F3'	Interval control	Where appropriate X'90' RETRY X'F0' CANCEL	Transid Request ID Request ID
X'F5'	File control	Where appropriate	Data set name
X'F6'	Transient data control	Where appropriate	Queue name
X'F8'	CICS-DL/I interface	'PCB' function Data-base access call	PSB name DBD name
X'FC'	VTAM terminal control	X'51' LU6.2 services X'5A' install entry	Modename Netname of LU requesting logon

There are several exceptions to the general format. The use of all fields for each type of request is summarized in Figure 1 on page 4. The entries for two trace IDs are further explained in Figure 2 on page 52 and Figure 3 on page 57.

Terminal control (VTAM), trace ID X'FC'

Entry and exit trace table entries are identified by X'0' and X'F' in the Type of Request byte 1 is sometimes a sub-module identifier, with further type of request information in Field A. Figure 1 on page 4 often identifies the contents of Fields A and B by formats in the ranges A1-A11 and B1-B2. Figure 2 on page 52 shows these formats.

EXEC Interface, trace ID X'E1'

Entry and exit trace table entries are identified by X'0' and X'F' in the Type of Request (byte 2, bits 0-3). The second half of Field B (bytes 14-15) contains the command code. In an exit trace entry, bytes 8-13 (Field A and first half of Field B) contain a response code. Figure 3 on page 57 gives the meanings of these command and response codes.

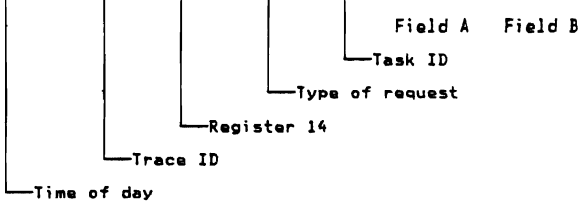
AUXILIARY TRACE

The trace entries described above can also be stored in auxiliary storage, on a sequential data set (disk or tape). The format of auxiliary trace entries is identical to that of main storage trace entries. If you print the auxiliary trace data set with the trace utility program (DFHTUP), the entries are shown in the format used in the interpreted trace display given in a CICS dump.

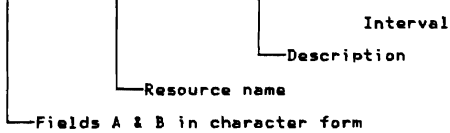
FORMATTED TRACE ENTRIES IN DUMPS

When you use the dump utility program (DFHDUP) to print a CICS dump (transaction, formatted, or partition), each trace table entry is displayed in interpreted form. When CICS takes an operating system partition dump (SNAP or SDUMP), the trace table is written separately to the CICS dump data set.

07:28:26.938176 EA 40A9E456 0003 00013 01000300 000C69C4 (cont...)



.....D XDFHPORD TMP PPT LOCATE 00.01040



ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

X'C8' DFHSCP GETMAIN exit trace - see under X'F1' DFHSCP

X'C9' DFHSCP FREEMAIN exit trace - see under X'F1' DFHSCP

X'CA' DFHSCR storage violation trace - see under X'F1' DFHSCP

X'CB' Reserved Address of dynamic Address of first
DFHDBP log DWE, TCADWLBA

X'CC' Byte 2, bits 4-7 Byte 8 Request type
DFHCCP X'3' Entry X'01' OPEN Addr of parm list
X'02' CLOSE Addr of parm list
X'03' CONNECT Addr of parm list
X'04' DISCONNECT Addr of parm list
X'05' STARTBROWSE Addr of parm list
X'06' ENDBROWSE Addr of parm list
X'07' GETNEXT Addr of parm list
X'08' WRITE Addr of parm list
X'09' READ Addr of parm list
X'0A' DELETE Addr of parm list
X'0B' PURGE Addr of parm list

Byte 9 Request Modifier
1..... SYNC=YES

Bytes 10-11
Reserved

Byte 2, bits 4-7 Byte 8 Request type
X'5' Exit Same as on Reserved
entry trace

Bytes 9-10
Reserved

Byte 11 Response code
X'00' Normal response
X'04' Not found
X'06' Length error
X'08' Duplicate found
X'0C' Invalid request
X'10' Disastrous error

X'CD' BMS temporary storage error - see under X'FA' BMS

Figure 1 (Part 1 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

X'CE'	Byte 2, bits 4-7	Byte 8 Request type	
DFHRCP	X'3' Entry	X'01' OPEN	Addr of parm list
		X'02' CLOSE	Addr of parm list
		X'03' CONNECT	Addr of parm list
		X'04' DISCONNECT	Addr of parm list
		X'05' STARTBROWSE	Addr of parm list
		X'06' ENDBROWSE	Addr of parm list
		X'07' GETNEXT	Addr of parm list
		X'08' WRITE	Addr of parm list
		X'09' READ	Addr of parm list
		X'0A' DELETE	Addr of parm list
		X'0B' PURGE	Addr of parm list
		X'0C' LOG	Addr of parm list
		X'0D' INITIALIZE	Addr of parm list
		X'0E' WAITINIT	Addr of parm list
		X'0F' RESTART TASK	Reserved
		Byte 9 Request Modifier	
		...1.... CREATE=YES	
		..1..... Resource type	
		specified	
		.1..... Record number	
		specified	
		1..... Backward	
		recovery	
		Bytes 10-11	
		Reserved	
	Byte 2, bits 4-7	Byte 8 Request type	
	X'5' Exit	Same as on	Reserved
		entry trace	
		Bytes 9-10	
		Reserved	
		Byte 11 Response code	
		X'00' Normal response	
		X'04' Not found	
		X'06' Length error	
		X'08' Duplicate found	
		X'0C' Invalid request	
		X'0E' Warning issued	
		X'10' Disastrous error	
X'CF'	Reserved	Same as for X'FA' with	
DFHMCP		byte 2, bits 4-7=X'5'	
(See note 1)			

Figure 1 (Part 2 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

X'D0' DFHKCP auxiliary trace - see under X'F0' DFHKCP

X'D2' Byte 2, bits 4-7

DFHVCP

X'3 Entry

Byte 1

...	...	...	Addr of volume ID	Buffer address
...0	0000	Locate vol descriptor		
...0	0001	Create SDT		
...0	0010	Add series to SDT		
...0	0011	Locate series name		
...0	0100	Read & merge keypoint recs		
...0	0101	Build keypoint rec		
...0	0110	Prompt operator for scratch tape		
...0	0111	Examine & merge label record		
...0	1000	Build label record		
...0	1001	Tally contents of series		
...0	1010	Warn operator of deficient series		
...0	1011	Copy vol descriptor		
...0	1100	Delete vol descriptor		
...0	1101	Add vol to end of series		
...0	1110	Add vol to series in LIFO order		
...0	1111	Accept vol ID from restart resolution logic		
...1	0001	Close failure		
...1	0010	Open failure		
...1	0011	Input failure		
...1	0100	Output failure		
...1	0101	Make read only		
...1	0111	Mark vol clean & available		
...1	1101	Mark closed		
...1	1110	Mark pending (about to open)		
...1	1111	Mark open		

Figure 1 (Part 3 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

```

X'D2'      Byte 1 (continued)
DFHVCP    0.10 0000 Update op
           sys control
           block
           ..10 0001 Merge op sys
           control block
           to resolve
           SCRTCH vol
           ..10 0010 Build data
           in journal
           control
           note block
           ..10 0011 File vol
           descriptor
           to match journal
           control
           note block
           ..10 0100 Build a CICS
           catalog record
           0.11 .... Update op
           sys control
           block
           01... .... Make vol
           current in
           series
           Byte 2, bits 0-3
           Type of locate
           X'D' Given vol ID
           X'1' Next vol or
           confirm series
           name
           X'2' First vol or
           next series name
           X'3' Previous vol or
           greater-or-equal
           series name
           X'4' Subject of NOTE
           X'6' Predicted vol for
           next output
           X'7' Vol available
           for output
           X'8' Current vol
           X'9' Next-after-current
           vol
           X'A' Next-before-current
           vol
           X'C' Vol ref'd by
           op sys
           Byte 2, bits 4-7
           X'5' Exit
           Byte 1
           X'00' NORESP
           X'20' DEFCSER
           X'21' INSUFF
           X'22' DECLINE
           X'40' CONFLT
           X'41' NOSERS
           X'43' NODESC
           X'45' UNAVAIL
           X'46' BADDATA
           X'80' INVREQ
           First four char-
           acters of name of
           volume last
           handled, if any
           Next two characters
           of name of volume
           last handled, if any

```

Figure 1 (Part 4 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
X'D3' DFHLUP	Reserved	Reserved	Reserved
X'D4'	DMS trace entry, see the <u>Development Management System/CICS/VS: Problem Determination Manual</u> .		
X'D5' DFHUEH	Byte 1 X'01' Before exit X'02' After exit	- - - Exit identifier - - - Return code (R15)	Address of current EPB
X'D6' DFHALP	Byte 2, bits 4-7 X'3' Entry Byte 1 X'01' Unchain X'02' BMS TPQ call 2 X'05' BMS TPR call 2 X'06' CRS call 1 X'07' CRS call 2 X'08' ICP call 1 X'09' ICP call 2 X'0A' BMS TPQ call 1 X'0C' BMS TPQ call 3 X'0D' BMS TPR call 1 X'0E' CRQ call 1 X'12' Schedule X'14' Avail X'15' Unavail X'16' Release X'17' Allocate X'18' Release abnormal Byte 2, bits 4-7 X'5' Exit	MCRID Address of AID Reserved Teramid Reserved Address of AID Normal threshold Msg ID (Supplied AID) Normal threshold Teramid Teramid Teramid Teramid Teramid Teramid Teramid Teramid Reserved	System ID Termid Reserved Reserved Adjusted threshold Reserved Addr of TCTTE Adjusted threshold Termid Terml address Terml address Terml address System address Terml address Byte 12 X'00' Normal return X'04' Error return Byte 13 Secondary code X'01' BMS TPQ call 1, no AIDs found X'02' BMS TPQ call 2, no AIDs found X'03' BMS TPQ call 3, no AIDs found X'04' ICP call 1, no AIDs found X'05' ICP call 1, AID found, but does not match X'06' No AID found for generalized locate function X'0C' Error return X'31' Error return

Figure 1 (Part 5 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

X'D7' DFHDIP	Byte 2, bits 4-7 X'3' Entry	<ul style="list-style-type: none">) Byte 8) X'01' WAIT) X'08' KEYNUMB) X'10' RRNADDR) X'20' KEYADDR) X'40' TYPE=SAVE) X'80' DEFRESP=YES)) Byte 9 Reserved)) Byte 10) Value of NUMREC (valid) for ADD, ERASE, and) REPLACE))))))))) 	TIOA address, TCTTEDA
	<ul style="list-style-type: none"> Byte 2, bits 0-3 X'1' DSN not specified X'2' Profile specified X'4' SELECT X'8' VOLADDR 	<ul style="list-style-type: none">))))) 	
	Byte 2, bits 4-7 X'5' Exit	<ul style="list-style-type: none"> Bytes 8-9 Return code, TCADIRC Bytes 10-11 Deferred return code (set by next call to DFHDIP if nonzero) 	<ul style="list-style-type: none"> Bytes 12-13 System sense code from DFHZNAC Bytes 14-15 User sense code from DFHZNAC
X'D8' DFHXPP	Byte 2, bits 4-7 X'3' Entry	<ul style="list-style-type: none"> Byte 8 Type of request (from TCASPTR) X'01' USER X'02' SYSTEM X'09' ROLLBACK X'10' RESYNC REQUEST Bytes 9-11 Reserved 	Address of first deferred work element (DWE) from TCADWLBA (or zeros if no DWEs)
	Byte 2, bits 4-7 X'5' Exit	<ul style="list-style-type: none"> Bytes 8-11 Reserved 	
X'D9' DFHXFP DFHFXF	Reserved	<ul style="list-style-type: none"> Byte 8 X'00' Transform 1 X'02' Transform 2 X'04' Transform 3 X'06' Transform 4 Bytes 9-11 Address of PLIST 	<ul style="list-style-type: none"> Byte 12 Error code X'04' Transform 1 error X'08' Transform 1 error Byte 13 Error code 2 X'04' Transform 2 error X'08' Transform 2 error Bytes 14-15 (EIBFN) command functions
X'DA' DFHST** (Statistics)	Reserved	Reserved	Reserved

Figure 1 (Part 6 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
X'DB' DFHXTF	Byte 2, bits 4-7 X'3' Entry	Byte 8 X'00' Transform 1 X'02' Transform 2 X'04' Transform 3 X'06' Transform 4 Bytes 9-11 Address of DFHXTSTG	Byte 12 Status code X'10' FLUSH X'20' DETACH X'40' ATTACH X'80' Application request Byte 13 Address of TCETE
	Byte 2, bits 4-7 X'5' Exit	Byte 8 X'00' Transform 1 X'02' Transform 2 X'04' Transform 3 X'06' Transform 4 Bytes 9-11 Address of DFHXTSTG	Byte 12 Response code X'00' Normal response X'08' Error response Bytes 13-15 Address of TCETE
X'DC' DFHACP	Reserved	Reserved	Reserved
X'DD' DFHIR	Byte 1 X'00' RESUME	Bytes 9-11 Address of TCA for CSNC	Reserved
	X'01' CONNECT	Bytes 8-11 Return code from connect request	Bytes 13-15 Address of TCETE
	X'02' INBOUND	) Bytes 8-9	Byte 12
	X'04' OUTBOUND	) Sequence number	X'20' Change direction
		) Byte 10	X'40' End bracket
		) X'01' End chain	X'80' Begin bracket
		) X'02' Begin chain	Bytes 13-15
		) X'04' Sense included	Address of TCETE
		) X'10' FMH	
		) X'80' Response	
		) Byte 11	
		) X'10' RQE2	
		) X'20' RQD2	
		) X'40' RQE1	
		) X'80' RQD1	
	X'04' OUTBOUND	) Bytes 10-11	Byte 12
		) X'0000' Relinquish	X'00'
		) control (no data,	
		) no RH setting passed,	
		) sequence number unchanged)	
	X'03' Inbound data	) Bytes 8-9	
	X'05' Outbound data	) Length of data	Bytes 12-15
		) Bytes 10-11	Next four bytes of data
		) First two bytes of data	
	X'06' Batch LUWID part 1		
	X'07' Batch LUWID part 2		

Figure 1 (Part 7 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

X'DE' DFHSKP	Byte 2, bits 4-7 X'3' Entry	Byte 8 Request type X'01' PERFORM X'02' WAIT X'03' RETURN X'04' TERMINATE X'05' DWE PROCESS Byte 9 Request modifier.....1 AUTH=YES.....1 CLASS=I/O.....1 SAVAREA.....1 SYNC=YES Bytes 10-11 Reserved	Addr of exit routine Reserved Reserved Reserved Reserved
	Byte 2, bits 4-7 X'5' Exit	Byte 8 Request type X'01' PERFORM X'02' WAIT X'03' RETURN X'04' TERMINATE X'05' DWE PROCESS Bytes 9-10 Reserved Byte 11 Response code X'00' Normal response X'04' User code failed X'08' Subtask code failed X'0C' Unable to perform request X'10' Request never completed X'14' Invalid request X'18' Invalid ECB address X'1C' User task was canceled	Addr of parm list Addr of parm list Addr of parm list Addr of parm list
X'DF' DFHISP	Byte 2, bits 4-7 X'3' Entry	Byte 8 X'03' Shut down X'04' Converse Bytes 9-11 Reserved	TCTSE name
	Byte 2, bits 4-7 X'5' Exit	Byte 8 (ISCRQTR) X'00' Successful X'04' Retry possible X'08' Permanent error X'0C' Term1 out of service Bytes 9-11 Reserved	Reserved

Figure 1 (Part 8 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

X'E0' DFHMGP	Reserved	Byte 8 X'01' Byte 9 X'01' CSCS (TD queue) X'02' TIDA to be used X'04' No number to be used X'08' Return the message X'10' Output to console X'20' Output to terminal X'40' CSTL (TD queue) X'80' CSMT (TD queue) Bytes 10-11 Msg no in binary	Addr(TCTTE)
X'E1' DFHEIP	Byte 1 Reserved Byte 2, bits 0-3 X'0' Indicates entry to DFHEIP	Value of reg 13, i.e: PL/I's DSA Assembler's DFHEISTG COBOL TGT	Bytes 12-13 Reserved Bytes 14-15 Command code (see note 4)
	Byte 1 EIBGDI Byte 2, bits 0-3 X'F' Indicates exit from DFHEIP	Bytes 8-13 Response code (Zeros indicate no exceptional condition)	Bytes 14-15 Command code (see note 4)
The command codes and response codes are shown in Figure 3 on page 57.			
X'E2' DFHSNP	Reserved	Reserved	Reserved
X'E3' DFHPSP	Byte 1 X'A0' Entry X'A1' Response X'A2' Unsupported function	Addr of DFHPS parameter list Addr of DFHPS parameter list Addr of DFHPS parameter list	Reserved Reserved RESP return code code

Figure 1 (Part 9 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

X'E3'
DFHPSP

Byte 1 (continued)

The following trace entries are provided only if the system spooling interface trace facility has been activated (by means of the SPOOLFE operand of the CSFE transaction):

X'10'	DFHEPS SPOOLCLOSE response	RESP return code	RESP2 return code
X'11'	DFHEPS SPOOLCLOSE DELETE	Reserved	Reserved
X'14'	DFHEPS SPOOLCLOSE PRINT	Reserved	Reserved
X'20'	DFHEPS SPOOLREAD response	RESP return code	RESP2 return code
X'21'	DFHEPS SPOOLREAD STANDARD	Reserved	Reserved
X'22'	DFHEPS SPOOLWRITE response	RESP return code	RESP2 return code
X'28'	DFHEPS SPOOLWRITE STANDARD	Reserved	Reserved
X'40'	DFHEPS SPOOLOPEN response	RESP return code	RESP2 return code
X'41'	DFHEPS SPOOLOPEN OUTPUT	Reserved	Reserved
X'42'	DFHEPS SPOOLOPEN INPUT	Reserved	Reserved
X'88'	DFHEPS SPOOLOPEN STANDARD	Reserved	Reserved
X'B0'	DFHPSPCK entry	Reserved	Reserved
X'B1'	DFHPSPCK invalid request	RESP return code	Reserved
X'B2'	DFHPSPCK interface halting	RESP return code	Reserved
X'B3'	DFHPSPCK interface disable	Reserved	Reserved
X'B4'	DFHPSPCK interface terminate	Reserved	Reserved
X'E0'	DFHPSPST entry	Addr of DFHPS parameter list	Reserved
X'E1'	DFHPSPST open input response	Addr of DFHPS parameter list	Spool data block addr
X'E2'	DFHPSPST open output response	Addr of DFHPS parameter list	Spool data block addr
X'E3'	DFHPSPST read response	Addr of DFHPS parameter list	Spool data block addr
X'E4'	DFHPSPST write response	Addr of DFHPS parameter list	Spool data block addr
X'E5'	DFHPSPST close response	Addr of DFHPS parameter list	Reserved
X'E6'	DFHPSPST interface halting	Addr of DFHPS parameter list	RESP return code
X'E7'	DFHPSPST invalid request	Addr of DFHPS parameter list	Reserved
X'E8'	DFHPSPST invalid open	Addr of DFHPS parameter list	RESP return code
X'E9'	DFHPSPST invalid read request	Addr of DFHPS parameter list	RESP return code
X'EA'	DFHPSPST invalid write request	Addr of DFHPS parameter list	RESP return code
X'EB'	DFHPSPST invalid close request	Addr of DFHPS parameter list	RESP return code

Figure 1 (Part 10 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
X'E4' DFHMTP	Reserved	Reserved	Reserved
X'E5' DFHXSP	Byte 2, bits 4-7 X'3' Entry Byte 1 X'00' Initialization) X'04' Sign-on with) password) X'08' Sign-on without) password) X'0C' Check authorization) X'10' Sign-off) X'14' Time-out sign-off) X'18' Return USERID) X'1C' Wait for) initialization) X'20' Min time-out from) SNT) X'24' Build SNTTE block) X'28' Free SNTTE block) X'2C' Rebuild resource) profile) X'30' Internal init req)	Pointer to parm list	Reserved
	Byte 2, bits 4-7 X'5' Exit Byte 1 Return code	Reserved	Reserved
X'E6' DFHTCP	Byte 2, bits 4-7 X'1' FE type trace		
	Byte 1 X'01' (TCATRID1) This trace occurs during line scan.	Addr(TCTLE)	Addr(TCTTE)
	X'02' (TCATRID1)	Byte 8	TCTLEECB - Event control block
		TCTLESI - Line status.... ..1 Out of service.... ..1. Initiated.... ..1.. Terml READ initiated 1... Switchd line connected....1 Interruptble READ ..1. Line perm out of serv ..1. Dial line ack 1... Error pending	Byte 12 X'00' Initialization image X'40' Event completion X'7F' Normal completion X'41' I/O error X'42' DA extent addr violation X'44' I/O req intercepted X'48' I/O halted or purged X'50' Contention

Figure 1 (Part 11 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'E6'	Byte 1	Byte 9	X'54' Nonproductive op
DFHTCP	X'02' (continued)	TCTLEMI - Access	X'58' Cancel condition detected
		.... .1 Sequential method flags	X'60' Alternating ack
		.... .1. access	X'61' WACK received
		.... .1.. Local line	X'62' Enquiry char received
		.... .1... Telecomm access	Bytes 13-15
		.... 1... Error task init (CSTE)	Reserved
		...1 First-pool-line flag	
		..1. TCAM access	
		..1.. Wrap list flag	
		1... Last-in-pool flag	
		Bytes 10-11	
		TCTLEAL - Input area length	

This trace occurs during line scan.

