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TOPS-20 Monitor Table Descriptions

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This document describes the internal tables of the TOPS-20 operating system.

This manual is a revision and replaces TOPS-20 Monitor Table Descriptions, order number AA-V917C-RM.

OPERATING SYSTEM: TOPS-20 Version 7.0

SOFTWARE: TOPS-20 Version 7.0

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DECserver 100	KA10	PrintServer 40	VAX/VMS
DECserver 200	KI	Q-bus	VT50
DECsystem-10	KL10	ReGIS	
DECSYSTEM-20	KS10	RSX	d i g i t a l

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APPENDIX A LISTING BY MONITOR MODULES

MONITOR TABLES

SAMPLE !This is the title of the table.

Text description of the table

Defined in: STG !This describes where either the storage is
!defined or where the symbols are defined or both

Index: Fork number !This field (optional) describes any standard
!index that may exist for the table

PREFACE

This book describes the internal TOPS-20 monitor tables. The sample table on the following page illustrates the information presented in the book. In addition to the tables, this book also contains one appendix which lists in alphabetical order the names of the monitor modules and the tables defined in each.

Change bars in the margin identify new tables and/or changes to existing tables. These changes are the result of software changes for TOPS-20 V6, V6.1, and V7.0.

Format

STRG1:	POINT1		POINT2	/ \
POINT3	description of POINT1		description of POINT2	
SYML=n	Description of contents of SYML			
	.			
	.			
	.			
STRG2:	flags			* / \

STRG2:	0	1	2		35
--------	---	---	---	--	----

Symbol	Bits	Pointer	Content
BT0	0	BT%0	System about to crash
BT1	1	BT%1	System crashing
BT235	2-35	BT%35	Location where system crashes

notes STRG1 and 2 are actual storage locations contained in the monitor. POINT1, 2, and 3 are pointers to words or parts of words usually defined by a DEFSTR macro. SYML is a symbol with a specific value (n) usually to indicate displacements. LEN is the length of a particular section of the table. Numbers are octal except where they indicate bit positions and where they are indicated by D or a decimal point.

"" indicates further information on the word is found following the table.

MONITOR TABLES

AA

This is the ACCEPT call's argument block, which is used by DECnet Session Control and NSP.

Defined in: D36PAR

Format

ACCEPT Argument Block

AASCB	SCB ID for new port
AAPID	NSP's port identifier
AAFLO	Flow control type
AAGOL	Data request goal
AASIZ	Max bytes allowed in a message segment
AASCV	Session control's entry address

MONITOR TABLES

AC

AC is the LAT Host Access Codes portion of the Host Node (HN) data structure. It is a bit mask that defines what groups have access to the host. Note that the bit mask is made up of PDP-11 style 8-bit bytes. Therefore, group zero is represented by bit 7 -- the low order bit in the first byte.

Defined in: LATSRV

Format

ACCESS CODES

ACLNG	Access code string length in bytes
ACCOD	Storage for 256 bit bit-mask

/\
^D32
\/

MONITOR TABLES

AJ

This is the DECnet Router adjacency block -- AJ.