X'03' (TCATR1D1)	Bytes 8-11 Addr(TCTLE)	Bytes 12-1 3 TCTLETOP
		- Type of operation
		X'0000' Write break
		X'0000' Init image
		X'0001' Read initial
		X'0002' Write initial
		X'0003' Read continue
		X'0004' Write continue
		X'0005' Read conv
		X'0006' Write conv
		X'0008' Write +ve ack
		X'000A' Write -ve ack
		X'000A' Write reset
		X'000B' Read buffer
		X'000C' Wrt at line addr
		X'000D' Wrt initial conv
		X'000E' Write erase
		X'000F' Wrt cont conv
		X'000F' Read with ID exch
		X'0010' Write disconnect
		X'0011' Read modified
		X'0011' Read connect
		X'0012' Wrt unprotected erase
		X'0015' Read inquiry
		X'0016' Write inquiry
		X'001A' Wrt wait before transmitting
		X'001B' Read interrupt
		X'001C' Write connect
		X'0080' Init with reset
		X'0081' Read init with reset
		X'0082' Write init with reset
		X'0086' Write conv with reset
		Bytes 14-15
		TCTLEIOL
		- I/O data length

This trace occurs at I/O event initiation.

Figure 1 (Part 12 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'E6'	Byte 1 (continued)		
DFHTCP	X'04' (TCATR1D1)	Same as bytes 8-11 for byte 1 =X'02'	BTAM return code (reg 15) (see <u>OS/VS BTAM manual</u>) Byte 15 X'00' Normal completion X'04' Busy X'08' Invalid relative number X'0C' Invalid type code X'10' All skip bits on X'14' Line error at open X'18' No buffers available X'1C' No buffer pool X'20' No buffer management X'24' BSC usage count exceeded limit X'28' Printer busy X'2C' No SBA order X'30' Any other error X'34' Device under OLTEP control X'40' Device assigned IGN
	This trace occurs at I/O event initiation.		
	X'05' (TCATR1D1)	Addr(TCTLE)	Addr(TCTTE)
	This trace occurs at I/O event termination.		
	X'06' (TCATR1D1)	Same as bytes 8-11 for byte 1 =X'02'	BTAM return code (reg 15) Byte 15 X'00' Normal completion X'04' No RESETPL logic in BTMOD
	This trace occurs at I/O event termination.		
	X'07' (TCATR1D1)	Byte 8 TCTTELT - Term1 ctl indicators X'01' Skip flag status X'02' Skip terminal read X'04' Terminal connected X'08' Specific poll X'10' Control unit permanently out of service X'20' Control unit out of service X'40' Compatible terminal X'80' Last terminal in group	Addr(TCTTE)

Figure 1 (Part 13 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

X'E6' Byte 1
DFHTCP X'07' (continued)

Byte 9
TCTTEIO - Internal operation
request byte
.... .1 Write ack
.... .1 Segmented write
.... .1 transparent
transaction
.... .1. Task to be
initiated
.... .1.. Time control
transaction
.... 1... Read pending
.... 1... Graphics attention
flag
...1 Cond GETMAIN for
READ attention
..1. Auto output
transaction
.1. Auto output
message
1... Negative response

Byte 10
TCTTEIO2 - Internal operation
byte 2
.... .1 Restart for
SIMLOGON
.... .1. Restart for CICS
logon
.... .1.. Notify terminal
.... 1... Initiate restart
task
...1 In-flight task
..1. Committed output
.1. FMH for committed
input
1... Permanent
transaction code

Byte 11
TCTEAMIB - Access method flags
.... Local terminal,
TCSE only
.... .1 EXTM
.... .1 TCAM SNA
.... .1 ISMM
.... 1... GAM
...1 TCAM
..1. BSAM
.1. BTAM
1... VTAM

This trace occurs at entry to the autopoll change.

X'E6' (continued)
DFHTACP Byte 2, bits 4-7
X'4' System trace

Bytes 8-9
Op code TCTLETOP Terminal ID

Byte 1
X'10' (TCATRIDI)

Byte 10
TP code TCTLETPD
Byte 11
Action flags
TCTLEECB+1
(set by DFHTACP)

This trace occurs in DFHTACP just prior to transferring control to DFHTCP.

Figure 1 (Part 14 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'E6' (continued)

DFHTACP X'20' (TCATRIDI)

Byte 8 Completion code TCTLEECB	Byte 12 Command code TCTLECC
Byte 9 BTAM return code TCTLEECB+3	Byte 13 Status byte TCTLESF
Byte 10 Error flags TCTLEPFL	Byte 14 Sense byte TCTLESB
Byte 11 Action flags TCTLEECB+1	Byte 15 Sense byte TCTLESB+1

This trace occurs in DFHTACP just after returning from DFHTEP.

X'E7' Reserved

DFHERM
(For task
user exit
interface)

First four characters of resource manager's name	Bytes 12-14 Next three characters of resource manager's name
	Byte 15 X'00' Indicates entry to DFHERM
	X'09' RM unavailable
	X'0F' Exit to RM
	X'F0' Return from RM
	X'FF' Indicates exit from DFHERM

X'E8' Reserved

DFHCRP
DFHCRQ
DFHCRS
DFHRTE

Reserved

Reserved

X'EA' Byte 1
DFHTMP Reserved
Byte 2, bits 4-7
X'3' Entry

Byte 8 Request Type	Addr of name
X'01' LOCATE	Addr of name
X'02' GET NEXT	Addr of name
X'03' GET NEXT ALIAS	Addr of name
X'04' ADD	Addr of name
X'05' DELETE	Addr of name
X'06' ALIAS	Addr of name
X'07' LOCK	Addr of name
X'08' UNLOCK	Addr of name
X'09' CREATE INDEX	Reserved
X'0A' INDEX	Addr of name
X'0B' QUIESCE	Addr of name
X'0C' TRANSFER LOCK	Addr of name
X'0D' DWE	Reserved
X'0E' RESET	Reserved

Byte 9 Request Modifier	
00000001	Nonunique elements allowed
0.....10	Unlock previous (get next only)
.....1.0	Conditional request
...1.00	Table element is protected
...1.00	Table element is not freeable
.01...00	Do not copy table element
01000000	Local lock
10....00	Commit

Figure 1 (Part 15 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'EA' DFHTMP      Byte 2, bits 4-7
X'3'  Entry (continued)

                                Byte 10 Table type
X'01' PCT
X'02' PCTR
X'03' PPT
X'04' PFT
X'05' FCT
X'06' DCT
X'07' TCTE
X'08' TCTN
X'09' TCTS

                                Byte 8 Request Type
X'01' LOCATE                      Addr of element
X'02' GET NEXT                    Addr of element
X'03' GET NEXT ALIAS              Addr of element
X'04' ADD                          Addr of element
X'05' DELETE                      Reserved
X'06' ALIAS                       Addr of element
X'07' LOCK                        Reserved
X'08' UNLOCK                      Reserved
X'09' CREATE INDEX                Reserved
X'0A' INDEX                       Addr of element
X'0B' QUIESCE                     Addr of element
X'0C' TRANSFER LOCK               Reserved
X'0D' DWE                         Reserved
X'0E' RESET                       Reserved

                                Byte 10 Table type
X'01' PCT
X'02' PCTR
X'03' PPT
X'04' PFT
X'05' FCT
X'06' DCT
X'07' TCTE
X'08' TCTN
X'09' TCTS

                                Byte 11 Response code
X'00' Normal response
X'04' Not found
X'08' Duplicate
X'0C' Invalid request
X'10' Element is busy
X'14' Protected entry
X'18' Lock held
X'1C' Lock noted

```

Figure 1 (Part 16 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
X'EB' DFHAMP	Byte 1 Reserved Byte 2, bits 4-7 X'3' Entry	Bytes 8-9 Function code Bytes 10-11 Reserved	Reserved
	Byte 2, bits 4-7 X'5' Exit	Reserved	Reserved
X'EC' DFHDMP	Byte 2, bits 4-7 X'3' Entry Byte 1 X'00' Router X'01' Connect X'02' Disconnect X'03' Write X'04' Read X'05' Delete X'06' (Un)lock X'08' Start browse X'09' Get next X'0A' End browse X'0B' Create set X'0D' Query set X'0F' Access primary control record X'10' Build KWA X'11' Release KWA X'12' Tokenize key X'13' Free token(s) X'15' Generic qualify X'16' Seq ordered set X'17' Verify KWA X'63' Adapter	Bytes 8-9 Function code Bytes 10-11 Reserved	Reserved
	Byte 2, bits 4-7 X'5' Exit	Reserved	Reserved
X'ED' DFHLFO	Reserved	LIFO stack NAB value (LFDSOFNB)	Byte 12 Module ID (=trace ID) Byte 13 Submodule ID Bytes 14-15 Length of LIFO stack required

Figure 1 (Part 17 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
X'EE' DFHZCP	Byte 2, bits 0-3 X'1' Byte 1 X'11' WRITE X'12' RESET X'16' SIMLOGON X'17' OPNDST X'19' CHANGE X'1F' CLSDST X'21' Close ACB X'22' SEND X'23' RECEIVE X'24' RESET X'25' Session command X'27' Send CMD X'28' Receive CMD X'29' REQSESS X'2A' OPNSEC X'2C' TERMSESS	Bytes 8-9 Sequence number field Byte 10 X'01' OIC (Only in chain) X'02' LIC (Last in chain) X'04' MIC (Middle in chain) X'08' FIC (First in chain) X'10' FMH X'20' Change direction (CD) X'40' End bracket (EB) X'80' Begin bracket (BB) Byte 11.... ...1 RQD2 or RQE2.... ...1. RQD1 or RQE1.... .0.. RQD request.... .1.. RQE request (exception response) 1... Negative response ...1 Command ..1. Data .0.. RU (data or command) .1.. Response 0... Outbound 1... Inbound Bytes 8-9 Number of bytes of data Bytes 10-11 First two bytes of data Byte 8 X'00' Bytes 9-11 'NEG' Byte 8 X'01' Bytes 9-11 'LUS' Byte 8 X'02' Bytes 9-11 'SIG'	Byte 12 X'01' Data or SNA command X'04' LUSTAT X'05' RTR X'31' Bind X'32' Unbind X'70' BIS X'71' SBI X'80' QEC X'81' QC X'82' Release queue X'83' Cancel X'84' Chase X'A0' SDT X'A1' Clear X'A2' STSN X'A3' RQR X'CO' Shutdown X'C1' Shutdown complete X'C2' Request shutdown X'C8' Bid X'C9' Signal Bytes 12-15 Next four bytes of data Bytes 12-15 Negative response code (sent or received) Bytes 12-15 Lustat code (sent or received) Bytes 12-15 Signal code (sent)
	Byte 2, bits 0-3 X'2'		
	Byte 2, bits 0-3 X'3'		
	Byte 2, bits 0-3 X'4'		
	Byte 2, bits 0-3 X'5'		

Figure 1 (Part 18 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'EE'	(continued)		
DFHZCP	Byte 2, bits 0-3 X'6' SESSIONC	Byte 8 X'01' STSN Bytes 9-10 RPLIBSQV Byte 11 RPLIBSQ	Byte 12 X'01' Bytes 13-14 RPL0BSQV Byte 15 RPL0BSQ
		X'02' Clear X'03' SDT X'04' Bind	
X'EF'	Byte 2, bits 4-7	Bytes 8-9	Reserved
DFHTOR	X'3' Entry Byte 1 X'01' Main program X'02' Add nonpooled terminal X'03' Add pooled terminal X'04' Add TYPETERM X'05' Add connection X'06' Add sessions X'07' End group event 1 X'08' End group event 2 X'09' DWE commit X'0A' DWE cancel X'0B' Utility 1 X'0C' Utility 2 X'10' Model retrieval X'11' Create terminal BPS X'12' Recovery program	Function code Bytes 10-11 Reserved	
	Byte 2, bits 4-7 X'5' Exit	Reserved	Reserved

Figure 1 (Part 19 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
X'FB' DFHKCP	Byte 1 X'01' ENQ	Queue name address, TCATCQA	Reserved
	X'02' DEQ	Queue name address, TCATCQA	Reserved
	X'03' DEQALL	Reserved	Reserved
	X'04' SUSPEND	Byte 8 Reason for suspend, TCATCDC	Reserved
	X'05' ENQ conditional	Bytes 8-11 Queue name address, TCATCQA	Reserved
	X'06' ATTACH with STARTCODE	Facility address, TCAKCF A	Transaction ID, TCAKCTI
	X'07' ATTACH COND with STARTCODE	Facility address, TCAKCF A	Transaction ID, TCAKCTI
	X'08' RESUME	TCA address of resumed transaction	Byte 12 TCA priority Bytes 13-15 Task number Bytes 12-15
	X'0A' Change MXT value	Reserved	Reserved
	X'0D' Attach HTA (HPD only)	Address of HTA, TCARSTK	Reserved
	X'0E' CANCEL with FORCE=NO	Original transaction ID	Bytes 13-15 Task no of canceled task
	X'0F' CANCEL with FORCE=YES	Original transaction ID	Task no of canceled task
	X'1x', X'3x', X'9x', X'Bx' ATTACH as follows:		Bytes 12-15 Transaction ID from TCAKCTI
	...1 Bit set for all ATTACH requests:	Facility address (if any) from TCAKCF A or terminal name if facility is a terminal	
	...1 ...1 Conditional request		
	...1 ...1. STARTCODE passed		
	...1 ...1.. System task (AMXT and MXT limits ignored)		
	...1 ...1... Return to caller if PCT entry not found		
	...11 Userid passed		
	1...1 ACTION=DELAYED		

Figure 1 (Part 20 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
X'F0' DFHKCP	Byte 1 (continued)	Byte 8	
	X'20' CHAP	New priority, TCATCDC Bytes 8-11	Reserved
	X'28' LOCATE PCT entry DOMAIN=ALL	Reserved	Reserved
	X'29' LOCATE PCT entry DOMAIN=REGION	Reserved	Reserved
	X'2A' BROWSE	Addr PCT entry	Reserved
	X'2B' BROWSE UNLOCK	Addr PCT entry	Reserved
	X'2C' LOCATE PROFILE	Reserved	Reserved
	X'2D' BROWSE PROFILE	Reserved	Reserved
	X'2E' BROWSE PROFILE UNLOCK	Reserved	Reserved
	X'2F'	Byte 8	
		X'01' REPLACE	Reserved
		X'02' INITIALIZE	Reserved
		X'03' WAITINIT	Reserved
		X'04' RESTART TASK	Reserved
		Bytes 9-11	
		Addr parameter list	
	X'3x' ATTACH (see X'1x')	Byte 8	Event control
	X'40' WAIT	Dispatch control, TCATCDC	address, TCATCEA
		Bytes 8-11	
	X'80' DETACH	Reserved	Reserved
		Byte 8	
	X'84' SUSPEND + CANCEL exit	Reason for suspend, TCATCDC	Reserved
		Bytes 8-11	
	X'9x' ATTACH (see X'1x')	Dispatch control,	Event control
	X'Bx' ATTACH (see X'1x')	TCATCDC	address, TCATCEA
	X'CO' WAIT + CANCEL exit		
X'D0' DFHKCP	Byte 1	Bytes 8-11	
	X'05' Task dispatched	Reserved	Reserved
	X'06' Task created	Terminal ID (or zeros for non- terminal tasks)	Transaction ID
	X'07' Task terminated	Bytes 8-9	Transaction ID
		Initial LIFO stack segment size (PCTISA01) for the transaction	
		Bytes 10-11	
		Overflow LIFO stack segment size (PCTISA02) for the transaction	
	X'09' System RESUME	Byte 8	Time when wait
		Timer ECB	was issued
		Byte 9	
		No. of ECBs to be posted for MVS to dispatch CICS	
		Bytes 10-11	
		No. of AMXT active tasks	
	X'0A' Suspend	Reserved	Reserved

Figure 1 (Part 21 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'F1'	Byte 1		
DFHSCP	0000 0000 Extended interface	First word of extended interface parameter list	Address of parameter list, TCASCXPA
	001. Cushion change	Reserved	Reserved
	01.. FREEMAIN	Address of storage (or owning TCA)	Facility address, TCAFCAAA
	011. RELEASE =ALL	Reserved	Reserved
	1..s ssss GETMAIN	) Byte 8	Facility address, TCAFCAAA
	1.1s ssss Conditional GETMAIN	) Reserved	
	11.s ssss Initialize storage	) Byte 9	
		) Initialization	
		) byte	
		) Bytes 10-11	
		) Number of bytes	
		) requested	

The s ssss bit pattern specifies the storage class:

	00000 IWD	01100 USER	11000 TSTABLE
	00001 DCA	01101 TRANSDATA	11001 MAP
	00010 QEA	01110 TEMPSTRG	11010 PERMANENT
	00011 ISC TIOA	01111 FILE	11011 JCA
	00100 LINE	10000 RPL	11100 Reserved
	00101 TERMINAL	10001 WRE	11101 DWE
	00110 ICE	10010 BCA	11110 MAPCOPY
	00111 AID	10011 SHARED	11111 DL/I
	01000 PROGRAM	10100 CONTROL	
	01001 RSA	10101 EXTPGM	
	01010 TCA	10110 TACLE	
	01011 LLA	10111 TSMAIN	
X'C8'	Reserved	Address of storage acquired	Storage accounting
X'C9'	Reserved	Address of storage released	Storage accounting
X'CA'	Reserved	Address of active TCA when storage control recovery was entered	Instruction address where storage error found, if program check occurred

Figure 1 (Part 22 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'F2'	Byte 1 and		
DFHPCP	byte 2, bits 0-3		Reserved
X'010'	LINK		
X'020'	XCTL		
X'030'	CTYPE LOCATE		
X'031'	CTYPE BROWSE	Addr PPT entry	
X'032'	CTYPE LOCATE		
	NOWAIT		
X'035'	CTYPE BROWSE	Addr PPT entry	
	UNLOCK		
X'040'	Unconditional		
	LOAD		
X'051'	CTYPE REPLACE	Addr parameter list	
		from TCAPCEA	
X'052'	CTYPE INITIALIZE		
X'053'	CTYPE WAITINIT		
X'080'	DELETE		
X'100'	RETURN		
X'120'	RETRY		
X'200'	SETXIT, CANCEL		
X'201'	SETXIT, PROGRAM		
X'202'	SETXIT, ROUTINE	Routine address,	
		TCAPCERA (or 0 if	
		command level COBOL)	
X'204'	BLDL		
X'208'	RESEXIT		
X'240'	Uncond LOAD,		
	LOADLST=NO		
X'400'	ABEND, no dump		
X'410'	ABEND, no dump,		
	CANCEL=YES		
X'440'	Uncond LOAD		
	(RMODE ANY)		
X'600'	ABEND with dump	ABEND code from	
		TCAPCAC	
X'610'	ABEND with dump,	ABEND code from	
	CANCEL=YES	TCAPCAC	
X'640'	Uncond LOAD,		
	LOADLST=NO		
	(RMODE ANY)		
X'810'	Conditional LINK		
X'820'	LOCATE		
X'840'	Conditional LOAD		
X'880'	Conditional XCTL		
X'A40'	Conditional LOAD,		
	LOADLST=NO		
X'C40'	Conditional LOAD		
	(RMODE ANY)		
X'E40'	Conditional LOAD,		
	LOADLST=NO		
	(RMODE ANY)		

Figure 1 (Part 23 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

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X'F3'      Byte 2, bits 4-7
DFHICP     X'3' Entry
           Byte 1
0001 00.. GETIME          Return time to user      Reserved
                                address, TCAICDA

0001 ...0 Binary format
0001 ...1 Packed format
0001 ..0. Refresh CSA
           time only
0001 ..1. Return time
           to user

0010 ...0 WAIT           ) INTRVAL or TIME      Reserved
0011 ...0 POST           ) value, TCAICRT

001. .00. No request
           ID provided
001. .01. Request ID prefix
           in TCAICQPX
001. .10. Request ID
           in TCAICQID
001. 0... INTRVAL specified
001. 1... TIME specified

0100 .... INITIATE      ) INTRVAL or TIME      Reserved
0101 .... PUT           ) value, TCAICRT
0110 .... INITIATE      )
0111 .... PUT           )

01.. ...0 Nonterminal dest
01.. ...1 Terminal dest
01.. ..00. No request ID
           supplied
01.. ..01. Request ID prefix
           in TCAICQPX
01.. ..10. Request ID in
           TCAICQID
01.. 0... INTRVAL supplied
01.. 1... TIME supplied
1000 00.. GET           User-provided data      Reserved
                                address

1000 ...1 RELEASE=NO
1000 ..0. Data address
           specified
1000 ..1. Return address
           to user

1001 1... WAIT
1001 000. RETRY
1001 ...1 RELEASE=NO

1010 0000 RESET         Reserved                Reserved
1011 0000 SCHEDULE      Reserved                Reserved
1100 .... EXPIRY        Reserved                Reserved
           ANALYSIS
1101 .... RECOVERY CALL Reserved                Reserved
1110 .... Reserved     Reserved                Reserved

1111 0.00 CANCEL
1111 ..0.. No request
           ID provided
1111 ..1.. Request ID
           specified

```

Figure 1 (Part 24 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'F3' (continued)

DFHICP	Byte 2, bits 4-7		
	X'5' Exit		
	Byte 1 Return code	Reserved	Reserved
	X'00' NORESP		
	X'01' ENDDATA		
	X'04' IOERROR		
	X'11' TRMIDER		
	X'12' TRMIDER		
	X'14' TSINVL		
	X'20' EXPIRD		
	X'81' NOTFND		
	X'FF' INVREQ		

X'F4'	Byte 1	Byte 8	Dump code
DFHDCP	.... ..1 User-specified area	.... ..1 DCT	
	.... ..1.. Transaction areas	.... ..1. FCT	
	.... 1... Terminal I/O areas	.... ..1. TCT	
	...1 Trace table	.... 1... PCT	
	..1. Program areas	..1. SIT	
	..1. TCA	Bytes 9-11	
	1... CSA	Reserved	

X'F5'	Byte 2, bits 4-7		
DFHFCP	X'3' Entry		
	Byte 1		
	X'00' DWE phase 2 processor	Addr(FCTE)	Addr(DWE)
	X'01' DELETE **		
	X'02' CTYPE OPEN	Addr(FCTE)	
	X'03' CTYPE IMPLICIT_OPEN	Addr(FCTE)	
	X'04' CTYPE MAKE_ME_A_USER	Addr(FCTE)	
	X'05' CTYPE CLOSE, no DISABLE	Addr(FCTE)	
	X'06' CTYPE CLOSE, DISABLE, WAIT	Addr(FCTE)	
	X'07' CTYPE CLOSE, DISABLE, NOWAIT	Addr(FCTE)	
	X'08' CTYPE CLOSE, DISABLE, FORCE	Addr(FCTE)	
	X'09' CTYPE ENABLE	Addr(FCTE)	
	X'0A' CTYPE DISABLE	Addr(FCTE)	
	X'0B' CTYPE TESTUSER	Addr(FCTE)	
	X'0C' DFHFCM OPEN	Addr(FCTE)	
	X'0B' DFHFCM CLOSE	Addr(FCTE)	
	X'0E' DFHFCN OPEN	Addr(FCTE)	
	X'0F' DFHFCN CLOSE	Addr(FCTE)	
	X'10' RELEASE **	Area addr from TCAFCAA	
	X'11' ESETL **		
	X'20' GETAREA **		
	X'24' GETAREA_MASS_INSERT **		
	X'28' GETAREA_INITIALIZE_STORAGE **		
	X'2C' GETAREA_MASS_INSERT_INIT_STORAGE **		
	X'40' PUT UPDATE **		

Figure 1 (Part 25 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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```

X'F5'      Byte 1 (continued)
DFHFPC    X'41' PUT DELETE **
          X'44' PUT NEW **
          X'80' GET **
          X'81' GET BDAM DEBLOCKING *
          X'84' GET UPDATE **
          X'85' GET BDAM DEBLOCKING
            UPDATE *
          X'A0' SETL **
          X'A1' SETL BDAM DEBLOCKING *
          X'A4' RESETL **
          X'B0' GETNEXT **
          X'B4' GETPREV **
          X'F0' CTYPE SET                               Addr(FCTE)

          Byte 12
          Request byte 1 to DFHFCS
          X'03' OPEN
          X'04' CLOSE
          X'05' ENABLE
          X'06' DISABLE
          X'07' Set DSNNAME
          X'09' Set STRINGS
          X'0A' Set LSRPOOLID
          X'0B' Set DISPOSITION
          X'0C' Set EMPTY CVDA
          X'0D' Set READ CVDA
          X'0E' Set UPDATE CVDA
          X'0F' Set BROWSE CVDA
          X'10' Set ADD CVDA
          X'11' Set DELETE CVDA
          X'12' Reorganize DSN
                block chains
          X'13' Set EXCLUSIVE CVDA
          X'15' Set base cluster
          X'16' Release base
                cluster

          Byte 13
          Request byte 2 to DFHFCS
          .... 1... Implicit
                (OPEN only)
          ...1 .... EMPTY
          ...1 .... FORCE
          .1. .... NOWAIT
          1... .... WAIT

          X'F1' CTYPE LOCATE
          X'F4' CTYPE BROWSE                               Addr(FCTE)
          X'F5' CTYPE INITIALIZE
          X'F6' CTYPE WAITINIT
          X'F7' CTYPE RESTART_TASK

          * For deblocking a BDAM data set, byte 2, bits 0-3, contains
            X'8' for deblocking by key, or X'4' for deblocking by relative record.
          ** If a VSAM data set is being processed, byte 2, bits 0-3, can have
            the following settings:
            ...1 Locate mode
            ...1. Search key greater than or equal to
            .1... Argument is generic key
            1... Argument is RBA

```

Figure 1 (Part 26 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'F5'	(continued)		
DFHFCP	Byte 2, bits 4-7		
X'5'	Exit		
	Byte 1 Return code		
X'00'	NORESP) For requests to	
X'01'	DSIDER	) VSAM data sets:	
X'02'	ILLOGIC	) Bytes 8-11	Bytes 12-14
X'08'	INVREQ	) VSAM RPL	VSAM option flags
X'0C'	NOTOPEN	) feedback area	(first 3 bytes of
X'0F'	ENDFILE	) (VSWARESP/RPLFDBWD)	VSWAOPTC/RPLOPTCD)
		) Byte 8	Byte 15
		) RPL status flags	VSAM request type
		) Byte 9	(VSWAREQ/RPLREQ)
		) VSAM return code	
		) Byte 10	
		) VSAM component	
		) issuing code	
		) Byte 11	
		) VSAM error code	
X'20'	Error		
X'40'	DFHFCN normal	Bytes 8-9	Bytes 12-13
X'41'	DFHFCN warning	Internal DFHFCN	Error information
		return code *	if applicable
		Bytes 10-11	
		Register 15	
		return code	
		if applicable	
* In most cases, there is a corresponding console message and an explanation is given in the <u>CICS/OS/V5 Messages and Codes</u> manual.			
X'42'	DFHFCN error	Bytes 8-9	Bytes 12-13
		Internal DFHFCN	Error information
		return code *	if applicable
		Bytes 10-11	
		Register 15	
		return code	
		if applicable	
* In most cases, there is a corresponding console message and an explanation is given in the <u>CICS/OS/V5 Messages and Codes</u> manual.			
X'80'	IDERROR	) For requests to	
X'81'	NOTFND	) VSAM data sets:	
X'82'	DUPREC	) Bytes 8-11	Bytes 12-14
X'83'	NOSPACE	) VSAM RPL	VSAM option flags
X'84'	DUPKEY	) feedback area	(first 3 bytes of
		) (VSWARESP/RPLFDBWD)	VSWAOPTC/RPLOPTCD)
		) Byte 8	Byte 15
		) RPL status flags	VSAM request type
		) Byte 9	(VSWAREQ/RPLREQ)
		) VSAM return code	
		) Byte 10	
		) VSAM component	
		) issuing code	
		) Byte 11	
		) VSAM error code	

Figure 1 (Part 27 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
X'F6' DFHTDP	Byte 2 X'03' Appl request		
	Byte 1		
	0000 .100 TYPE=PURGE	See below	Reserved
	0001 0000 TYPE=LOCATE	Reserved	Reserved
	0010 .000 TYPE=FEOV	See below	Reserved
	0100 .000 TYPE=PUT	See below	Data addr (from TCATDAA)
	1000 .000 TYPE=GET	See below	Reserved
	1100 .000 TYPE=GET, QUEBUSY=YES	See below	Reserved
	1110 0001 CTYPE=LOCATE	Reserved	Reserved
	1110 0100 CTYPE=BROWSE	Addr(DCTE) or 0	Reserved
	1111 0000 CTYPE =INITIALIZE	Reserved	Reserved
	1111 0001 CTYPE=WAITINIT	Reserved	Reserved
	1111 0010 CTYPE=FLUSH	Reserved	Reserved
	1111 0011 CTYPE =PROCESS_DWE	Addr(DCTE)	Addr(DWE)
	1111 0100 CTYPE=RECOVER	Addr(DCTE)	RBA
	.... 0... Name supplied	Reserved	
	.... 1... Addr supplied	Addr(DCTE)	
	Byte 2 X'13' Start of cancel logic		
	Byte 1		
	Reserved	Addr(cancel token)	Reserved
	Byte 2 X'23' Start of I/O error logic		
	X'33' Start of init phase 2 logic		
	X'43' Start of init phase 1 logic		
	Byte 2 X'05' Appl response		
	Byte 1		
	X'00' NORESP	Reserved	Reserved
	X'01' QUEZERO		
	X'02' IDERROR		
	X'04' IOERRRD		
	X'08' NOTOPEN		
	X'10' NOSPACE		
	X'40' Invalid chain		
	X'C0' QUEBUSY		
	Byte 2 X'15' End of cancel logic		
	X'25' End of I/O error logic		
	X'35' End of init phase 2 logic		
	X'45' End of init phase 1 logic		

Figure 1 (Part 28 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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```

X'F7' DFHTSP Byte 2
X'03' Appl request
Byte 1
0000 0010 FLUSH
0010 00.. RELEASE - - - - Data identification, TCATSDI - - - -
0010 ...1 Queue-type
request (PURGE)
0010 ...1. Buffer flush
request
010. .... PUT - - - - Data identification, TCATSDI - - - -
010. ...1 Queue-type
request (PUTQ)
010. ...1. System request
010. .1.. Replace
010. 1... Main storage
0101 .... Conditional
request
10.. ..0. GET - - - - Data identification, TCATSDI - - - -
10.. ...1 Queue-type
request (GETQ)
10.. ...1. Storage
class=terminal
10.. .1.. Exclusive control
10.. 1... Entry number
supplied on GETQ
10.1 .... Input area address
101. .... RELEASE

Byte 2
X'13' Start of DWE logic
X'23' Start of cancel logic

Byte 2
X'05' Appl response Reserved Reserved
Byte 1
X'00' NORESP
X'01' ENERROR
X'02' IDERROR
X'04' IDERROR
X'08' NOSPACE
X'20' INVREQ

Byte 2
X'15' End of DWE logic
X'25' End of cancel logic

```

Figure 1 (Part 29 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
X'F8'	Byte 2, bits 4-7	DL/I function code:	
DL/I	X'3' Entry	'PCB'	Addr(PSB)
		'TERM' or 'T'	Not used
		Data base access call	Addr(PCB)
		Other	Reserved
X'4' IMS/V5 IWAIT		Reg 14 at point of call from IMS/V5 module to IWAIT routine	Addr(ECB) (usually PST)
X'5' Exit		Byte 8	DL/I function code
		Response code TCAFCTR	
		Byte 9	
		Response code TCADLTR	
		Bytes 10,11	
		PCB status code, if any. If byte 8 = X'08' and byte 9 = X'05' (that is, the response is 'PSB schedule failure') and the PSB is local to this CICS system, then byte 10 contains the value of the PSTSCHDF field in the IMS/V5 PST control block. (See the IMS/V5 DSECTS for a description of PSTSCHDF).	

Figure 1 (Part 30 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
X'F9' DFHJCP	Byte 2, bits 4-7 X'3' Entry	Byte 8 Journal fileid (X'FF' - dynamic log) Byte 9 Reserved Bytes 11,10 Type of request X'01' WRITE X'01' COND=YES X'02' STARTIO=YES X'04' User prefix specified X'08' DL/I request X'10' USING clause passes data address (COBOL) X'80' CICS request X'02' WAIT X'02' STARTIO=YES X'03' PUT Same as (WRITE, WAIT) X'04' OPEN X'01' Output X'02' Input X'04' VOL=FIRST (output) or VOL=PREVIOUS (input) X'08' VOL=NEXT X'10' VOL=CURRENT X'20' SIVOL=YES (Tape journals) X'28' VOL=EMEREXT X'80' CICS request X'08' CLOSE X'01' LEAVE=YES X'10' NOTE X'20' POINT X'40' GETF X'80' GETB	Addr(JCA)
	Byte 2, bits 4-7 X'5' Exit	Byte 8 Return code X'00' Normal response X'01' IDERROR X'02' INVREQ X'03' STATERR X'04' VOLERR X'05' NOTOPEN X'06' LERROR X'07' IOERROR X'08' End of data set X'09' Insufficient buffer space for a conditional request X'0A' Dynamic log error Bytes 9-11 Same as entry trace	Reserved

Figure 1 (Part 31 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'FA'
BMS

Byte 1
X'00'
Byte 2, bits 4-7
X'3' Entry

Byte 8
X'01' OPCLASS=
operator class
X'02' LIST=symbolic
address
X'04' LIST=ALL
X'08' TIME=numeric
X'10' INTERVAL=
numeric
X'20' ERRTERM=termid
X'40' ERRTERM=ORIG
X'80' TYPE=ROUTE

Byte 9
X'01' TYPE=PURGE
X'04' Send partition
set
X'08' IOTYPE=IMMED
X'10' LDC=mnemonic
or YES
X'20' REQID=alphanum.
X'40' PROPT=NLEOM
X'80' TITLE=symbolic
address

Byte 10
X'01' MAPSET=map set
name
X'02' MSETADR=
symbolic addr
X'04' MAP=map name
X'08' CTRL=any 3270
WCC
X'10' CURSOR=number
X'20' TYPE=TEXT
X'40' Receive
partition set
X'80' TYPE=LAST

Byte 11
X'01' TYPE=IN
X'02' TYPE=ERASE
X'04' TYPE=MAP
X'08' TYPE=WAIT
X'10' MAPADR=symbolic
address
X'20' TYPE=SAVE
X'40' DATA=NO
X'C0' DATA=YES

Byte 12
X'01' TYPE=RETURN
X'02' TYPE=STORE
X'04' TYPE=OUT
X'20' TYPE=ERASEUP
X'40' OFLOW=symbolic
address
X'80' TYPE=PAGEBLD

Byte 13
X'01' EODPURG=OPER
X'02' WRBRK=ALL
X'04' WRBRK=CURRENT
X'08' CTRL=RELEASE
X'10' CTRL=RETAIN
X'20' CTRL=PAGE
X'40' CTRL=AUTOPAGE
X'80' TYPE=PAGEOUT

Byte 14
X'01' TYPE=NOEDIT
X'04' Active partition
X'08' Out partition
X'10' JUSTIFY specified
X'20' TRAILER=symbolic
addr.
X'40' HEADER=symbolic
addr.
X'80' TYPE=TEXTBLD

Byte 15
X'01' Control
X'04' WRBRK=symbolic
address
X'08' RDATT=symbolic
address
X'10' FMHPARM=YES
or parameter
X'20' Request by EXEC
interface
X'40' Magnetic stripe
reader
X'80' In partition

Figure 1 (Part 32 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'FA' BMS	Byte 1 (continued) X'00' Byte 2, bits 4-7 X'5' Exit	Byte 8 (See note 2) Reserved X'00' Normal response X'01' Invalid request X'02' Page returned X'04' I/O area cannot be mapped X'08' Map too large X'20' Invalid error terminal X'40' Route worked - some resolutions X'80' Route failed - no resolutions	
	Byte 2, bits 4-7 X'5' Exit	Byte 9 X'02' Partition fail X'04' Invalid partition X'08' Invalid partition set X'10' Invalid LDC mnemonic X'80' Temporary storage I/O error	
		Byte 10 X'01' PAGEBLD overflow X'02' Inbound FMH in last input X'04' End-of-data-set in last input X'08' End-of-chain in last input X'10' Specified REQID ignored	
		Byte 11 Terminal code from TCAMSRI1 when byte 8 contains X'08'.	
	Byte 1 X'81' Query entry 1	Byte 8 TCTE32EF Byte 9 TCTE32E2 Byte 10 TCTE32E3 Byte 11 TCTE32SF	Bytes 12-13 TCTEASCZ Byte 14 TCTEASCL Byte 15 TCTEASCC
	Byte 1 X'82' Query entry 2	Byte 8 TCTETXTF Byte 9 TCTTEFMB Bytes 10-11 Reserved	Bytes 12-13 TCTECSG1 Bytes 14-15 TCTECSG2
X'CD' BMS	Reserved (See note 3)	First four bytes of temporary storage key	Next four bytes of temporary storage key
X'CF' DFHMCP (See note 1)	Reserved	Same as for X'FA' with byte 2, bits 4-7=X'5'	

Figure 1 (Part 33 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'FB' DFHBIF	Byte 1 X'01' BITEST	Byte 8 9	Contents Reserved Function type X'10' BITEST X'20' BITFLIP X'40' BITSETOFF X'80' BITSETON	Byte address
	X'02' DEEDIT	10 11	Bit pattern Reserved	
	X'03' INFORMAT	8-9 10-11 8 9	Field length Reserved Reserved Name list indicator X'00' No list	Field address
	X'04' PHONETIC	10-11	TIOA size	
	X'05' FVERIFY	Bytes 1-4 of the name		Bytes 5-8 of the name
	X'06' TSEARCH	8-9 10-11 8 9	Field length Reserved Reserved Function code	Field address Argument address
		X'01' X'02' X'04' X'08' X'10' X'20' X'40'	Target address Right side Left side Mixed table Descending order Ascending order Range	
	X'07' WTRETST	10-11 8 9 10-11	Number of entries in arg table Reserved SETL indicator Max. number of records	Key address
	X'08' WTRTPARM	8-9 10-11	Reserved FIELD1 -second operand	VSWA address
	X'09' WTRETGET		Same as WTRETST	VSWA address
	X'0A' WTRETREL		Same as WTRETST	VSWA address

Figure 1 (Part 34 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
X'FC' DFHZCP	Byte 2, bits 4-7 X'3' or X'4' except where stated Byte 1 X'00' Exit X'01' Application req		
	Byte 2, bits 4-7 X'3' Entry	Format A2	Format B2 if byte 8 = X'00', otherwise not used
	Byte 2, bits 4-7 X'5' Exit	Format A2	Format B2 with bytes 13-15 = TCTTEDA value
X'02' Locate			
	Byte 2, bits 4-7 X'3' Entry	Format A11	TCTTE name (Locate ID) or TCTTE address
	Byte 2, bits 4-7 X'5' Exit	Bytes 8-9 Format A11 Byte 10 X'08' Option=NOWAIT X'20' Select request X'40' Status request X'80' TRMIDNT supplied Byte 11 X'00' Normal X'F0' Last entry X'F1' Invalid request X'F2' Invalid ID X'F3' Invalid address X'F9' Not LU6.2 X'FA' Busy	Addr located entry, or X'FFFFFFF'
X'03' Detach		Format A1	Format B1
X'04' Reserved			
X'05' Startup task		Format A1	Format B1
X'06' CTYPE request		Format A1	Format B1
X'07' Reserved			
X'08' Status change		Format A11	
X'09' Transaction routing			
	Byte 2, bits 4-7 X'3' Entry	Byte 8 X'0B' ATTACH X'0C' Applic request X'0D' DETACH X'0E' FLUSH X'0F' Route transaction	Bytes 13-15 Relay link TCTTE address
	Byte 2, bits 4-7 X'5' Exit	Byte 8 X'00' Normal response X'08' Error response	Surrogate TCTTE address
X'0A' RPL executor,HPO		Format A1	Format B1

Figure 1 (Part 35 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'FC'
DFHZCP

Byte 1 (continued)
X'0B' Allocate/free

Byte 2, bits 4-7
X'3' Entry

Byte 8
X'01' Allocate
X'02' Point
X'03' Free
X'04' Free detach
X'05' Free all
X'06' LU6.2 allocate
X'07' LU6.2 free