Defined in: D36PAR

Format						
AJNXT	Pointer to next adjacency block					
	<table border="1"> <tr> <td>AJNTY</td> <td>AJFLA</td> <td>AJVER Version of neighbor's router</td> <td>AJEEO ECO number of neighbor's router</td> <td>AJCUS Customer version of neighbor's router</td> </tr> </table>	AJNTY	AJFLA	AJVER Version of neighbor's router	AJEEO ECO number of neighbor's router	AJCUS Customer version of neighbor's router
AJNTY	AJFLA	AJVER Version of neighbor's router	AJEEO ECO number of neighbor's router	AJCUS Customer version of neighbor's router		
AJNAH	Adjacency's hi-order address (NI)					
	<table border="1"> <tr> <td>AJNAL Low order in string format <a1,a2></td> <td>AJNAA [+]</td> <td>AJNAN [+] Adjacency's node number</td> </tr> </table>	AJNAL Low order in string format <a1,a2>	AJNAA [+]	AJNAN [+] Adjacency's node number		
AJNAL Low order in string format <a1,a2>	AJNAA [+]	AJNAN [+] Adjacency's node number				
AJRTV	Pointer to this adjacency's routing vector					
AJCBP	Circuit block for this adjacency					
AJBSZ	Block size requested by neighbor					
AJNHT	Neighbor's hello timer					
AJTTLR	Time last message received from adjacency					
	<table border="1"> <tr> <td>AJPRI Routers priority to be designated router (NI)</td> <td>AJARE Routers area (reserved field)</td> <td>AJMPD MPD (reserved)</td> </tr> </table>	AJPRI Routers priority to be designated router (NI)	AJARE Routers area (reserved field)	AJMPD MPD (reserved)		
AJPRI Routers priority to be designated router (NI)	AJARE Routers area (reserved field)	AJMPD MPD (reserved)				

Field AJSTA (0-1) Adjacency state

For field AJFLA(6-11):

- AJPH4 6 Phase 4 node
- AJVRQ 7 Verification requested by remote
- AJBLO 8 Blocking is requested by this node
- AJRJF 9 Reject flag
- AJMTA 10 No multi-cast traffic accepted

[+] AJADR is a concatenation of AJNAA and AJNAN.

MONITOR TABLES

AK

AK is the format of the DECnet logical link ACKNUM field. This structure is expected to be used to pull apart a value held in a register.

Defined in: LLINKS

Format	
	ACKNUM
	<p>The ACK number, we know this is rt-justified negative if high bit of byte is set -- see LOADE macro (E is as in HRRE).</p>

Field AKPNT (20-20) Flag set if field is present

Field AKQAL (21-23) Qualifier

- AK\$QAK=0 0 is ACK
- AK\$QNK=1 1 is NAK
- AK\$CAK=2 2 is cross-sub channel ACK
- AK\$CNK=3 3 is cross-sub channel NAK

MONITOR TABLES

ALOC1

Allocation 1 Table. This non-resident table, the size of the OFN area in SPT, is used to help enforce disk quotas for each active directory.

Defined in: STG

Index: ALOCX portion of an OFN entry in the SPT

Format		/ \
ALOC1: ALCWD	ADIRN Directory No.	ODIRC Directory OFN Count
	.	NOFN
	.	
	.	
	.	
	.	

The right half of each slot in this table contains a count of all OFNs for files from that directory.

MONITOR TABLES

ALOC2

Allocation 2 Table. This non-resident table, the size of the OFN area in SPT, is used in disk quota enforcement for each active directory.

Defined in: STG

Index: ALOCX portion of an OFN entry in the SPT

Format		/ \
ALOC2:	PGLFT* Count of Pages Left for This Directory (may be negative)	NOFN
	.	
	.	
	.	
	.	

An alternate use for this word is

PGPTR
Pointer to CFS data base entry when CFS is used.

MONITOR TABLES

BAT

Bad Allocation Table. The BAT Block is one sector in length (128 words). It consists of 4 words of header, followed by data; each 2 word data entry indicates the bad spots on the disk. The BAT Block is found on section 2 of a disk pack.

Defined in: PROLOG

Format		
BATNAM =0	SIXBIT/BAT/	
BATFRE =1	BATFR Free blocks left	
	9 BTHCT 17 # of pairs added by mapper	Header
	BTMCT # of pairs added by monitor	--
	Bad Block information	*
	9 ADD27 35 Address of starting sector	Data Pair *
	.	--
	.	
	.	
	.	
		Data Pair --
BATCOD =176	Unlikely code 606060	
BATBLK =177	Sector number of the BAT block	

MONITOR TABLES
BAT (Cont.)