Format B1

Byte 2, bits 4-7
X'5' Exit

Byte 8
X'01' Allocate
X'02' Point
X'03' Free
X'04' Free detach
X'05' Free all
X'06' LU6.2 allocate
X'07' LU6.2 free

Bytes 13-15
Reserved

Byte 9 Return code
X'00' Normal return
X'04' Error return

Byte 10
Secondary code
X'01' Invalid call to
DFHZISP, function
not supported
X'02' Invalid call to
DFHZISP, no
function given
X'03' Invalid Free call
X'04' Invalid LU6.2
parameters passed
X'05' No profile exists
X'06' Allocate for a
session already
owned
X'07' Noqueue req and
all sessions busy
X'08' MODENAME not found
X'0A' Free req for session
not owned by task
X'0B' Free req for
system entry
X'0C' MODENAME invalid
X'0E' Detach for remote
terminal failed
X'10' Task canceled
during alloc process
X'14' Mode group out
of service
X'18' DRAIN=ALL set,
mode group
terminating
X'21' Point req failed,
no sessions
available
X'22' Point req failed,
session not usable
X'23' No CICS region
block (IRC)
X'24' No SCCB (IRC)

Figure 1 (Part 36 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
X'FC' DFHZCP	Byte 1 (continued) X'0C' CICS function request shipping sync point	Byte 8 X'01' Prepare X'02' SPR X'03' Commit X'04' Abort	Format B1
X'0D'	IRC Byte 2, bits 4-7 X'3' Entry	Byte 8 X'01' Receive X'02' Disconnect X'05' I/O request Byte 10 X'08' RESET X'10' LAST X'20' READ X'40' WAIT X'80' WRITE X'08' Normal STOP X'09' Immediate stop X'0A' Logoff X'10' Get data X'11' Operative X'12' Receive abort	Addr(TCTTE)
X'0E'	Abend	Format A1	Format B1
X'0F'	Close ACB	Format A9	Reserved
X'10'	Auto task init	Format A1	Format B1
X'11'	Attach Byte 2, bits 4-7 X'3' Entry X'5' Exit	Format A1 Reserved	Format B1 Reserved
X'12'	Freemain	Format A1	Format B1
X'13'	Getmain	Format A1	Format B1
X'14'	Receive any	Format A8	Format B1
X'15'	RESETSR	Format A1	Format B1
X'16'	Receive specific	Format A8	Format B1
X'18'	Send normal	Format A8	Format B1
X'1A'	Translation	Format A1	Format B1
X'1B'	User exit	Format A1	Format B1
X'1C'	Activate scan	Format A10	Format B1
X'1D'	Send response	Format A8	Format B1
X'1E'	Reserved		
X'1F'	Reserved		
X'20'	Attach initialization	Format A1	Format B1
X'22'	CLSDST	Format A1	Format B1
X'24'	DWE processor	Format A1	Format B1
X'27'	Logical record presentation	Format A6	Format B1
X'29'	OPNDST	Format A1	Format B1
X'2B'	Read-ahead queuing	Format A1	Format B1
X'2C'	Read-ahead retrieval	Format A1	Format B1
X'30'	Resync	Format A1	Format B1
X'33'	Send async	Format A1	Format B1
X'34'	Send cmd resp	Format A1	Format B1
X'35'	SessionC	Format A1	Format B1
X'37'	SIMLOGON	Format A1	Format B1
X'39'	SETLOGON start	Format A1	Format B1
X'3E'	Open ACB	Format A1	Format B1

Figure 1 (Part 37 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
X'FC'	Byte 1 (continued)		
DFHZCP	X'3F' Shutdown	Format A9	Format B1
	X'40' TCTTE queuing		
	X'41' Error message writer	Format A5	Format B1
	X'42' VTAM sync point handler	Format A2	
	X'43' VTAM trace handler	Reserved	Reserved
	X'44' ZARQ abend handler		
	X'45' Console input handler		
	X'46' Console request handler	Byte 8 Console ID Bytes 9-11 Reserved	
	X'47' Console abnormal condition handler	Byte 8 Console ID Bytes 9-11 Reserved	
	X'48' Attach user exit	Reserved	Reserved
	X'49' Output user exit	Reserved	Reserved
	X'4A' DFHZARL, LU6.2 appl request		
	Byte 2, bits 4-7	Byte 8	Addr(TCTTE)
	X'3' Entry	X'01' ALLOCATE Byte 9 X'40' LUCASYS valid X'80' NOQUEUE specified Byte 10 X'40' ATI ALLOCATE X'80' LUCMODNM valid X'03' EXTRACT PROCESS X'05' FREE X'06' ISSUE ABEND Byte 9 X'80' User invocation Byte 10 X'20' LUCMSGNO valid X'40' LUCSENSE valid X'80' LUCAMSG, LUCLMSG valid X'07' ISSUE ATTACH Byte 9 X'80' TPN check not required X'08' ISSUE CONFIRMATION X'09' ISSUE ERROR Byte 9 X'80' User invocation Byte 10 X'20' LUCMSGNO valid X'40' LUCSENSE valid X'80' LUCAMSG, LUCLMSG valid X'0A' ISSUE SIGNAL X'0B' RECEIVE X'80' SET Byte 10 X'40' BUFFER X'80' LLLD	

Figure 1 (Part 38 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

```

X'FC'   Byte 1
DFHZCP  X'4A' DFHZARL
        Byte 2, bits 4-7
        X'3' Entry (continued)

X'0C' SEND
        Byte 9
        X'80' Application data
        Byte 10
        X'10' WAIT
        X'20' CONFIRM
        X'40' LAST
        X'80' INVITE
        X'0D' WAIT
        X'10' FREE STORAGE
        X'11' INITIAL CALL
        Byte 9
        X'80' Data provided
        X'12' ALLOCATE
        PRIVILEGED
        Byte 9
        X'40' LUCASYS valid
        X'80' NOQUEUE
        X'13' SYNC PREPARE
        Byte 10
        X'40' LAST
        X'14' SYNC REQ COMMIT
        Byte 10
        X'40' LAST
        X'15' SYNC COMMITTED
        Byte 9
        X'40' Implicit FORGET
        X'80' Explicit FORGET
        X'16' SYNC FORGET
        X'17' ABORT
        X'18' GET LUNAME
        X'19' SYNC ROLLBACK
        X'1A' SEND FMH
        Byte 9
        X'80' Application data
        X'1B' RECEIVE FMH
        Byte 9
        X'80' SET
        X'20' ERP FMH received
        X'21' Negative response
        received

```

Figure 1 (Part 39 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

```

X'FC'   Byte 1
DFHZCP X'4A' DFHZARL
        Byte 2, bits 4-7 (cont)
        X'5'  Exit

        Byte 8
X'00' Normal response Addr(TCTTE)
X'01' SYSIDERRDR
        Byte 9
X'04'
        Byte 10
X'04' No bound contention-
      winner session
      available (SYSBUSY)
X'08' Modename not known
      on this system
X'0C' Attempt to use reserved
      modename (SNASVCMG)
X'14' Available count set to
      zero for this
      modegroup

        Byte 9
X'08' SYSID is out of service
        Byte 10
X'00' Local queuing was not
      attempted
X'04' Local queuing
      did not succeed

        Byte 9
X'0C' SYSID not known
      in TCT

        Byte 10
X'00' SYSID name is not known
X'04' SYSID name is not that
      of a TCTSE
X'08' SYSID.MODENAME
      is not known
X'0C' SYSID.PROFILE
      is not known

        Byte 8
X'03' INVREQ error
        Byte 9
X'00' Session is not defined
      as LU6.2
X'04' Conversation
      level is wrong
X'08' State error
        Byte 10
X'xx' xx=state
        Byte 9
X'0C' SYNCLEVEL cannot
      be supported
X'10' LL count error
        Byte 10
X'xx' xx=remaining LL value
        Byte 9
X'14' Invalid request
X'18' TPN SEND check failed
X'04' NOTALLOC error
X'05' LENGERR error

```

Figure 1 (Part 40 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'FC' DFHZCP	Byte 1 (continued) X'4B' DFHZARM, LU6.2 migration		
	Byte 2, bits 4-7 X'3' Entry	Byte 8 X'01' SEND X'02' WAIT X'03' RECEIVE X'04' SIGNAL X'05' FLUSH X'06' FREE	Addr(TCTTE)
	X'4C' DFHZRVL, LU6.2 receive and X'4E' DFHZSDL, LU6.2 send		
	Byte 2, bits 4-7 X'3' Entry	Byte 8 X'01' FMH to be sent X'02' DR1 to be sent X'04' DR2 to be sent X'08' CD received X'10' CD to be sent X'20' CEB received X'40' CEB to be sent X'80' Partial LL count set Byte 9 X'01' Implicit send X'02' LL set by caller X'04' DFHZRVL recalled by DFHZRLX X'08' Buffer type RECEIVE Byte 10 X'01' Send with ER1 X'02' Send with RQD1 X'04' Send with RQD2 X'08' Attach FMH generated X'10' Response to be sent X'80' LUSTAT for null RU Byte 11 X'20' -ER* received	Addr(TCTTE)

Figure 1 (Part 41 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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```

X'FC' DFHZCP      Byte 1 (continued)
X'50' DFHZERH,
      LU6.2 error
      recovery

      Byte 2, bits 4-7
      X'3' Entry

      Byte 8
      X'06' ABEND
      X'09' ISSUE ERROR
      X'19' BACKOUT
      X'20' FMH received
      X'21' Neg response received
      Byte 9
      X'80' User call
      Byte 10
      X'20' LUCMSGND valid
      X'40' LUCSENSE valid
      X'80' LUCAMSG,
            LUCLMSG valid
      Byte 11
      X'80' System call

      Addr(TCTTE)

X'51' DFHZLUS,
      LU6.2 services

      Byte 2, bits 4-7
      X'3' Entry

      Byte 8
      X'01' Initialize
            change session
      X'02' Change session
      X'03' Receive change
            session
      X'04' Shutdown
      X'05' Resynchronize
      Byte 9
      X'20' Immediate shutdown
      X'40' Released issued
      X'80' Acquired issued

      System name

      Byte 1
      X'52' DFHZBKT,
            LU6.2 bracket
            state machine

      The following states
      correspond to byte
      TCTEBKTS

      Byte 8
      X'00' SET
      X'80' CHECK
      Addr(TCTTE)
      Byte 9 Request type
      X'01' BB_SEND
      X'02' CEB, RQX1_SEND
      X'03' CEB, RQD2_SEND
      X'04' DRZ_RCV
      X'05' -RSP_RECEIVE
      X'06' BB_RECEIVE
      X'07' CEB, RQX1_RECEIVE
      X'08' CEB, RQD2_RECEIVE
      X'09' DRZ_SEND
      X'0A' -RSP_SEND
      X'0B' SESS_CLOSE
      Byte 10 Current state
      X'01' BETWEEN_BKTS
      X'02' IN_BRACKET
      X'03' IN_BKT_TERM_SEND
      X'04' IN_BKT_TERM_RCV
  
```

Figure 1 (Part 42 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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```

X'FC' DFHZCP      Byte 1 (continued)
X'53' DFHZCNT,   The following states
                  correspond to byte
                  TCTECNTS

                  Byte 8
X'00' SET
X'80' CHECK
Byte 9 Request type
X'01' LUS_CON_WIN
X'02' LUS_CON_LOSE
X'03' LUS_CON_RESET
X'04' BIND_CON_WIN
X'05' BIND_CON_LOSE
X'06' UNBIND
X'07' LOCAL_ALLOCATE
X'08' DETACH
X'09' BB_RCV+RSP
X'0A' BB_RCV-R(0814)
X'0B' BB_RCV-R(0813)
X'0C' -R(0819, RTR)_
          RCV
X'0D' -R(0882, RTR)_
          RCV
X'0E' +R(RTR)_RECEIVE
X'0F' +R(BB)_RECEIVE
X'10' RTR_RECEIVE
X'11' -R(BB,0814)_
          RCV
X'12' -R(BB,0813)_RCV
X'13' -R(BB,088B)_RCV
X'14' RTR_RCV -R(0819)
X'15' DATA_INBOUND
Byte 10 Current state
X'01' NOT_BOUND
X'02' NOT_BOUND_CON_WIN
X'03' NOT_BOUND_CON_LOSE
X'04' BOUND_CON_WIN
X'05' CON_WIN_ALLOCATE
X'06' CON_WIN_RTR_SEND
X'07' CON_WIN_RTR_PEND
X'08' BOUND_CON_LOSE
X'09' CON_LOSE_ALLOC
X'0A' CON_LOSE_BIDDING
X'0B' CON_LOSE_BB_
          CROSS
X'0C' CON_LOSE_RTR_
          PEND
X'0D' CON_LOSE_REBID_
          PEND
X'0E' CON_LOSE_AWAIT_
          ACTIVITY
X'0F' BOUND_CON_WIN_
          BID_ACCEPTED

```

Figure 1 (Part 43 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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```

X'FC'   Byte 1 (continued)
DFHZCP  X'54' DFHZCHS,
          LU6.2 chain send

          The following states
          correspond to byte
          TCTECHSS

          Byte 8
          X'00' SET                               Addr(TCTTE)
          X'80' CHECK
          Byte 9 Request type
          X'01' BC_SEND
          X'02' EC_SEND_RQD
          X'03' EC_SEND_RQE, CD
          X'04' EC_SEND_RQD, CD
          X'05' EC_SEND_RQE, CEB
          X'06' +RSP (FMD/
                LUSTAT)_RCV
          X'07' -RSP (FMD/
                LUSTAT)_RCV
          X'08' BC_RCV
          X'09' EC_RCV_RQD
          X'0A' EC_RCV_RQE, CD
          X'0B' EC_RCV_RQD, CD
          X'0C' EC_RCV_RQE, CEB
          X'0D' +RSP (FMD/
                LUSTAT)_SEND
          X'0E' -RSP (FMD/
                LUSTAT)_SEND
          X'0F' BB_SEND_COMPLETE
          X'10' BB_ACCEPTED
          X'11' BRACKET_ENDED
          Byte 10 Current state
          X'01' BETWEEN_CHAINS_
                SEND
          X'02' IN_CHAIN_SEND
          X'03' AWAIT_RESPONSE_
                SEND
          X'04' PEND_RESPONSE_SEND
          X'05' NEGATIVE_RSP_RCVD
          X'06' BETWEEN_CHAINS_RCV
          X'07' IN_CHAIN_RCV
          X'08' PEND_RESPONSE_RCV
          X'09' AWAIT_RESPONSE_RCV
          X'0A' NEGATIVE_RSP_SEND

```

Figure 1 (Part 44 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'FC' DFHZCP Byte 1 (continued)
 X'56' DFHZUSR, The following states
 LU6.2 conversation correspond to byte
 state machine TCTEUSRS

Byte 8	Addr(TCTTE)
X'00'	SET
X'80'	CHECK
Byte 9 Request type	
X'01'	ALLOCATE_RESOURCE
X'02'	SEND_PROCESS
X'03'	SEND_DATA
X'04'	SEND_DATA_INVITE
X'05'	SEND_DATA_LAST
X'06'	WAIT
X'07'	ATTACH_INBOUND
X'08'	RECEIVE_DATA
X'09'	INVITE_RECEIVED
X'0A'	FREE_RECEIVED
X'0B'	FREE_RESOURCE
X'0C'	SYSTEM_FREE
X'0D'	SEND_SIGNAL
X'0E'	ISSUE_ERROR
X'0F'	ISSUE_ABEND
X'10'	ERROR_RECEIVED
X'11'	ABEND_RECEIVED
X'12'	SEND_CONFIRM
X'13'	SEND_CONFIRMATION
X'14'	RECEIVE_CONFIRM
X'15'	RECEIVE_CONFIRMATION
X'16'	SEND_PREPARE
X'17'	SEND_SPR
X'18'	SEND_COMMIT
X'19'	SEND_FORGET
X'1A'	RECEIVE_PREPARE
X'1B'	RECEIVE_SPR
X'1C'	RECEIVE_COMMIT
X'1D'	RECEIVE_FORGET
X'1E'	SEND_BACKOUT
X'1F'	RECEIVE_BACKOUT
X'20'	CONVERSATIONAL_FAILURE

Figure 1 (Part 45 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
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X'FC'
DFHZCP

Byte 1 (continued)

Byte 10 Current state
X'01' NOT_ALLOCATED
X'02' ALLOCATE_IN_PROGRESS
X'03' ALLOCATED_SEND
X'04' ALLOCATED_RECEIVE_
PENDING
X'05' ALLOCATED_RECEIVE
X'06' FREE_PENDING_SEND
X'07' FREE_REQUIRED
X'08' IN_SYNCPT_SENDER_
ONE_PHASE
X'09' IN_SYNCPT_RCVER_
ONE_PHASE
X'0A' IN_SYNCPT_SENDER_
TWO_PHASE
X'0B' IN_SYNCPT_RCVER_
TWO_PHASE
X'0C' IN_SYNCPT_BACKOUT_
SENDER
X'0D' IN_SYNCPT_BACKOUT_
RECEIVER
X'0E' ALLOCATED_CONFIRM_
SENDER
X'0F' ALLOCATED_CONFIRM_
RECEIVER

X'57'	SNA-ASCII translation		
X'58'	DFHZEV1 encryption validation 1	Reserved	Format B1
X'59'	DFHZEV2 encryption validation 2	Reserved	Format B1
X'5A'	DFHZATD install entry	Reserved	Reserved
X'5B'	DFHZATD install exit	TERMDINT	Addr(TCTTE) (0 if failure)
X'5C'	DFHZATD delete entry	TERMDINT	Addr(TCTTE)
X'5D'	DFHZATD delete exit	0	0 (Addr(TCTTE) if failure)
X'80'	Response logger	Format A1	Format B1
X'81'	First NACP	Format A3	Format B1
X'82'	NEP	Format A1	Format B1
X'83'	Second NACP	Format A4	Format B1
X'84'	Resync system task	Format A1	Format B1
X'85'	Reserved		
X'86'	Good morning	Format A1	Format B1

Figure 1 (Part 46 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

X'FC'	Byte 1 (continued)		
DFHZCP	X'C0' DFHZCQ00 request router	Reserved	Reserved
	X'C1' DFHZCQIN initialize	Reserved	Reserved
	X'C2' DFHZBAN bind analysis	Reserved	Reserved
	X'C3' DFHZCQCH change	Reserved	Reserved
	X'C4' DFHZCQDL delete	Reserved	Reserved
	X'C5' DFHZCQIT install TCTTE	Reserved	Reserved
	X'C6' DFHZCQRC recover	Reserved	Reserved
	X'C7' DFHZCQRS restore	Reserved	Reserved
	X'C8' DFHZCQIQ inquire	Reserved	Reserved
	X'C9' DFHZCQIS install	Reserved	Reserved
	X'CA' DFHTRZCP build terminal BPS	Reserved	Reserved
	X'CB' DFHTRZXP build connection BPS	Reserved	Reserved
	X'CC' DFHTRZIP build sessions BPS	Reserved	Reserved
	X'CD' DFHTRZYP build type BPS	Reserved	Reserved
	X'CE' DFHTRZPP build pool BPS	Reserved	Reserved
	X'CF' DFHTRZZP merge terminal and type BPS	Reserved	Reserved
	X'E1' DFHTBSB(P) build see note 5	Reserved	Reserved
	X'E2' DFHTBSSP sync point process	Reserved	Reserved
	X'E3' DFHTBSD(P) destroy see note 5	Reserved	Reserved
	X'E4' DFHTBSR(P) recover see note 5	Reserved	Reserved
	X'E5' DFHTBSC(P) change see note 5	Reserved	Reserved
	X'E6' DFHTBSM add entry to msg-set	Reserved	Reserved
	X'E7' DFHTBSQ(P) inquire see note 5	Reserved	Reserved
	X'E8' DFHTBSL(P) catalog see note 5	Reserved	Reserved
	X'EE' Exit trace entry	Format A7	Format B1

Figure 1 (Part 47 of 48). Trace Table Entries

ID (Byte 0)	REQD (Bytes 1 and 2)	FIELD A (Bytes 8 through 11)	FIELD B (Bytes 12 through 15)
----------------	-------------------------	---------------------------------	----------------------------------

X'FD' DFHTRP internal	Byte 2, bits 4-7 X'1' FE type trace Byte 1 X'99' Entry made on behalf of global trap/trace exit	Data supplied by exit	Data supplied by exit
	Byte 2, bits 4-7 X'4' System trace Byte 1 X'01' Repeat entry; bytes 24-27 contain the no of times the preceding entry is repeated (packed decimal)	Time at which first repeat entry made (CSACSCC)	Time at which last entry made
X'FE' (Trace turned on)	Byte 2, bits 4-7 X'D' On/off entry Byte 1 Reserved Byte 2, bits 0-3 X'0'	) Images before) trace request) Byte 8: CSATRMF1) Byte 9: CSATRMF2) Byte 10: CSATRMF3) Byte 11: CSATRMF4) Images before) trace request) Byte 8: CSATRMF1) Byte 9: CSATRMF2) Byte 10: CSATRMF3) Byte 11: CSATRMF4	Images before trace request Byte 12: TCATRTR Byte 13: TCATRID Byte 14: TCATRMF Byte 15: TCATRIDI Images after trace request Byte 12: CSATRMF1 Byte 13: CSATRMF2 Byte 14: CSATRMF3 Byte 15: CSATRMF4
X'FF' (Trace turned off)	Bytes 1 through 15 as for X'FE'		

Notes:

1. The X'CF' trace occurs when an application program issues an EXEC CICS SEND PAGE with RELEASE before the BMS module issues a DFHPC TYPE=RETURN macro to exit from the calling program.
2. When byte 10 contains X'01', bytes 12 and 13 contain the current page number, TCAMSPGN, and bytes 14 and 15 contain the overflow control number, TCAMSOCN.
3. The X'CD' trace occurs when BMS receives an IDERROR from temporary storage.
4. Trace entries for byte 14 greater than X'80' are CICS internal trace entries.
5. These trace entries are each created by two modules, for example DFHTBSB and DFHTBSBP.

Figure 1 (Part 48 of 48). Trace Table Entries

FORMAT A1

BYTE 8	BYTE 9	BYTE 10	BYTE 11
.... ..1 Task created by avail (ATI)	Resynchronization required	Definite response send in progress	Between brackets
.... ..1. Input journal req'd	Previous session ABEND	QRI type response	Begin bracket receive pending
.... ..1.. Chain assembly in progress	Emergency restart	Log first input after sync	Begin bracket received
.... 1... Resynch/recovery in progress	Bracket protocol required	Pending resp. exception	End bracket sent
.... 0...		Pending resp. definite	
....1 NACP in progress	Overlength data	Awaiting positive response	Begin bracket sent
..1. ATI bid in progress	Mode (CS=X'20', CA=not X'20')		BB EB sent state
..1. Data in progress	CICS quiesced by node	Pending FME response	Begin bracket pending state
1... Command in progress	Node quiesced by CICS	Pending RRN response	In bracket state

FORMAT B1

BYTE 12	BYTE 13	BYTE 14	BYTE 15
(Hex)			
00 No exit since last trace entry)			
17 Receive specific exit)			
19 Send DFSYN data exit)			
21 DFASY exit)			
23 CLSDST exit)			
25 LERAD exit)			
26 LOGON exit)			
28 LOSTERM exit)			
2A OPNDST exit)			
2E Release request exit)	-----Bytes 13 through 15 contain the address of the TCITE-----		
2F Network service error exit)			
31 Send DFASY exit)			
32 SESSIONC input exit)			
36 SESSIONC exit)			
3A Send DFSYN com'd exit)			
3B SYNAD exit)			
3C Turnaround exit)			
3D TPEND exit)			
38 SIMLOGON exit)			
4D LU6.2 receive exit)			
4F LU6.2 send exit)			

FORMAT A2

BYTE 8	BYTE 9	BYTE 10	BYTE 11
(Hex)			
00 I/O request & Format B2	.... ..1 Write	Deferred READ	Pseudobinary mode
01 SIGNAL	.... ..1. Converse	INVOKE	Nottranslate
04 Program	.... ..1. Synchronize	DEFER	Print
80 EODS	.... 1... Disconnect	Transparent TIOA	Copy
	....1 Read	STRFIELD	Read lock
	....1. Line addressing req.	CONDITIONAL	Write lock
	....1. Save terminal storage	TCITE addr	Erase all unprotected
	1... Erase	CCOMPL=NO	Read buffer

Figure 2 (Part 1 of 5). Formats of DFHZCP Trace Entry Fields A1 - A11, B1, and B2

FORMAT B2 (used only if byte 8 = X'00')

BYTE 12	BYTE 13	BYTE 14	BYTE 15
(Hex)			
01 Wait request)			
02 Override sync request)			
04 Override async request)			
08 Last write from task)	----- Bytes 13 through 15 contain the address of the TCITE -----		
10 FMH provided with data)			
20 LDC mnemonic present)			
40 Wait on inbound SIGNAL)			
80 FORCE=YES)			

FORMAT A3

BYTE 8, 9, 10, OR 11	BYTE 8, 9, 10, OR 11	BYTE 8, 9, 10, OR 11
(Hex)	(Hex)	(Hex)
10 NODE not activated	41 TOLTEP request	65 Invalid response detected
11 Session bind failure	42 Printer unavailable	66 SIGNAL command received
13 VTAM halting	43 No copy support	67 VTAM immediate shutdown
14 Logic error detected	44 Exception response received	68 Error in DFHZEMM
15 Permanent channel error NCP shutdown	45 Max chain size exceeded	69 Out of service after SDT
18 Logic error, no feedback	46 Incompl outbound chain w/read	70 Clear received
19 Terminate self from NODE	47 Good morning message reqd	73 Read only terminal
1A Apparent VTAM error	48 Session just opened	74 Unsupported command
1D VTAM inactive to application or TCB abend	49 Session just closed	75 Unsupported command
20 VTAM inactive	4A VTAM ACB opened dynamically	78 Response requested error
21 Attach FMH error	4B Print request failed	79 Device does not support ATI
22 Attach FMH not found	4D VTAM release level check	80 Temp VTAM storage problem
23 Bracket FSM error	4E Unbind - protocol error	81 Exception response rec'd
24 Chain FSM error	4F Close all LU6.2 links	82 Unknown command received
25 Contention FSM error	50 No action after commit RECV	83 ATI no longer requested
26 Invalid request to DFHZSDL	51 BIND name not matching TCITE	84 Invalid normal response to bid
27 No BUFLST for DFHZSDL	52 BIND parameter unacceptable	88 Invalid CID detected
28 Invalid request to DFHZRVL	53 BIND out of service	89 Unknown symbolic name
29 DFHZRVL buffer too small	54 Unbind recd without BIS/BIR	90 ZCP logic error detected
2A Non-process level exception response received	55 EMM cannot send msg in BETB	91 Invalid RTYPE specified
2B Bid received with data, no OIC	57 Release issued by MT op	92 Send DFSYN req incomplete
2C Bid received with data, cannot reject	58 No action when commit RECV	93 CA mode and task attached
2D Record length > buffer length	59 Record outstanding at shutdown	94 Input status error
2E EDC received and invalid DFC	5A SBI received causing CLSDST	95 TIOA length incorrect
2F +ve response rejected by VTAM	5B Network error one	96 RPL missing (receive specific)
30 BIS received with invalid DFC	5C Network error two	97 TIOA missing (receive specific)
31 Inexplicable response recvd	5D Connect not terminal or REJ	98 No task on terminal to resume
32 Session closing via BIS	5E BIND response unacceptable	99 No TIOA available for send
33 Invalid indicators received	5F Bad session qualifier pair	9B Cancel received cancel mode
34 Invalid data received	60 Unsupported command detected	9C Outbound chain not completed
35 Read timeout occurred	61 LU status condition	9D Unexpected response received
40 Invalid copy request	62 Task cancel due to immediate shutdown	9E Device end from 3270
	63 VTAM orderly shutdown	9F Access method insufficient for LU6.2
	64 VTAM abend shutdown	

Figure 2 (Part 2 of 5). Formats of DFHZCP Trace Entry Fields A1 - A11, B1, and B2

FORMAT A3 (CONTINUED)

BYTE 8, 9, 10, OR 11

(Hex)
 A0 ISC modules not loaded
 A1 Invalid read request
 A3 Bracket state error
 A7 Node bracket protocol error
 A8 FMH length exceeds data length
 A9 Receive specific in receive any
 AA Outboard chaining not supported
 AB LU error
 AC VR deactivated
 AD Unrecoverable LU fail
 AE Recoverable LU fail
 AF Cleanup received
 B1 RPL is active
 B2 Invalid command setting
 B3 No RPL exists for operation
 B5 Unknown command
 B6 No seed received
 B7 Inconsistent attach security
 B8 Encryption validation failed
 B9 No FMH12 received
 BA Negative response
 BB Unknown command in RPL

BYTE 8, 9, 10, OR 11

(Hex)
 BC Invalid inp after inp req
 BD Getmain for DES failed
 C1 Unknown error code from VTAM
 C4 Dummy TCITE ID
 C5 NACP restarted
 C6 LU successfully passed
 C7 CLSDST pass procedure error
 C8 LU inhibited for sessions
 C9 CLSDST pass not authorized
 CB Terminal released
 CC Clear was issued
 CD Exception in chain
 CE Hold
 CF VR_INDP
 D0 VTAM recovered node
 D1 Node unrecoverable
 D2 Node recovery in progress
 D4 Request recovery received
 D5 Unsupported command received
 D6 CICS released by node
 D7 CICS quiesced by node
 D8 Multiple errors
 D9 Exception resp. required
 DA Req. shutdown during a task

BYTE 8, 9, 10, OR 11

(Hex)
 DB Autoinstall max ME reached
 DC Negative response received to a definite response send
 DD Negative response received to an exceptional response send
 DE Failed to get into send mode
 DF Autoinstall O/S getmain failed
 E0 Unknown symbol name
 E1 Receive any problem
 E2 CLSDST failed in LGX
 E3 CNCL received in 'CS' mode
 E4 Segmenting error
 E5 Maximum RU size exceeded
 E6 Logic error dummy TCITE
 E7 Inbound chain purged
 E8 Negative response to BIND
 E9 STSN expected, not recd
 EA STSN logic error
 EB STSN resync mismatch
 EC STSN resync mismatch
 ED STSN test negative
 EF STSN test negative
 F0 User error
 F1 Unknown modename

FORMAT A4

BYTE 8

.... .1
1.
1.
 1... Print BIND area
 ...1 Print TIOA
 ..1. Print TCITE
 .1. Print RPL
 1... Print action flags

BYTE 9

SIMLOGON required
 Send EM message
 ABEND task
 ABORT VTAM receive
 ABORT VTAM send

BYTE 10

Terminate session
 Keep node out of service
 Send negative response
 Normal CLSDST
 Normal CLSDST (no reset)
 NOINTLOG req
 INTLOG req

BYTE 11

No level 1 message
 No sense code message
 No messages
 No security message
 No action message

FORMAT A5

BYTE 8

.... .1 Task created by avail (ATI)
1. Input journal req'd
1.
 1... Resynch/recovery in progress
 ...1 NACP in progress
 ..1. ATI bid in progress
 .1. Data in progress
 1... Command in progress

BYTE 9

Chain purged indicator
 Msg. writer GETMAIN
 Original mode was 'CA'
 First RU of inbound chain purged
 Send bid request
 Send exception response request
 Send message request
 Purge request for inbound chain

BYTE 10

Definite response send in progress
 Bid to be retried
 Log first input after sync
 Pending response exception
 Awaiting positive response
 Deferred Write pending
 Pending FME response
 Pending RRN response

BYTE 11

Between brackets
 Begin bracket receive pending
 Begin bracket received
 End bracket sent
 Begin bracket sent
 RTR pending state
 Begin bracket pending state
 In bracket state

Figure 2 (Part 3 of 5). Formats of DFHZCP Trace Entry Fields A1 - A11, B1, and B2

FORMAT A6

BYTE 8 (TCTEVTPS)	BYTE 9 (TCTEVST2)	BYTE 10 (TCTEVIPI)	BYTE 11 (TCTEVBPS)
.... ..1 Task created by avail (ATI)		Definite response	
.... ..1. Input journal req'd		send in progress	
.... ..1..	EODS indication received	Bid to be retried	
.... 1... Resynch/recovery in progress	EOC indication received	Log first input after sync	
.... 1... ..1 NACP in progress		Pending response exception	End bracket sent
.... 1... ..1 ATI bid in progress	GETMAIN request for TIOA	Awaiting positive response	Begin bracket sent
.... 1... ..1 Data in progress		Deferred Write pending	RTR pending state
.... 1... ..1 Command in progress	Deblock in progress	Pending FME response	Begin bracket pending state
		Pending RRR response	In bracket state

FORMAT A7

BYTE 8	BYTE 9	BYTE 10	BYTE 11
Same as byte 12 of format B1 (Earliest exit)	Same as byte 12 of format B1	Same as byte 12 of format B1	Same as byte 12 of format B1 (Latest exit)

FORMAT A8

BYTES 8 & 9	BYTE 10	BYTE 11
Current/predicted sequence number	Same as byte 10 of format A1	Same as byte 11 of format A1
For ZRAC & ZRVS, field TCTESQIP+1		
For ZSDR, field TCTESQIP		
For ZSDS, field TCTESQOP+1		

FORMAT A9

BYTE 8	BYTE 9	BYTES 10 & 11
.... ..1 VTAM orderly close	Non-VTAM quiesce	Reserved
.... ..1. VTAM immediate close	ZSHU first time	
.... ..1. VTAM abended	Use RRR outbound	
.... ..1... VTAM quiesced	Use FME outbound	
.... 1... ..1 ACB opened		
.... 1... ..1. VTAM generated		
.... 1... ..1. Dynamic OPEN active		
.... 1... ..1... TPEND exit invoked		

FORMAT A10

BYTE 8	BYTE 9	BYTE 10	BYTE 11
.... ..1 Log response	ZDET detach		
.... ..1. Commit queue	Exit added		
.... ..1. ZRVS receive	Delay	ZNAC	
.... ..1... Resume	ZRST resetr	ZRSY resync	
.... 1... ..1 Asynchronous exit	ZSKR send session response	ZSIM simlogon	
.... 1... ..1. ZATT attach	ZSES sessionc	ZATI ATI	
.... 1... ..1. ZFRE fraemain	ZSDA send command	ZCLS clsdst	
.... 1... ..1... ZGET getmain	ZSDS send	ZOPN opndst	ZTRA trace

Figure 2 (Part 4 of 5). Formats of DFHZCP Trace Entry Fields A1 - A11, B1, and B2

FORMAT A11

BYTE 8	BYTE 9	BYTE 10	BYTE 11
01 Locate request	0000 0000 Address request	Not used	Not used
	.... ..1 ID request		
	.... ..1 Next request		
	.... ..11 Unique request		
	.... ..1 First request		
	.... ..1.1 NETNAME request		
02 ATI request	Not used	Not used	Not used
04 Status request	.... ..1 Not used	Out of service	Acquire
	.... ..1.	In service	Resync override
	.... ..1.	Transaction	Release
	.... ..1... System entries	Auto initiate	
	.... ..1 ALL	No poll	
	.... ..1.	Input	
	.... ..1. Global	Auto page	
	.... ..1. Remote	Page	
08 LDC request	Contains the LDC	Not used	Not used
10 Detach request	Not used	Not used	Not used
20 Sync point request	Not used	Not used	Not used
80 Remote	).... ..1 Out of service	Acquire	
CO Global	).... ..1 In service	Cold	
	.... ..1. Transaction	Release	
	.... ..1... Transceive		
	.... ..1 Receive nopoll		
	.... ..1. Input autopage		
	.... ..1. Autopage		
	.... ..1. Page		

Figure 2 (Part 5 of 5). Formats of DFHZCP Trace Entry Fields A1 - A11, B1, and B2

Command Codes
(Entry & Exit Traces)

Field EIBFN*	Command Function
--------------	------------------

Response Codes
(Exit Trace Only)

Field EIBFN*	Field EIBRCODE** Bytes	Meaning of response code
	8 9 10 11	

EI Requests

```
02 02 ADDRESS
02 04 HANDLE CONDITION
02 06 HANDLE AID
02 08 ASSIGN
02 0A IGNORE CONDITION
02 0C PUSH
02 0E POP
```

EI Responses

```
02 .. E0 .. .. .. INVREQ
```

Terminal Control Requests

```
04 02 RECEIVE
04 04 SEND
04 06 CONVERSE
04 08 ISSUE EODS
04 0A ISSUE COPY
04 0C WAIT TERMINAL
04 0E ISSUE LOAD
04 10 WAIT SIGNAL
04 12 ISSUE RESET
04 14 ISSUE DISCONNECT
04 16 ISSUE ENDOUTPUT
04 18 ISSUE ERASEAUP
04 1A ISSUE ENDFILE
04 1C ISSUE PRINT
04 1E ISSUE SIGNAL
04 20 ALLOCATE
04 22 FREE
04 24 POINT
04 26 BUILD ATTACH
04 28 EXTRACT ATTACH
04 2A EXTRACT TCT
04 2C WAIT CONVID
04 2E EXTRACT PROCESS
04 30 ISSUE ABEND
04 32 CONNECT PROCESS
04 34 ISSUE CONFIRMATION
04 36 ISSUE ERROR
04 38 ISSUE PREPARE
04 3A ISSUE PASS
04 3C EXTRACT LOGONMSG
```

Terminal Control Responses

```
04 .. 04 .. .. .. EOF
04 .. 10 .. .. .. EODS
04 .. C1 .. .. .. EOF
04 .. C2 .. .. .. ENDINPT
04 .. D0 .. .. .. SYSIDERR
04 .. D0 08 .. .. SYSID out of
service
04 .. D0 0C .. .. SYSID definition
error
04 .. D0 0C 00 .. SYSID name not
found
04 .. D0 0C 04 .. SYSID name not
that of TCTSE
04 .. D0 0C 08 .. MODENAME not
found
04 .. D0 0C 0C .. Profile not
found
04 .. D2 .. .. .. SESSIONERR
04 .. D3 .. .. .. SYSBUSY
04 .. D4 .. .. .. SESSBUSY
04 .. D5 .. .. .. NOTALLOC
04 .. E0 .. .. .. INVREQ
04 .. E0 00 .. 04 ALLOCATE-TCTTE
already
allocated
04 .. E0 00 .. 08 FREE-TCTTE in
wrong state
04 .. E0 00 .. 10 EXTRACT ATTACH
invalid data
04 .. E0 00 .. 18 EXTRACT TCT
invalid NETNAME
04 .. E0 00 .. 1C Command/TERTYPE
conflict
04 .. E0 00 .. 20 Command/CONVTYPE
conflict
04 .. E0 00 .. 28 ISSUE PASS
GETMAIN failure
```

*EIBFN=Bytes 14/15
of trace entry

**EIBRCODE=Bytes 8 - 13
of trace entry; see notes 1 and 2.

Figure 3 (Part 1 of 7). EXEC Interface Command and Response Codes

Command Codes
(Entry & Exit Traces)

Response Codes
(Exit Trace Only)

Field EIBFN*	Command Function
-----------------	---------------------

Field EIBFN*	Field EIBRCODE**				Meaning of response code
	Bytes 8	9	10	11	

Terminal Control Responses

04 .. E1	LENGERR
04 .. E1 00 ..	Input data too long
04 .. E1 04 ..	Output length error
04 .. E1 08 ..	Input length error
04 .. E1 0C ..	ISSUE PASS length error
04 .. E3	WRBRK
04 .. E4	RDATT
04 .. E5	SIGNAL
04 .. E6	TERMDERR
04 .. E7	NOPASSBKRD
04 .. E8	NOPASSBKWR
04 .. EA	IGREQCD
04 .. EB	CBIDERR
04 .. F1	TERMERR
04 20 ..	EOC
04 40 ..	INBFMH
04 F6	NOSTART
04 F7	NONVAL

File Control Requests

06 02	READ
06 04	WRITE
06 06	REWRITE
06 08	DELETE
06 0A	UNLOCK
06 0C	STARTBR
06 0E	READNEXT
06 10	READPREV
06 12	ENDBR
06 14	RESETBR

File Control Responses

06 .. 01	DSIDERR
06 .. 02 xx xx xx	ILLOGIC (See Note 1)
06 .. 08	INVREQ
06 .. 0C	NOTOPEN
06 .. 0D	DISABLED
06 .. 0F	ENDFILE
06 .. 80 xx xx xx	IOERR (See Note 1)
06 .. 81	NOTFND
06 .. 82	DUPREC
06 .. 83	NOSPACE
06 .. 84	DUPKEY
06 .. D0	SYSIDERR
06 .. D1	ISCINVREQ
06 .. D6	NOTAUTH
06 .. E1	LENGERR

*EIBFN=Bytes 14/15
of trace entry

**EIBRCODE=Bytes 8 - 13
of trace entry; see notes 1 and 2.

Figure 3 (Part 2 of 7). EXEC Interface Command and Response Codes

Command Codes
(Entry & Exit Traces)

Field EIBFN*	Command Function
-----------------	---------------------

Response Codes
(Exit Trace Only)

Field EIBFN*	Field EIBRCODE** Bytes	Meaning of response code
	8 9 10 11	

Transient Data Requests

08 02 WRITEQ TD
08 04 READQ TD
08 06 DELETEQ TD

Transient Data Responses

08 .. 01 QZERR
08 .. 02 QIDERR
08 .. 04 IDERR
08 .. 08 NOTOPEN
08 .. 10 NOSPACE
08 .. C0 QBUSY
08 .. D0 SYSIDERR
08 .. D1 ISCINVREQ
08 .. D6 NOTAUTH
08 .. E1 LENGERR

Temporary Storage Requests

0A 02 WRITEQ TS
0A 04 READQ TS
0A 06 DELETEQ TS

Temporary Storage Responses

0A .. 01 ITEMERR
0A .. 02 QIDERR
0A .. 04 IDERR
0A .. 08 NOSPACE
0A .. 20 INVREQ
0A .. D0 SYSIDERR
0A .. D1 ISCINVREQ
0A .. D6 NOTAUTH
0A .. E1 LENGERR

Storage Control Requests

0C 02 GETMAIN
0C 04 FREEMAIN

Storage Control Responses

0C .. E1 LENGERR
0C .. E2 NOSTG

Program Control Requests

0E 02 LINK
0E 04 XCTL
0E 06 LOAD
0E 08 RETURN
0E 0A RELEASE
0E 0C ABEND
0E 0E HANDLE ABEND

Program Control Responses

0E .. 01 PGMIDERR
0E .. D6 NOTAUTH
0E .. E0 INVREQ

Interval Control Requests

10 02 ASKTIME
10 04 DELAY
10 06 POST
10 08 START
10 0A RETRIEVE
10 0C CANCEL

Interval Control Responses

10 .. 01 ENDDATA
10 .. 04 IDERR
10 .. 11 TRANSIDERR
10 .. 12 TERMIDERR
10 .. 14 INVTREQ
10 .. 20 EXPIRED
10 .. 81 NOTFND
10 .. D0 SYSIDERR
10 .. D1 ISCINVREQ
10 .. D6 NOTAUTH
10 .. E1 LENGERR
10 .. E9 ENVDEFERR
10 .. FF INVREQ

*EIBFN=Bytes 14/15
of trace entry

**EIBRCODE=Bytes 8 - 13
of trace entry; see notes 1 and 2.

Figure 3 (Part 3 of 7). EXEC Interface Command and Response Codes

Command Codes
(Entry & Exit Traces)

Response Codes
(Exit Trace Only)

Field EIBFN*	Command Function
-----------------	---------------------

Field EIBFN*	Field EIBRCODE**	Meaning of response code
	Bytes 8 9 10 11	

Task Control Requests