Data Pair	0	8	18	20	21	22	35
word 1	BATNB Bad Blks Cnt		BTKNM Controller#		Type	APRNM Apr Serial #	

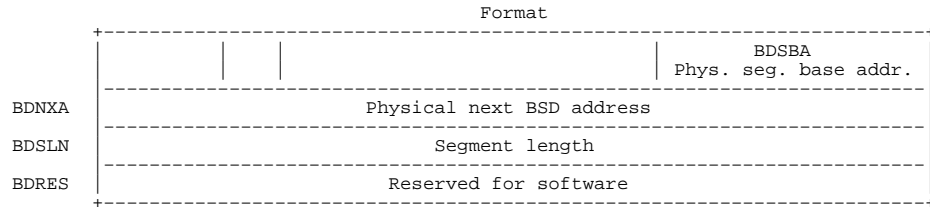
	Bits	Pointer	Content
	0-8	BATNB	Count of Bad Blks in Pair
	18-20	BTKNB	Massbus Controller #
	21	BADT	Type field in BAT Pair
	23-35	APRNM	APR Serial #
word 2			
	Bits		
	18-35	ADD18	Old style disk address of starting sector
	9-35	ADD27	New style address of starting sector

MONITOR TABLES

BD

BD represents the format of the Buffer Segment Descriptor (BSD) used to describe data buffers passed to and from the NI.

Defined in: PHYKNI



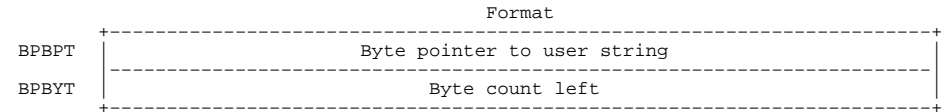
Field BDPAC (6-7) Packing mode

MONITOR TABLES

BP

This table contains the byte pointer and count structure used by DECnet. Routines DNGUBY,DNPUBY, and all related DNGUnB require a pointer to this type of structure. All byte pointers are section local (for the moment).

Defined in: D36PAR

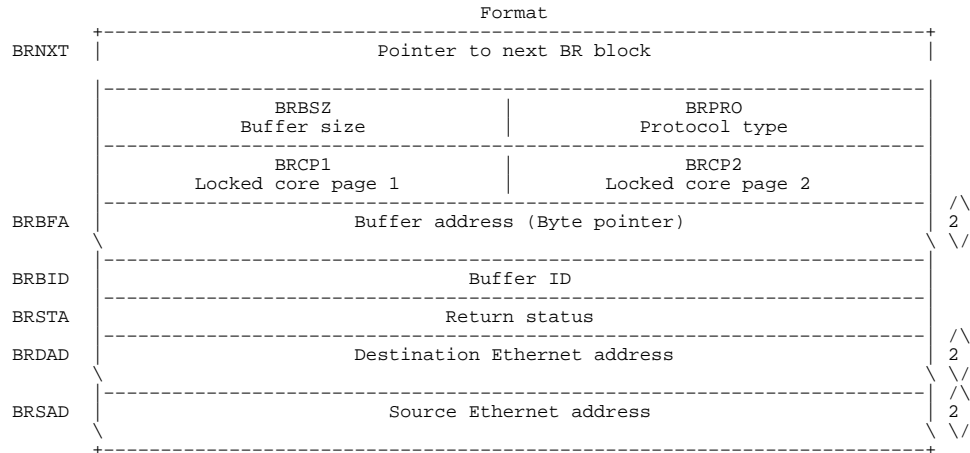


MONITOR TABLES

BR

This is the NI% jsys internal buffer descriptor block.