```
12 02 WAIT EVENT
12 04 ENQ
12 06 DEQ
12 08 SUSPEND
```

Task Control Responses

```
12 .. 32 .. .. .. ENQBUSY
12 .. E0 .. .. .. INVREQ
```

Journal Control Requests

```
14 02 JOURNAL
14 04 WAIT JOURNAL
```

Journal Control Responses

```
14 .. 01 .. .. .. JIDERR
14 .. 02 .. .. .. INVREQ
14 .. 05 .. .. .. NOTOPEN
14 .. 06 .. .. .. LENGERR
14 .. 07 .. .. .. IOERR
14 .. 09 .. .. .. NOJBUFSP
14 .. D6 .. .. .. NOTAUTH
```

Sync Point Requests

```
16 02 SYNCPOINT
16 04 RESYNC
```

Sync Point Responses

```
16 .. 01 .. .. .. ROLLEDBACK
```

BMS Requests

```
18 02 RECEIVE MAP
18 04 SEND MAP
18 06 SEND TEXT
18 08 SEND PAGE
18 0A PURGE MESSAGE
18 0C ROUTE
18 0E RECEIVE PARTN
18 10 SEND PARTNSET
18 12 SEND CONTROL
```

BMS Responses

```
18 .. 01 .. .. .. INVREQ
18 .. 02 .. .. .. RETPAGE
18 .. 04 .. .. .. MAPFAIL
18 .. 08 .. .. .. INVMPsz
18 .. 08 .. .. .. xx
(See Note 2)
18 .. 20 .. .. .. INVERRTERM
18 .. 40 .. .. .. RTESOME
18 .. 80 .. .. .. RTEFAIL
18 .. E1 .. .. .. LENGERR
18 .. E3 .. .. .. WRBRK
18 .. E4 .. .. .. RDATT
18 .. .. 02 .. .. PARTNFAIL
18 .. .. 04 .. .. INVPARTN
18 .. .. 08 .. .. INVPARTNSET
18 .. .. 10 .. .. INVLDc
18 .. .. 20 .. .. UNEXPIN
18 .. .. 40 .. .. IGREQCD
18 .. .. 80 .. .. TSIOERR
18 .. .. .. 01 .. OVERFLOW
18 .. .. .. 04 .. EODS
18 .. .. .. 08 .. EDC
18 .. .. .. 10 .. IGREQID
```

*EIBFN=Bytes 14/15
of trace entry

**EIBRCODE=Bytes 8 - 13
of trace entry; see notes 1 and 2.

Figure 3 (Part 4 of 7). EXEC Interface Command and Response Codes

Command Codes
(Entry & Exit Traces)

Field EIBFN*	Command Function
--------------	------------------

Response Codes
(Exit Trace Only)

Field EIBFN*	Field EIBRCODE** Bytes	Meaning of response code
	8 9 10 11	

Trace Requests

1A 02 TRACE ON/OFF
1A 04 ENTER

Trace Responses

1A .. E0 INVREQ

Dump Control Requests

1C 02 DUMP

Data Interchange Requests

1E 02 ISSUE ADD
1E 04 ISSUE ERASE
1E 06 ISSUE REPLACE
1E 08 ISSUE ABORT
1E 0A ISSUE QUERY
1E 0C ISSUE END
1E 0E ISSUE RECEIVE
1E 10 ISSUE NOTE
1E 12 ISSUE WAIT
1E 14 ISSUE SEND

Data Interchange Responses

1E .. 04 DSSTAT
1E .. 08 FUNCERR
1E .. 0C SELNERR
1E .. 10 UNEXPIN
1E .. E1 LENGERR
1E 11 EODS
1E 2B IGRQCDC
1E 20 EOC

BIF Requests

20 02 DEEDIT

User Exit Management Requests

22 02 ENABLE
22 04 DISABLE
22 06 EXTRACT-EXIT

User Exit Management Responses

22 .. 80 INVEXITREQ
(See Note 3)

**ASKTIME ABSTIME and
FORMATIME Requests**

4A 02 ASKTIME ABSTIME
4A 04 FORMATIME

**ASKTIME ABSTIME and
FORMATIME Responses**

4A 01 ERROR

INQUIRE/SET DATASET Requests

4C 02 INQUIRE DATASET
4C 04 SET DATASET

INQUIRE/SET DATASET Responses

4C 0C DSIDERR
4C 10 INVREQ
4C 11 IOERR
4C 15 ILLOGIC
4C 46 NOTAUTH
4C 53 END

INQUIRE/SET PROGRAM Requests

4E 02 INQUIRE PROGRAM
4E 04 SET PROGRAM

INQUIRE/SET PROGRAM Responses

4E 01 ERROR
4E 10 INVREQ
4E 15 ILLOGIC
4E 1B PGMIDERR
4E 46 NOTAUTH
4E 53 END

*EIBFN=Bytes 14/15
of trace entry

**EIBRCODE=Bytes 8 - 13
of trace entry; see notes 1 and 2.

Figure 3 (Part 5 of 7). EXEC Interface Command and Response Codes

INQUIRE/SET TRANSACTION Requests	INQUIRE/SET TRANSACTION Responses		
50 02 INQUIRE TRANSACTION	50 10	INVREQ	
50 04 SET TRANSACTION	50 15	ILLOGIC	
	50 1C	TRANSIDERR	
	50 46	NOTAUTH	
	50 53	END	
INQUIRE/SET TERMINAL Requests	INQUIRE/SET TERMINAL Responses		
52 02 INQUIRE TERMINAL	52 01	ERROR	
52 04 SET TERMINAL	52 0B	TERMIDERR	
52 06 INQUIRE NETNAME	52 10	INVREQ	
	52 15	ILLOGIC	
	52 53	END	
INQUIRE/SET SYSTEM Requests	INQUIRE/SET SYSTEM Responses		
54 02 INQUIRE SYSTEM	54 10	INVREQ	
54 04 SET SYSTEM			
System Spooling Interface Requests	System Spooling Interface Responses		
56 02 SPOOLOPEN	56 0D	NOTFND	
56 04 SPOOLREAD	56 10	INVREQ	
56 06 SPOOLWRITE	56 13	NOTOPEN	
56 10 SPOOLCLOSE	56 14	ENDFILE	
	56 15	ILLOGIC	
	56 16	LENGERR	
	56 2A	NOSTG	
	56 46	NOTAUTH	
	56 50	NOSPOOL	
	56 55	ALLDCERR	
	56 56	STRELERR	
	56 57	OPENERR	
	56 58	SPOLBUSY	
	56 59	SPOLERR	
	56 5A	NODEIDERR	
INQUIRE/SET CONNECTION Requests	INQUIRE/SET CONNECTION Responses		
58 02 INQUIRE CONNECTION	58 10	INVREQ	
58 04 SET CONNECTION	58 15	ILLOGIC	
	58 35	SYSIDERR	
	58 53	END	
INQUIRE/SET MODENAME Requests	INQUIRE/SET MODENAME Responses		
5A 02 INQUIRE MODENAME	5A 10	INVREQ	
5A 04 SET MODENAME	5A 15	ILLOGIC	
	5A 35	SYSIDERR	
	5A 53	END	

*EIBFM=Bytes 14/15
of trace entry

*EIBRCODE=Bytes 8 - 13
of trace entry; see notes 1 and 2.

Figure 3 (Part 6 of 7). EXEC Interface Command and Response Codes

For the following commands, EIBFN is not set and the response is placed in the RETCODE area supplied by the application program.
 For GDS IDs, see the Format and Protocols Reference Manual: Architecture Logic for LUType 6.2.

Command Codes		Response Codes
GDS Requests		GDS Responses
24 02	ALLOCATE	01 SYSIDERR error
24 04	ASSIGN	01 04 04 No session available and NOQUEUE specified
24 06	EXTRACT PROCESS	
24 08	FREE	01 04 08 MODENAME not known
24 0A	ISSUE ABEND	01 04 0C MODENAME invalid
24 0C	CONNECT PROCESS	01 04 10 Task canceled or timed out during wait for allocation
24 0E	ISSUE CONFIRMATION	
24 10	ISSUE ERROR	
24 12	ISSUE SIGNAL	01 04 14 Mode group is out of service
24 14	RECEIVE	
24 16	SEND	01 08 .. SYSID is out of service
24 18	WAIT	01 08 00 Local queuing was not attempted
24 1A	PREPARE	01 08 04 Local queuing did not succeed
		01 0C .. SYSID is not known in TCT
		01 0C 00 SYSID name is not known
		01 0C 04 SYSID name is not that of an LU6.2 TCTSE
		01 0C 08 SYSID.MODENAME is not known
		02 SYSBUSY error
		03 INVREQ error
		03 00 .. Session is not defined as LU6.2
		03 04 .. Conversation level is wrong
		03 08 xx State error xx = state
		03 0C .. SYNCLEVEL cannot be supported
		03 10 xx LLCOUNT error xx = remaining LL value
		03 14 .. Invalid request
		03 18 .. TPN SEND check failed
		04 NOTALLOC error
		05 LENGERR error

Notes:

1. When either the IOERR or ILLOGIC condition exists during File Control operations, further information is provided in bytes 9-12 of the trace entry (EIBRCODE bytes 1-4) as follows:

For DAM (IOERR): Bytes 9 - 12 = DAM response
 For VSAM (ILLOGIC): Byte 9 = VSAM return code and
 Byte 10 = VSAM error code

Details of the response codes are given in the Data Management Macro Instructions manual or the OS/VS VSAM Programmer's Guide.

2. When the INVMPsz condition exists during BMS operation, byte 11 of the trace entry (EIBRCODE byte 3) contains the terminal code character.
3. Details of the contents of bytes 9-10 of the trace entry are given in the description of the User Exit Interface, in the CICS/OS/VS Customization Guide.

Figure 3 (Part 7 of 7). EXEC Interface Command and Response Codes

Abend Code	Module	Description
AACA	DFHACP	Invalid error code
AAKP	DFHAKP	Write I/O error to MT log
AAMA	DFHAMP	Internal logic error
AAMD	DFHAMP	Bad return code DFHDMP
AAMO	DFHAMP	Bad return code DFHTDR
AAMP	DFHAMP	Bad return code DFHPPUP
AAMT	DFHAMP	Bad return code DFHTMP
AAMZ	DFHAMP	Bad return code DFHZCP
ABMA	DFHBPB	TIOA wrong length
ABMB	DFHBPB, DFHMCP	Cursor position larger than current screen size
	DFHMCX	
ABMD	DFHTPP, DFHTPR	Bad return code from send
ABMG	DFHMCP	BMS service not present
ABMI	DFHMCX, DFHMCP	Not input map
ABML	DFHRLR	Invalid output
ABMM	DFHBPB	Invalid map
ABMO	DFHMCX, DFHMCP	Not output map
ABMP	DFHTPR	Undefined PA/PF key
ABMR	DFHMCPDY	BMS modules not generated
ABMS	DFHTPS	Non zero return code
ABMT	DFHMCP	BMS used for non-3270 terminal
ABMU	DFHMCP, DFHEMS	Address out of range
ABMV	DFHRLR	Invalid route list entry
ABMX	DFHBPB	Invalid set attribute order in text
ABM0	DFHMCP	Map not located
ABM1	DFHRLR	BMS service requested from non-BMS-supported terminal
ABM2	DFHMCP	No user data for BMS request
ABM3	DFHMCP	BMS service requested from non-BMS-supported terminal
ABM4	DFHMCP, DFHTPP	Page error
ABM5	DFHMCP, DFHTPR	Purge request issued with invalid REQID by BMS
ABM6	DFHMCP	CSPS not defined in PCT
ABM7	DFHBPB	Trailer too large
ABM8	DFHBPB	Justify parameter too large
ABM9	DFHBPB	Trailer too large
ABNA	DFHTPS	No route list
ABNB	DFHTPS	Invalid TCITE type for principal facility
ABNC	DFHTPS	Access temp storage queue failed
ABND	DFHTPS	Invalid response from DFHXTP
ABNE	DFHTPS	Invalid response from BMS ROUTE or STORE request
ABNF	DFHTPS	Send, not in send mode
ABNG	DFHTPS	Attach received without data
ABNH	DFHTPS	Ship to remote system failed
ABNI	DFHTPS	LU6.2 profile not found
ABP1	DFHxxBP	I/O error in restart data set
ABP2	DFHxxBP	Backout failure
ABP3	DFHxxBP	CICS internal logic error
ABSA	DFHTBS	CICS internal logic error
ACAA	DFHCAP	Invalid function code on command analysis request
ACAD	DFHCAP	Invalid function code on defaults request
ACA1	DFHCAP	Invalid function code on request to DFHCAP
ACM1	DFHCMF	Monitoring area overwritten
ACP1	DFHCRP	Bad IC response code
ACP2	DFHCRP	Bad IC response code
ACRA	DFHCRP	Principal facility is not terminal
ACRB	DFHCRP	Transaction is not remote
ACRC	DFHCRP	Invalid response from DFHZCX
ACRD	DFHCRP	System entry not found
ACSA	DFHCRS	Principal facility is not link
ACSB	DFHCRS	Invalid reply to schedule request
ACSC	DFHCRS	Invalid request received
ACSD	DFHCRS	Logic error in DFHCRS
ADB1	DFHDBP	Error on dynamic log
ADIR	DFHDIP	Data interchange not generated

Figure 4 (Part 1 of 7). Transaction Abend Codes

Abend Code	Module	Description
ADLA	DFHDLR	DL/I abend
ADLD	DFHDLR	Program isolation deadlock
ADLE	DFHDLI	Unknown PDIR entry
ADLF	DFHDLI	Data base link down
ADLG	DFHDLI	Error in DL/I argument
ADLH	DFHDLR	DL/I restart program failure
ADLK	DFHDLR	Request to create or delete a buffer pool
ADLL	DFHDLI, DFHDLR	Error writing system log
ADLN	DFHEDP	Sysgen parameter error
ADLP	DFHDLI	Unauthorized or unknown PSB
ADLS	DFHDLR	ISB not found
ADLT	DFHDLR	Error writing message
ADLX	DFHDLR	Illegal DL/I buffer action
AEC1	DFHECIP, DFHECSP, DFHEDAP, DFHEMTP, DFHEOTP, DFHESTP	CECI, CEMT, CEDA transaction tried to use unsupported terminal
AEC2	DFHECIP, DFHECSP, DFHEDAP, DFHEMTP, DFHEOTP, DFHESTP	CECI, CEMT, or CEDA tried to use too small screen
AED1	DFHEDFP	Non-EDF supported terminal
AED2	DFHEDFX	EDF has terminated a task
AED3	DFHEDFX	EDF has terminated a task
AED4	DFHEDFP	Logic error in DFHEDFP
AED5	DFHEDFD	Internal logic error
AED6	DFHEDFU	Internal logic error

AEIA - AEY3 are exceptional conditions for which no HANDLE CONDITION is active.

AEIA	DFHEIP	ERROR
AEID	DFHEIP	EOF
AEIE	DFHEIP	EODS
AEIG	DFHEIP	INBFMH
AEIH	DFHEIP	ENDINPT
AEII	DFHEIP	NONVAL
AEIJ	DFHEIP	NOSTART
AEIK	DFHEIP	TERMIDERR
AEIL	DFHEIP	DSIDERR
AEIM	DFHEIP	NOTFND
AEIN	DFHEIP	DUPREC
AEIO	DFHEIP	DUPKEY
AEIP	DFHEIP	INVREQ
AEIQ	DFHEIP	IOERR
AEIR	DFHEIP	NOSPACE
AEIS	DFHEIP	NOTOPEN
AEIT	DFHEIP	ENDFILE
AEIU	DFHEIP	ILLOGIC
AEIV	DFHEIP	LENGERR
AEIW	DFHEIP	QZERO
AEIZ	DFHEIP	ITEMERR
AEIO	DFHEIP	PGMIDERR
AEI1	DFHEIP	TRANSIDERR
AEI2	DFHEIP	ENDDATA
AEI3	DFHEIP	INVTREQ
AEI8	DFHEIP	TSIOERR
AEI9	DFHEIP	MAPFAIL
AEXL	DFHEIP	DISABLED
AEYA	DFHEIP	INVERRTERM
AEYB	DFHEIP	INVMPSZ
AEYC	DFHEIP	IGREQID
AEYE	DFHEIP	INVLDC
AEYG	DFHEIP	JIDERR
AEYH	DFHEIP	QIDERR
AEYJ	DFHEIP	DSSTAT
AEYK	DFHEIP	SELNERR
AEYL	DFHEIP	FUNCERR
AEYM	DFHEIP	UNEXPIN

Figure 4 (Part 2 of 7). Transaction Abend Codes

Abend Code	Module	Description
AEYN	DFHEIP	NOPASSBKRD
AEY0	DFHEIP	NOPASSBKWR
AEYQ	DFHEIP	SYSDERR
AEYR	DFHEIP	ISINVREQ
AEYT	DFHEIP	ENVDEFERR
AEYU	DFHEIP	IGREQCD
AEYV	DFHEIP	SESSERR
AEYY	DFHEIP	NOTALLOC
AEYZ	DFHEIP	CBIDERR
AEY0	DFHEIP	INVEEXITREQ
AEY1	DFHEIP	INVPARTINSET
AEY2	DFHEIP	INVPARTH
AEY3	DFHEIP	PARTHFAIL
AEY6	DFHEIP	Logic error in DFHEIP
AEY7	DFHEIP	Resource security check failed
AEY8	DFHEIP	Dynamic storage request too small
AEY9	DFHEIP	Illegal EXEC CICS or non-CICS command
AFC A	DFHFCCP	File disabled
AFCB	DFHFCCRP	File control restart task failure
AFCD	DFHFCS	Attempt to access disabled file
AFC E	DFHFCS	I/O error in restart data set
AFC F	DFHFCCP	File control recovery failure
AFCG	DFHFCCBP	File control logic error
AFC H	DFHFCCBP	I/O error in restart data set
AFC I	DFHFCL, DFHFCCM, DFHFCCN	Open/close logic error
AFC L	DFHFCCP	Automatic journaling or automatic logging error
AFC O	DFHFCCP	Obsolete function request
AFC S	DFHFCCP	VSAM file control subtask error
AFC T	DFHFCCP	VSAM/BSAM subtask abended
AIC A	DFHKCP	Runaway task
AIC B	DFHICP	RETRIEVE WAIT reissued
AIS A	DFHMIR	Illegal mirror attach
AIS B	DFHMIR	Errors in data for mirror