Defined in: NIUSR



MONITOR TABLES

BTB

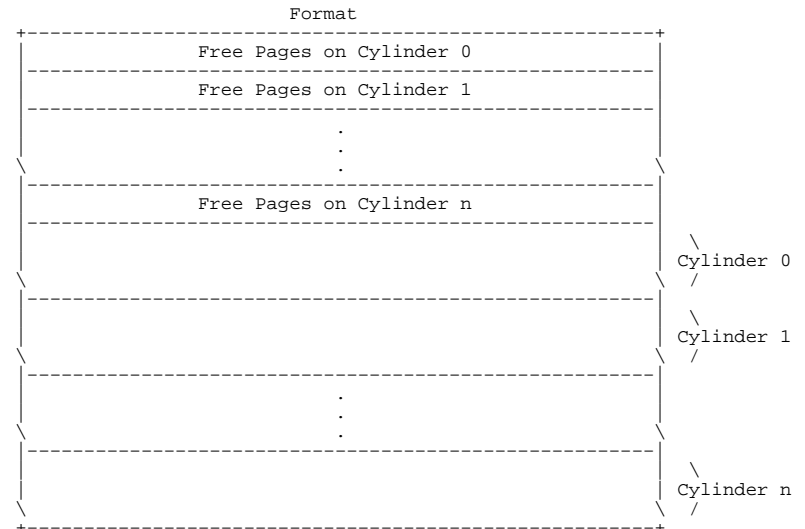
Bit Table for Disk. This table has mapped into it pointers to the file STRNAM:<ROOT-DIRECTORY> DSKBTBTL, when pages are allocated or deallocated from the disk unit(s) belonging to structure, STRNAM. The bit table file as shown below indicates which pages are assigned (bits off) and which are available (bits on).

It consists of two parts; the top half contains the number of free pages for each cylinder in the structure and the bottom half contains a bit map (1 bit per page) for all pages of each cylinder in the structure.

At initialization time, the following are assigned in the bit table file:

- o All of this structure's pages that belong to the Home blocks
- o All of the pages in this structure's swapping space
- o Those pages pointed to by the BAT blocks

Defined in: STG



MONITOR TABLES
BTB (Cont.)

NOTE

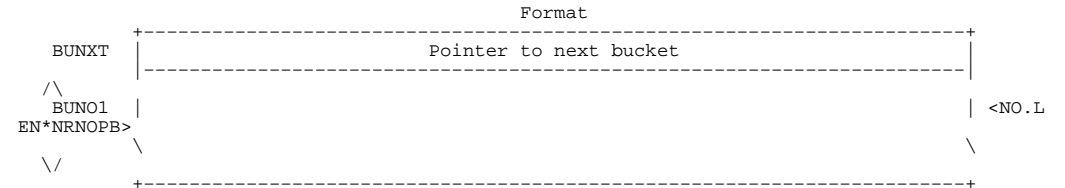
In the bit map each cylinder starts on a word boundary and contains as many full words as are needed for all of its pages.
For Systems which have sectioning, the BTB table does not hold the maps for the disk bit table file. Rather, the monitor maps the disk bit table file for a structure into section 4 of the monitor's address space when it needs to allocate or deallocate disk pages. That is, the index block of this file is the page table pointed to by the monitor's section pointer for section 4.

MONITOR TABLES

BU

The data structure BU defines a bucket in the DECnet-36 node name/number data base.

Defined in: SCLINK



MONITOR TABLES

BUG-HLT/CHK/INF-STORAGE-AREA

BUGHLT, BUGCHK, and BUGINF Storage Area. This resident storage is used to hold such information as the push down list, PC, ACs and dispatch address when a BUGHLT/BUGCHK/BUGINF occurs. BUGSEB holds the pointer to the last queued up SYSERR block. (See SYSERR-STORAGE-AREA)

Defined in: STG

	Format	
BUGHLT:	0 (PC Stored here on BUGHLT)	
	JRST BUGH0	
XBUGHL:	Indirect Word for BUGHLTs	
SVVEXM:	Save Valid Examine in BUGTYO	
BUGLCK:	Lock on BUGxxx Routines	
BUGCHK:	0 (PC Stored here on BUGCHK)	
	JRST BUGC0	
XBGCCH:	MSEC1,,BGCCHK	
BUGINF:	0 (PC Stored here on BUGINF)	
	JRST BUGI0	
XBGCIN:	MSEC1,,BGCINF	
BUGACS:	ACs Saved on a BUGHLT (Contents of ACs at time of BUGHLT)	/ \ # of ACs
BUGACU:	Place to Store Previous Context ACs	/ \ # of ACs
BUGPDL:	Push Down List	/ \ BUGPLN
BUGCNT:	Count of BUG Blocks in SYSERR Queue (Maximum of BUGMAX=20)	
BUGNUM:	Number of BUGCHK/INFs since STARTUP	

MONITOR TABLES
BUG-HLT/CHK/INF-STORAGE-AREA (Cont.)