AIS C	DFHMIR	No TIDA passed to DFHMIR
AIS D	DFHMIR	DFHMIR received non zero return code
AIS E	DFHISP, DFHMIR	No DL/I support for DFHISP
AIS G	DFHMIR	DFHMIR unable to send a reply
AIS H	DFHCRNP	Illegal use of CSNC
AIS I	DFHISP	Invalid function shipping request
AIS J	DFHCRNP	Unable to attach CSIR
AIS K	DFHISP	Mirror transaction abended
AIS L	DFHLUP	LU services manager illegally started
AIS M	DFHFCCP, DFHTDP, DFHTSP, DFHDLI	Macro-level request for remote system
AIS S	DFHZERH	Security violation at start of LU6.2 conversation
AJCA	DFHJCIDE	I/O error in journal data set
AJCB	DFHJCEDV	Failure to switch volumes
AJCC	DFHJC BSP	Transaction CSJC entered
AJCN	DFHJCP	Failure to write log record
AJCR	DFHJCP	CRUCIAL journal unavailable
AKCA	DFHKCP	DFHKCP not built correctly
AKCB	DFHKCRP	Task control restart failure
AKCD	DFHKCP	Invalid code in dispatch control indicator field
AKCE	DFHKCQ	Write to system log failure
AKCF	DFHKCQ	Write to restart data set failure
AKCL	Any	More than one lock
AKCP	DFHKCP	Stall condition
AKCR	DFHKCP	Invalid request code
AKCS	DFHKCP	Deadlock timeout has occurred
AKCT	DFHKCP	Terminal read timeout has occurred
AKCU	DFHKCP	Internal logic error
ALFA	DFHLFO	More than 48 LIFO overflow segments created
ALFB	DFHLFO	Length not multiple of 8
ALFC	DFHLFO	Error freeing LIFO overflow segment
ALFE	DFHLFO	LIFO store overwritten in TCA

Figure 4 (Part 3 of 7). Transaction Abend Codes

Abend Code	Module	Description
AMSA	DFHMSP	SBA not followed by address
AMSB	DFHMSP	Error in DFHMSP
AMTA	DFHMTPA	Error in DFHMTPA
AMTB	DFHMTPB	Error in DFHMTPB
AMTD	DFHMTPD	Error in DFHMTPD
AMTE	DFHMTP E	Error in DFHMTP E
AMTF	DFHMTPF	Error in DFHMTPF
AMTG	DFHMTPG	Error in DFHMTPG
AMTH	DFHMTPF	DFHMTPF terminated task
AMTJ	DFHMTPC	DFHMTPC terminated task
AMTM	DFHM TWM	Msg save area too small
AMTO	DFHM TWM	Error in DFHM TWM
AMT1	DFHMTPC	DFHMTPC terminated task
AMT2	DFHMTPF	DFHMTPF terminated task
ADCA	DFHOC P	Error opening VSAM ESDS
APCA	DFHPCR P	Program control restart failure
APCB	DFHPCR P	DFHPCR not built correctly
APCC	DFHPCR P	COBOL support not generated
APCD	DFHPCR Q	Write to system log failure
APCE	DFHPCR Q	Write to restart data set failure
APCF	DFHPCR P	PL/I program at "F" level
APCI	DFHPCR P	Not proper support for PL/I
APCL	DFHSAP	PL/I shared library not present
APCM	DFHPC	Illegal TYPE parameter
APCN	DFHPCR P	Control counter negative
APCO	DFHPCR P	Program exceeds 64K
APCP	DFHPCR P	I/O error on load
APCR	DFHPCR P	Invalid request
APCS	DFHPCR P	Not proper support for COBOL
APCT	DFHPCR P	Module not found, disabled, or zero length
APCX	DFHPCR P	Macro request in 31-bit mode
APC2	DFHPCR P	Not proper support for COBOL
APC3	DFHPCR P	Not proper support for COBOL
APC4	DFHPCR P	Not proper support for COBOL
APLx		PL/I abend code (see <u>PL/I Optimizing Compiler: Programmer's Guide</u>)
APP1	DFHP3270	Abnormal GEI response code
APP2	DFHP3270	Data length too small
APP3	DFHP3270	Illegal request to nonprinter
APR1	DFHPRK	Abnormal PUT response code
APSJ	DFHPSIP	Spooler illegally invoked
APST	DFHEPS	SPDOL command without NOHANDLE
APSU	DFHPSPST	Invalid JES return code to spooler
APSV	DFHPSPST	Invalid MVS macro return to spooler
APSW	DFHPSPST	Abend in spooler subtask
APSX	DFHPSPST	Invalid parameter
APSY	DFHPSPST	Error return, MVS macro
APSZ	DFHPSPST	Error return, JES
APUA	DFHPUP	Internal error
APUB	DFHPUP	Internal error
APUC	DFHPUP	Internal error
APUD	DFHPUP	Unable to load RDD table
APUE	DFHPUP	Unable to load RDD table
APUF	DFHPUP	RDD table invalid or missing
APUG	DFHPUP	Internal error
APUH	DFHPUP	Internal error
APUI	DFHPUP	Internal error
APUJ	DFHPUP	Internal error
APUK	DFHPUP	Unable to obtain storage
APUL	DFHPUP	Unrecognized resource type code (FLATTEN)
APUM	DFHPUP	Unrecognized resource type code (TRANCASE)
APUN	DFHPUP	Unrecognized resource type code (COMPARE)
APUO	DFHPUP	Unrecognized resource type code (BACKTRANS)
APUP	DFHPUP	Error processing language definition table
APUQ	DFHPUP	Error processing language definition table
APUR	DFHPUP	Data type conflict
APUS	DFHPUP	Invalid length for keyword
APUT	DFHPUP	Invalid keyword existence bit
APUZ	DFHPUP	Invalid definition type in CSD record

Figure 4 (Part 4 of 7). Transaction Abend Codes

Abend Code	Module	Description
ARCA	DFHRCRP	Recovery control restart task failure
ARCB	DFHRCXEX	Transaction backout exit program cannot be enabled
ARLI	DFHZRLG	CSLG not initiated
ARTA	DFHRTI	Principal facility not terminal
ARTB	DFHRTI	No input TIOA, or data length zero
ARTC	DFHRTI	Link not usable
ARTD	DFHRTI	Logic error in DFHRTI
ARTE	DFHRTI	Error in I/O to or from temp. storage
ARTF	DFHRTI	Illegal attempt to use CRTE
ARTG	DFHRTI	Profile not found
ASCF	DFHSCP	Invalid FREEMAIN addr
ASCR	DFHSCP	Illegal storage control request
ASPD	DFHSPP	Error resetting dynamic log
ASPE	DFHSPP	Rollback without dynamic transaction backout
ASPL	DFHSPP	Error writing sync point
ASP1	DFHSPP	Error during sync point
ASP2	DFHSPP	Sync point attempted with invalid ISC links
ASP3	DFHSPP	No sync point in remote system
ASP5	DFHSPP	Principal facility not owned by task
ASP6	DFHSPP	Flush failed
ASP7	DFHSPP	Resource manager rejected request
ASP8	DFHSPP	Sync point rollback not supported
ASP9	DFHSPP	Free TCTTE failed
ASRA	DFHSRP	Program interrupt
ASRB	DFHSRP	Operating system abend
ASRC	DFHSRP	Interrupt in PL/I program
ATCA	DFHZARQ	DFHTC issued during quiesce
ATCB	DFHZARQ	Two consecutive writes or reads without intervening wait
ATCC	DFHZARQ	More than one write or read
ATCD	DFHZDSP, DFHZERH	No support for VTAM or ZCP function
ATCE	DFHZARQ	No TIOA for write
ATCF	DFHZCRQ	Illegal DFHTC CTYPE macro
ATCG	DFHZARQ	Illegal read or write
ATCH	DFHZLOC	Transaction purged
ATCI	DFHZLOC	Transaction purged
ATCJ	DFHZATD	Illegal autoinstall invocation
ATCK	DFHZARQ	Illegal write
ATCL	DFHZARQ	Error during auto journaling or auto logging
ATCM	DFHZDME, DFHZLOC	Error writing sync point
ATCN	DFHZSUP	Error during auto journaling or auto logging
ATCO	DFHZARQ	Unsupported function
ATCP	DFHZRLG	Error writing to system log
ATCQ	DFHZRAQ	Temporary storage error
ATCR	DFHZRAR	Temporary storage error
ATCT	DFHZSUP	Surrogate TCTTE creation failed
ATCU	DFHZARQ	Send in receive mode
ATCV	DFHZARQ, DFHETL	Application request to remote system failed
ATCW	DFHZSUP	No DFHPCT TYPE=PRODFILE
ATCY	DFHZARQ	Error processing inbound FMH
ATC1	DFHTCRP	Terminal control restart task failure
ATDD	DFHTDP	Transient data destination is disabled
ATDI	DFHTDP	Illegal transient data destination type
ATDL	DFHTDP	Error writing to system log
ATDT	DFHTDP	Invalid transient data request
ATDV	DFHTDP	Additional information for ATDD
ATDY	DFHTDRP	Transient data initialization failed
ATDZ	DFHTDRP	CICS function failed
ATNA	DFHZNAC	NACP identifier entered, but no error
ATND	DFHZARQ	Task termination postponed
ATNI	DFHZNAC	Task terminated by node error program
ATRA	DFHTRP	Task termination requested by DFHTRAP
ATSA	DFHTSRP	Temporary storage restart task failure
ATSB	DFHTSP	Temporary storage restart task failure
ATSL	DFHTSP	Error writing to sys log
ATSP	DFHTSP	DATAID currently in use, or purge not synchronized
AT55	DFHTSP	Error processing VSAM request
AVAA	DFHVP	CVST illegally entered

Figure 4 (Part 5 of 7). Transaction Abend Codes

Abend Code	Module	Description
AXFA	DFHXFP	File control request keylength zero
AXFB	DFHXFP	Illegal FMH type
AXFC	DFHXFP	Illegal request
AXFD	DFHXFP	Illegal req for remote sys
AXFE	DFHXFP	Transformation does not exist
AXFF	DFHXFP	Illegal queue organization
AXFG	DFHXFP	Illegal arg no. in FMH data
AXFH	DFHXFP	Illegal arg in FMH data
AXFI	DFHXFP	Zero data length for TD req
AXFJ	DFHXFP	Non-SNA error code
AXFK	DFHXFP	DL/I request not supported
AXFL	DFHXFP	Null chain of data received
AXFM	DFHXFP	SYSDERR condition raised
AXFO	DFHXFP	Check on DS and DBA parameters failed
AXFP	DFHXFP	No second FMH received
AXFq	DFHXFP	FMH too short or too long
AXFR	DFHXFP	Data too long
AXFS	DFHXFP	Path call to retrieve large segments, or excessive expansion of segments
AXFT	DFHXFP	I/O area too large
AXFU	DFHXFP	Invalid two-level cursor
AXFV	DFHXFP	Unsupported local data bases
AXFW	DFHXFP	No length field in read for update
AXFX	DFHXFP	Remote system does not support full syncpoint protocols
AXSA	DFHXSP	Security control task failed
AXTA	DFHXTP	Data length calculation failed
AXTB	DFHXTP	Get TIOA failed
AXTC	DFHXTP	Data transform failed
AXTD	DFHXTP	No TIOA received
AXTE	DFHXTP	Data not long enough
AXTF	DFHXTP	No relay process FMH received
AXTG	DFHXTP	Data transform failed
AXTH	DFHXTP	Term1 ID not found
AZCA	DFHETL, DFHZARM	Conversation state conflict
AZCB	DFHZARM	Error data not received or illegal
AZCC	DFHZARM	Unsupported function management data
AZCD	DFHETL, DFHZARM	Invalid data length received
AZCE	DFHETL, DFHZARM	Length received too large
AZCF	DFHZARM	Invalid request to DFHZARL
AZCG	DFHZARM	Invalid TCTTE
AZCH	DFHETL, DFHZARM	Remote system violated LU6.2 architecture
AZCI	DFHZARM, DFHZARQ	Invalid sync level
AZCJ	DFHZARM	Structured field not supported
AZCP	DFHZSUP	Allocation request not satisfied
AZ11	DFHZARQ	IRC transmission protocol violated
AZ12	DFHZARQ	IRC transmission failed
AZ13	DFHZARQ	Conversation failed
AZ14	DFHZARQ	IRC link to connected transaction down
AZ15	DFHZARQ	IRC input violated protocol
AZ16	DFHZARQ	IRC connected transaction abended
AZ1A	DFHZTSP	Principal facility not terminal
AZ1B	DFHZTSP	Error response from DFHXTP
AZ1C	DFHZTSP	Error response from DFHXTP
AZ1D	DFHZTSP	Error response from DFHXTP
AZ1E	DFHZTSP	Error response from DFHXTP
AZ1G	DFHZTSP	Principal facility not intersystem TCTTE
AZ1H	DFHZTSP	Error response from remote request
AZ1I	DFHZTSP	Term1 not defined
AZ1J	DFHZTSP	VTAM request on non-VTAM terminal
AZ1K	DFHZTSP	Non-VTAM request on VTAM terminal
AZ1L	DFHZTSP	Request to invalid terminal
AZ1M	DFHZTSP	Data had no FMH
AZ1N	DFHZTSP	Conversation terminated
AZ1O	DFHZTSP	TCTTE ownership chain error
AZ1P	DFHZTSP	BMS STORE request failed
AZ1Q	DFHZTSP	Invalid BMS data received

Figure 4 (Part 6 of 7). Transaction Abend Codes

Abend Code	Module	Description
AZTR	DFHZTSP	BMS PAGEOUT request failed
AZTS	DFHZTSP	Data ship failed
AZTU	DFHZTSP	Link TCTTE not owned after sync point
AZTV	DFHZTSP	Invalid FMH received
AZTW	DFHZTSP	Attach request to task already running
AZTX	DFHZTSP	Attach request to task already in routing session
DHxx	DFHEDP	EXEC DLI error or invalid status code, xx = status code
DSNC	-	DB2 abend code
0100	DFHECP, DFHEPP, DFHEAP	Translator error opening listing data set
0101	DFHECP, DFHEPP, DFHEAP	Translator program check

Note:

For a complete description of the abend codes, see the CICS/05/VS Messages and Codes manual, SC33-0226.

Figure 4 (Part 7 of 7). Transaction Abend Codes

Storage Class		Subpool ID
Code	Names	
81	DCA	01
82	QEA	01
83	ISC TIOA	02
84	LIOA	02
85	TIOA	02
86	ICE	01
87	AID	01
88	Program	08
89	RSA	04
8A	TCA	04
8B	LLA	04
8C	User	04
8D	TRANSDATA	04
8E	TEMPSTRG	04
8F	File	04

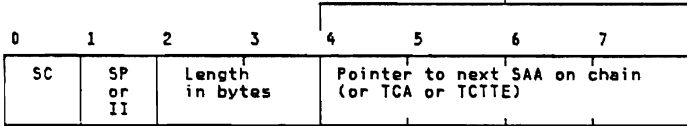
Storage Class		Subpool ID
Code	Names	
90	RPL	06
93	Shared	05
94	Control	01
95	EXTPGM	08
96	TACLE	05
97	TSMAIN	05
98	TSTABLE	05
99	Map	05
9A	Permanent	-
9B	JCA	04
9C	Reserved	-
9D	DWE	04
9E	MAPCOPY	04
9F	DL/I	05

Subpool Type		Storage Allocation Algorithm	SAA		FARE Chained from
ID	Name		Length (in bytes)	Chained from	
01	Control	First fit	4	CSA	PAM
02	TP	First fit	8	TCTTE*	PAM
04	Task	First fit	8	TCA*	TCA
05	Shared	First fit	4	—	PAM
06	RPL	First fit	4	TCTTE	PAM
08	Program	Full pages	8	PPT	—

* Overrun detection (duplicate SAA)

Figure 5. Storage Management Information

For task and TP subpools only



Includes the SAA, but not the duplicate SAA
 Subpool code if a TCA, INITIMG value if area initialized
 Storage class code

Note: For MVS/XA, storage areas above the 16 megabyte line have no storage accounting areas.

Figure 6. Storage Accounting Area

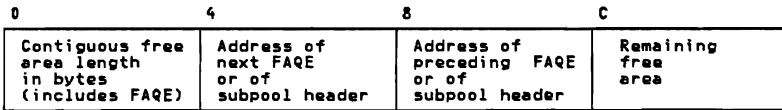


Figure 7. Free Area Queue Element (FAQE)

Offset	Length in bytes	Description	Name
0	72	Reg save area	CSA0SRSA
48	1	SOS cond (X'01')	CSASSI1
49	1	Max task indic (X'02')	CSASSI2
4A	2	Max task value (packed)	CSAKCMT
4C	4	Currently dispatched task addr	CSACDTA
50	4	Time of day (packed)	CSATDDP
54	4	ICE chain addr	CSAICEBA
64	4	Partition exit value (ICV)	CSASBTI
68	4	Terminal timer ECB	CSATTECB
70	4	Strg cushion size	CSASCNB
74	4	Partition lower boundary addr	CSAPLBA
78	4	Partition upper boundary addr	CSAPUBA
80	4	Task dispatcher TCA addr	CSATDTCA
8C	4	SIT addr	CSASITBA
98	4	PAM addr	CSAPAMA
A8	4	Suspended DCA forward chain	CSASUSFA
AC	4	Suspended DCA backward chain	CSASUSBA
B0	4	LD priority active DCA	CSAACTFA
B4	4	HI priority active DCA	CSAACTBA
B8	4	Terminal control TCA addr	CSATCTCA
CD	2	Max active task value	CSAMAXT
C2	2	Max active tasks (highest value reached)	CSAMAXTC
C8	4	CSA Opt features list addr	CSAOPFLA
E0	4	Task control entry addr	CSAKCNAC
E4	4	Storage control entry addr	CSASCNAC
E8	4	Program control entry addr	CSAPCNAC
EC	4	Interval control entry addr	CSAICNAC
F0	4	Dump control entry addr	CSADCNAC
F4	4	Terminal control entry addr	CSATCNAC
F8	4	File control entry addr	CSAFCNAC
FC	4	Transient data entry addr	CSATDNAC
100	4	Temporary storage entry addr	CSATSNAC
10C	4	Prog int PSW save area addr	CSAPIPSW
11C	4	TRT header addr	CSARTTBA
128	4	TCT prefix addr	CSATCTBA
12C	4	FCT addr	CSAFCTBA
130	4	DCT addr	CSADCTBA
134	4	TS bit map addr	CSATSATA
138	4	TS unit table addr	CSATSMTA
13C	4	Queue table addr	CSAQCAA
158	4	Journal open-close list addr	CSAJCDCL
1B0	4	Runaway task interval	CSAICRIC
1C0	4	No of times at max tasks	CSAKCMTC
1C8	2	Current task accumulator (packed)	CSAKCCT
1CA	2	Max no. of tasks (highest value reached)	CSAKCMTA
1D7	2	No. of times storage cushion was released	CSASCCR
200		CSA work area (user-defined)	CSAWABA

Note:

For a complete description of the CSA, see the CICS/OS/VS Data Areas manual, LY33-6035.

Figure 8. Common System Area (CSA) Fields

Offset	Length in bytes	Description	Name
8	4	DL/I interface ctrl area addr	CSADLI
10	4	BMS control program addr	CSABMS
20	4	System recovery entry addr	CSASRNAC
24	4	SRT addr	CSASRTBA
34	4	JCT addr	CSAJCTBA
3C	4	TST addr	CSATSTBA
78	4	DFHFCX VSAM UPAD exit address	CSAFCXAD
84	4	LIFO storage overflow entry addr	CSALONAC
9C	4	EXEC transformer entry addr	CSAXFPNA
AD	4	EXEC intersystem entry addr	CSAISPNA
A8	4	EXEC nucleus entry address	CSAEINAC
10C	4	DFHZCA entry address	CSATCNCA
110	4	DFHZCB entry address	CSATCNCB
114	4	DFHZCC entry address	CSATCNCC
118	4	DFHZCP entry address	CSATCNCP
11C	4	DFHZCW entry address	CSATCNCW
120	4	DFHZCX entry address	CSATCNCX
124	4	DFHZCY entry address	CSATCNCY
128	4	DFHZCZ entry address	CSATCN CZ
16C	4	External security entry addr	CSAXSNAC
170	4	DFHALP entry address	CSAALPNA
180	4	Volume manager entry address	CSAVCNAC
18C	4	Max task in class table addr	CSAMXTAD
1C8	4	User exit table address	CSAUETBA
1CC	4	MCT address	CSAMCTBA
1D4	4	Program check abend trace table address	CSASTRTA
1DC	4	Series definition table addr	CSASDTA
210	1	External security flag	CSAXSFLG

Note:

For a complete description of the CSA optional features list, see the CICS/OS/VS Data Areas manual, LY33-6035.

Figure 9. CSA Optional Features List

Offset	Length in bytes	Description	Name
0	4	Strg accounting	
4	4	Quick-cell chain field	DCACHN
4	4	Suspended task timeout value	DCASUTO
8	4	KCP's task enqueue chain	DCATCQC
C	4	Next higher priority DCA (active chain) or forward ptr (suspend chain)	DKAKCFA
10	4	Next lower priority DCA (active chain) or backward ptr (suspend chain)	DKAKCBA
14	4	TCA addr (if TCA exists)	DCATCAA
18	1	Status of task	DCATCDC
1A	1	Dispatching priority	DCATCDP
1C	1	Purge indicator	DCAPURGI
1D	3	Event ctrl addr	DCATCEA
34	1	DCA flag field	DCAFLGI
35	1	DCA task class field	DCATSKC
36	1	TCA existence flag byte (80 bit on = task has TCA)	DCATSKST

Note:

For a complete description of the DCA, see the CICS/OS/VS Data Areas manual, LY33-6035.

Figure 10. Dispatch Control Area (DCA) Fields

Common System Area (CSA)

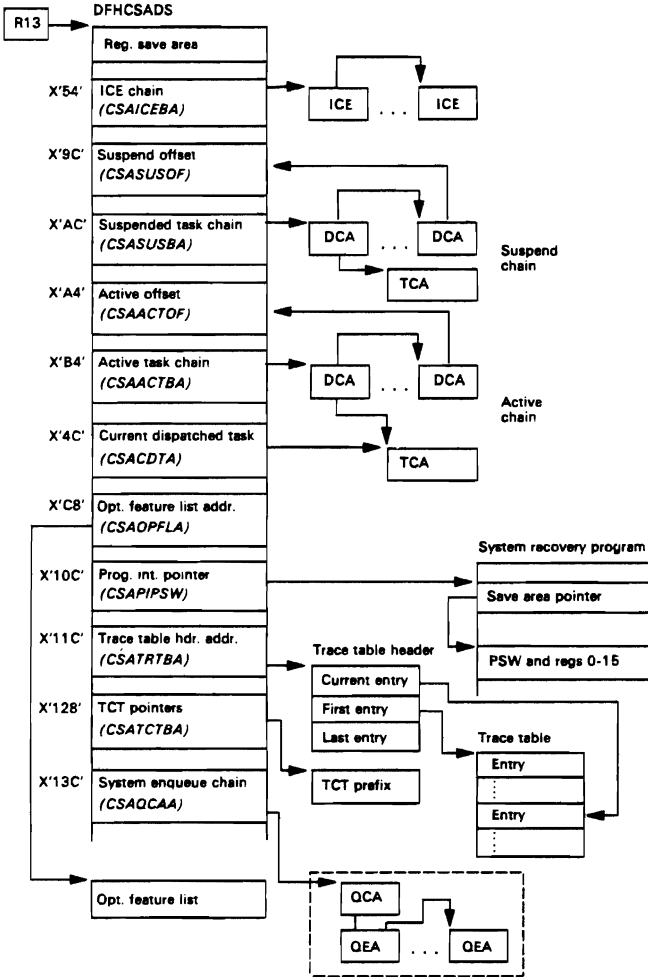


Figure 11. CSA and Associated Areas

Offset	Length	Description	Name
	in bytes		
0	4	Strg accounting	TCASAA
4	4	Trans strg chain	TCASCCA
8	4	First FAQE on chain	TCASCFFC
C	4	Last FAQE on chain	TCASCFBC
10	1	Trans dump req byte	TCAKNDD
11	3	Task ID	TCAKCTTA
14	4	PCT entry addr	TCATPCP
18	4	DCA addr	TCADCAA
1C	4	QEA addr	TCAKCQC
20	4	Resume task's TCA addr	TCARSTSK
24	4	DWE addr	TCADWLBA
28	4	ICE addr	TCAICEAD
30	4	ABEND exit	TCAPCXPA
34	4	Current PPT entry addr	TCAPCTA
38	4	RSA addr	TCAPCSA
3C	4	HLL save area addr	TCAPCHS
40	4	COBOL area (TGT) address	TCAPCCA
40	4	acquired PL/I storage addr	TCAPCPA
40	4	acquired dynamic stg area addr	TCAPCDSA
44	4	Loaded prog chain addr	TCAPCLC
48	4	Transient data area address	TCAIDAA
4C	4	BMS - DSPWA addr	TCAOSPWA
50	4	Temp strg unit table addr	TCATSBA
54	4	DL/I saved control area addr	TCADLISA
55	3	ISB addr	TCADLIPA
58	2	Recovery/restart	TCAZRAS
5C	2	Sync point ctrl area	TCAZSPSR
60	4	Loggable DWE chain addr	TCADWASV
64	4	Dynamic log addr	TCADBDLA
68	1	Dynamic backout indicators	TCADBI
6A	2	Durable dynamic log addr	TCADBQDU
6C	4	Application abend code	TCADBABC
72	1	Screen size selection	TCASCS
78	4	HTA addr	TCAHTAA
7C	4	EXEC interface struct addr	TCAEISA
80	4	Max stack value	TCALCMAX
84	4	Curr max length of stack	TCALCLNT
88	4	Beginning of LIFO stack	TCALTBOS
8C	4	End of LIFO stack	TCALTEOS
94	4	Addr init. LIFO stack entry	TCALBGST
98	4	Max stack length	TCALCMLN
AD	4	TCTTE user chain field (ISC)	TCATCUCN
A4	4	XFSTG for transf. 1 & 4 (ISC)	TCAXFS14
A8	4	XFSTG for transf. 2 & 3 (ISC)	TCAXFS23
B4	4	DL/I user interface block	TCADLUIB
B5	3	Addr of UIB	TCADLIBA
BC	4	Monitor control area addr	TCAMON
CD	4	Task original abend code	TCAPCABC
100	4	Addr LU6.2 extension	TCAALUCX
150	27	Unit of work ID	TCUAOWDS

Note:

For a complete description of the TCA, see the CICS/OS/VS Data Areas manual, LY33-6035.

Figure 12. Task Control Area (TCA) Fields (System Section)

Offset	Length in bytes	Description	Name
0	4	TCA system area addr	TCASYAA
4	4	Locked resource ECB addr	TCALCKAD
8	4	Resource addr	TCAFCAAA
C	4	Addr. of opt. feat. list	TCACSOAD
10	4	Addr. of LIFO stack entry	TCALCDSA
14	4	TCTTE addr, DCI=terminal	TCATCTFA
14	4	Queue name addr or	TCATCQA
14	4	Task control ECB address	TCATCEA
18	1	Task status	TCATCDC
19	1	Last task control request	TCATCTR
1A	1	Dispatching priority	TCATCDP
1B	1	Prog ctrl dump indic	TCAPCDMP
1C	1	Task purge indic	TCAPURGI
1D	2	Service module ctrl ID	TCASVMID
X'0001'		Journal control	
X'0002'		BMS	
X'0004'		DL/I interface	
X'0008'		Terminal control	
X'0010'		Data interchange	
X'0020'		COBOL EXEC	
X'0040'		Deferred DL/I abend	
X'0080'		System task	
X'0100'		Runaway task, don't flush	
X'0200'		System task, don't flush	
X'0400'		Storage control	
X'0800'		Trace control	
X'1000'		Program control	
X'2000'		Dump control	
X'3000'		File control	
X'4000'		Transient data	
X'5000'		Temporary storage	
X'6000'		Interval control	
X'8000'		Task control	
1F	1	Sys ABEND req indic	TCASYABI
20	56	KCP ctrl reg stg (14-11)	TCATCRS
20	4	reg 14 = next instr addr	TCATCRS
58	4	Return reg save area	TCARTNSV
80	32	Common ctrl communications area	TCACCCA
A0	56	Common ctrl reg strg (14-11)	TCACCRS
D8	2	Save area for bytes overlaid by DFHDC	TCACCSV1
DC	2	Save area for bytes overlaid by dump code	TCACCSV2

Storage Control

5C	4	Requested strg addr	TCASCSA
5E	2	Requested strg length	TCASCNB
60	4	Strg ctl reg strg (14-5)	TCASCRS

Task Control

90	4	Abend code for cancel	TCAKCABC
94	4	Remote sys ID	TCAKCSYS
98	4	Trans ID for KC req	TCAKCTI
9C	4	TCA addr for KC req	TCAKCTA

Terminal Control

80	1	Application req response code	TCATPAPR
82	1	External operator req byte 1	TCATPOS1
83	1	External operator req byte 2	TCATPOS2
84	1	External control req byte 1	TCATPCS1
85	1	External control req byte 2	TCATPCS2
86	1	Operation ctrl byte 1	TCATPOC1
87	1	Operation ctrl byte 2	TCATPOC2

Figure 13 (Part 1 of 2). Task Control Area (TCA) Fields (User Section)

Offset	Length in bytes	Description	Name
Terminal Control (continued)			
8C	8	Prog name field	TCATPPNM
8C	4	Terminid	TCATPTA
A0	56	Reg save area	TCATPRS
Program Control			
80	4	Loaded prog beginning address	TCAPCLA
84	8	Prog ID	TCAPCPI
8C	4	Loaded prog entry addr	TCAPCEA
8C	4	Abnormal termination code	TCAPCAC
BMS			
80	1	Return code byte 1	TCAMSRC1
81	1	Return code byte 2	TCAMSRC2
82	1	Return code byte 3	TCAMSRC3
80	1	Type request byte 1	TCAMSTR1
.	.	.	.
87	1	Type request byte 8	TCAMSTR8
90	8	Map name	TCABMSMN
98	8	Map set name	TCAMSMN
File Control			
80	4	File area addr	TCAFCAA
84	8	Data set ID	TCAFCDI
DL/I			
80	4	DL/I workarea addr	TCADLIO
84	4	DL/I PCB addr	TCADLPCB
88	8	DL/I PSB name	TCADLP5B
90	4	DL/I SSA list addr	TCADLSSA
94	4	DL/I parm list addr	TCADLPAF
9C	4	DL/I function	TCADLFUN
Transient Data			
80	4	Transient data area addr	TCATDAA
84	4	Destination ID	TCATDDI
Temporary Storage			
80	4	Temp strg data addr	TCATSDA
84	8	Temp strg data ID	TCATSDI
Trace Control			
E0	4	Trace entry data area 1	TCATRF1
E4	4	Trace entry data area 2	TCATRF2
E8	1	Type of trace request	TCATRTR
E9	1	Trace entry ID	TCATRID
Miscellaneous			
F0	4	Jour ctrl area addr	TCAJCAAD
F4	4	ABEND code	TCATAC
F8	4	HLL sys prog entry addr	TCACSPE
FC	4	Trans ID of next trans	TCANXTID

Note:

For a complete description of the TCA, see the CICS/OS/VS Data Areas manual, LY33-6035.

Figure 13 (Part 2 of 2). Task Control Area (TCA) Fields (User Section)

Task Control Area (TCA)

System Area

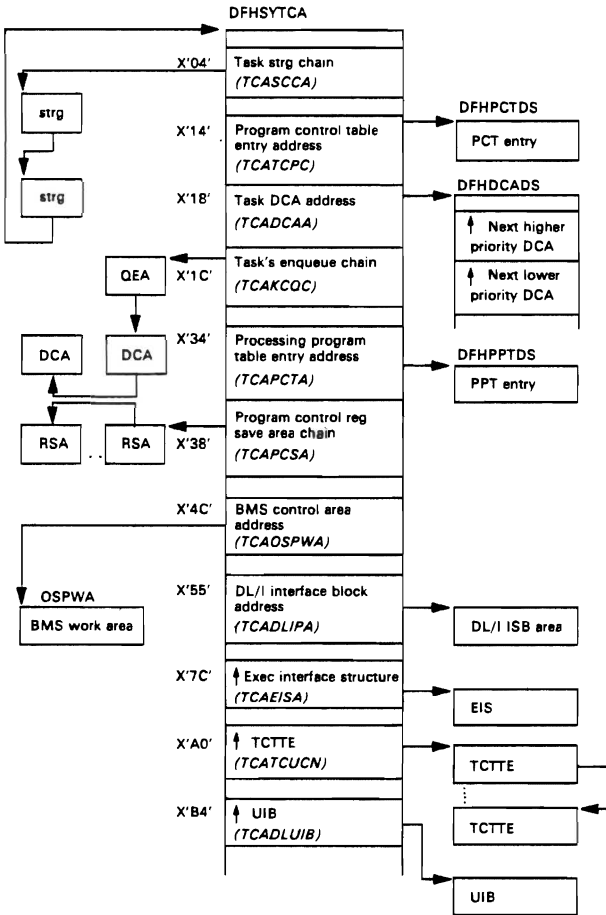


Figure 14. TCA (System Section) and Associated Areas

Task Control Area (TCA)

User Area

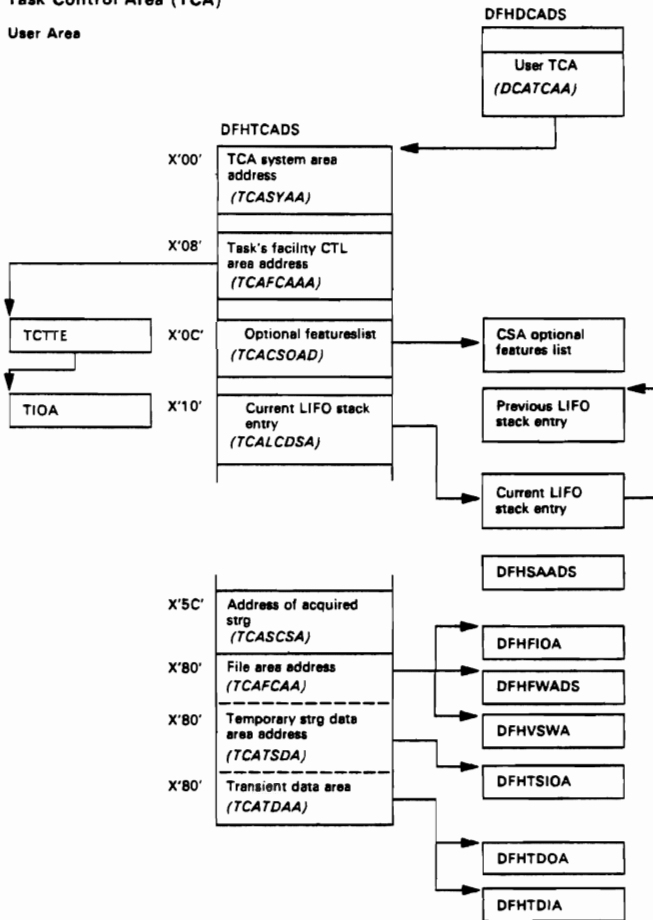


Figure 15. TCA (User Section) and Associated Areas

Offset	Length in bytes	Description	Name
8	4	Prog ctrl exit	RSAPCXI
C	4	PPT addr	RSAPCTA
10	4	Prog reg save area addr	RSAPCSA
14	4	HLL save area addr	RSAPCHS
20	56	Reg strg area (14-11)	PCSAR

Note:

For a complete description of the RSA, see the CICS/OS/VS Data Areas manual, LY33-6035.

Figure 16. Register Storage Area (RSA) Fields

Offset	Length in bytes	Description	Name
4	4	Chain back addr	LFDSOFDR
8	4	Chain forward addr or byte 8 =X'FF'	LFDSOFCC
C	60	Reg save area (14-12)	LFDSOFLR
4C	4	Next available byte	LFDSOFNB
50	1	Module ID	LFDSMOD1
51	1	Submodule ID	LFDSMOD2
52	2	Module name	LFDSMODN
54	4	Module PLIST addr	LFDSAPLT

Note:

For a complete description of the LIFO Segment Entry, see the CICS/OS/VS Data Areas manual, LY33-6035.

Figure 17. LIFO Segment Entry

Terminal Control Table (TCT)

from CSATCTBA

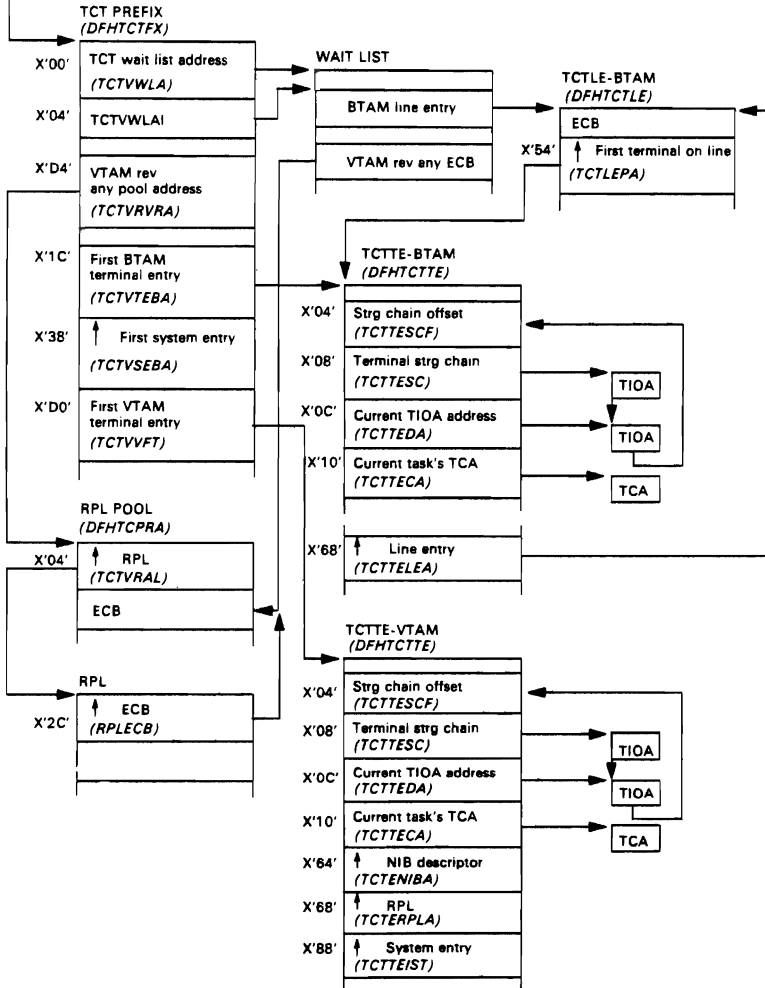


Figure 18. Terminal Control Table (TCT) Fields

Offset	Length in bytes	Description	Name
4	4	Chain addr of next TIOA for task	TIOASCA
8	2	Term1 data length	TIOATDL
A	1	Write ctrl indic	TIOAWCI
B	1	WCC or CCC character	TIOACLRC
B	1	Line addr ctrl	TIOALAC

Note:
For a complete description of the TIOA, see the CICS/OS/VS Data Areas manual, LY33-6035.

Figure 19. Terminal I/O Area (TIOA) Fields

Offset	Length in bytes	Description	Name
0	4	Time	EIBTIME
4	4	Date	EIBDATE
8	4	Transaction ID	EIBTRMID
C	4	Task number	EIBTASKN
10	4	Terminal ID	EIBTRMID
14	2	Reserved	EIBRSVD1
16	2	Cursor position	EIBCPOSN
18	2	COMMAREA length	EIBCALEN
1A	1	Attention ID	EIBAID
1B	2	EXEC CICS function code	EIBFN
1D	6	Response code	EIBRCODE
23	8	Dataset	EIBDS
2B	8	REQID	EIBREQID
33	8	Resource name	EIBRSRCE
3B	1	Sync point required	EIBSYNC
3C	1	Terminal free required	EIBFREE
3D	1	Data receive required	EIBRECV
3F	1	Attach data exists	EIBATT
40	1	Data received complete	EIBEOC
41	1	Data received has FMH	EIBFMH
42	1	Data complete	EIBCOMPL
43	1	SIGNAL received	EIBSIG
44	1	CONFIRM received	EIBCONF
45	1	Error received	EIBERR
46	4	Error code received	EIBERRCD
4A	1	Sync rollback required	EIBSYNRB
4B	1	No data received	EIBNODAT
4C	4	Response filed = cond number	EIBRESP
50	4	More detailed response	EIBRESP2
54	1	Rolled back	EIBRLDBK

Note:
For a complete description of the EIB, see the CICS/OS/VS Data Areas manual, LY33-6035.

Figure 20. EXEC Interface Block (EIB)

The EXEC interface block is part of the EXEC interface structure, which is addressed by TCAEISA in the TCA.

Program Debugging
Reference Summary

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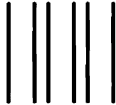
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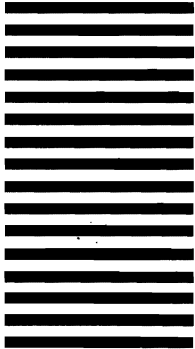
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