BUGSEB:	Ptr to last queued up SYSERR Block due to a BUGHLT/CHK/INF	
BUGP1:	Temp Storage for BUGSTO Routine	
BUGP2:	Temp Storage for BUGSTO Routine	
BUGP3:	Temp Storage for BUGSTO Routine	
BUGTMS:	Time to Store Next BUGTIM (Length of Interval Is BUGINT = 5 min)	
BUGTIM:	ASCII Time & Date Stored for BUGHLT	/ \ 4 \ /
PISAV:	CONI PI at time of BUGHLT	
PISVI:	Temp Copy of PISAV before BUGLCK Acquired	

MONITOR TABLES

C1

C1 is the format of the NI Read and Read/Clear Counters command.

Defined in: PHYKNI

Format	
C1RID	Request ID
C1PID	Process ID
C1BFA	Buffer address
C1SPI	Secondary portal ID
*	C1FNC Function code

Field C1ZRO (0-0) Indicates counters should be zeroed

MONITOR TABLES

CA

This table contains field definitions for the CTERM character attributes portion of the CTERM Characteristics Message.

Defined in: CTERMMD

Format	
Character attribute structure - right justified	
Field CAXXX	(28-28) (Reserved Flag)
Field CASCF	(29-29) Special Char Function (For O,R,U,V,W,X,DEL)
Field CACEC	(30-31) Control Char Echo
	.CACCX=0 No Echo
	.CACCI=1 Image Echo
	.CACCS=2 Standard Echo
	.CACCB=3 Standard, then Image Echo
Field CADIS	(32-32) Discard output if CLEAR OOB
Field CAINC	(33-33) Include immed. HELLO OOB in input stream
Field CAOOB	(34-35) Out of band handling
	.CAOOX=0 Not out of band
	.CAOOI=1 Immediate clear
	.CAOOD=2 Deferred clear
	.CAOOH=3 Immediate hello

MONITOR TABLES

CB-LATSRV

CB is the LAT circuit block data structure. There is one circuit block for each LAT virtual circuit created since the last system startup. There can be up to HNMXC connect blocks allocated at one time. If that threshold has been reached when attempting to open a new virtual circuit, the monitor reuses an inactive connect block if any are available. Connect blocks are chained together; HN locations HNQAC and HNQIC contain pointers to the first and last entries on the active circuit (HNQAC) and inactive circuit (HNQIC) queues.

Defined in: LATSRV

Format																			
CIRCUIT BLOCK																			
CBLNK	Queue Link words (must be first words) /\ 2 \/\																		
	<table border="1"> <tr> <td>CBRID Circuit handle assigned by the remote</td> <td>CBLID Local circuit index</td> </tr> <tr> <td>* </td> <td>CBCSB Count since balanced</td> </tr> <tr> <td>CBSDC Number of slots with data waiting</td> <td>CBTSQ Next transmit sequence number</td> </tr> <tr> <td>CBRSQ Next expected receive sequence number</td> <td>CBLRA Sequence number of last message ack'd by remote node</td> </tr> <tr> <td colspan="2">CBTIM Current value of circuit timer</td> </tr> <tr> <td>CBRTC Current retransmit count</td> <td>CBKAV 2* Server Keep-alive</td> </tr> <tr> <td colspan="2">CBKAT TODCLK last time message received from server</td> </tr> <tr> <td>CBQUA Circuit quality</td> <td>CBERR Reason code for last time circuit stopped</td> </tr> <tr> <td colspan="2">CBDLL Number of transmit buffers in the DLL</td> </tr> </table>	CBRID Circuit handle assigned by the remote	CBLID Local circuit index	*	CBCSB Count since balanced	CBSDC Number of slots with data waiting	CBTSQ Next transmit sequence number	CBRSQ Next expected receive sequence number	CBLRA Sequence number of last message ack'd by remote node	CBTIM Current value of circuit timer		CBRTC Current retransmit count	CBKAV 2* Server Keep-alive	CBKAT TODCLK last time message received from server		CBQUA Circuit quality	CBERR Reason code for last time circuit stopped	CBDLL Number of transmit buffers in the DLL	
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CBQUA Circuit quality	CBERR Reason code for last time circuit stopped																		
CBDLL Number of transmit buffers in the DLL																			

MONITOR TABLES
CB-LATSRV (Cont.)

CBXBQ	Queue of free transmit buffers	/\ 2 \/\												
CBAKQ	Unacknowledged queue header	/\ 2 \/\												
CBSBQ	Circuit slot queue	/\ 2 \/\												
CBDNI	NI address of remote server	/\ 2 \/\												
	<table border="1"> <tr> <td>CBMTF Maximum transmit frame size for circuit</td> <td>CBRPV Remote protocol version and ECO</td> </tr> <tr> <td>CBMSL Maximum slots allowed by remote</td> <td>CBNBF Additional transmit buffers allowed by remote</td> </tr> <tr> <td>CBCTI Value of remote's circuit timer</td> <td>CBKTI Value of remote's keep-alive timer</td> </tr> <tr> <td>CBPTC Product type code for remote node</td> <td>CBSTA Virtual circuit state</td> </tr> <tr> <td>CBNUM Remote's system number</td> <td>CBRSC Remote's system name count</td> </tr> <tr> <td>CBRLC Remote's location text count</td> <td></td> </tr> </table>	CBMTF Maximum transmit frame size for circuit	CBRPV Remote protocol version and ECO	CBMSL Maximum slots allowed by remote	CBNBF Additional transmit buffers allowed by remote	CBCTI Value of remote's circuit timer	CBKTI Value of remote's keep-alive timer	CBPTC Product type code for remote node	CBSTA Virtual circuit state	CBNUM Remote's system number	CBRSC Remote's system name count	CBRLC Remote's location text count		
CBMTF Maximum transmit frame size for circuit	CBRPV Remote protocol version and ECO													
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CBCTI Value of remote's circuit timer	CBKTI Value of remote's keep-alive timer													
CBPTC Product type code for remote node	CBSTA Virtual circuit state													
CBNUM Remote's system number	CBRSC Remote's system name count													
CBRLC Remote's location text count														
/\ CBSNM SNM+4>/5>	Remote's system name	<<ML.												
/\ CBLOC LOC+4>/5>	Remote's location string	<<ML.												
For field CBFLG(0-2):														
	CBRRF 0	Reply requested flag												
	CBMRS 1	Must reply soon flag												
	CBMRN 2	Must reply now flag												

MONITOR TABLES

CB-LLMOP

DECnet counters block.

Defined in: LLMOP

	Format
CBID	Requester ID for this block
CBBR	Bytes received
CBBX	Bytes transmitted
CBFR	Frames received
CBFX	Frames transmitted
CBMCB	Multicast bytes received
CBMCF	Multicast frames received
CBFXD	Frames xmitted, initially deferred
CBFXS	Frames xmitted, single collision
CBFXM	Frames xmitted, multiple collisions
CBXF	Transmit failures
CBXFM	Transmit failure bit MASK
CBCDF	Carrier detect check failed
CBRF	Receive failures
CBRFM	Receive failure bit mask
CBDUN	Discarded unknown
CBD01	Discarded position 1
CBD02	Discarded position 2
CBD03	Discarded position 3
CBD04	Discarded position 4
CBD05	Discarded position 5

MONITOR TABLES
CB-LLMOP (Cont.)

CBD06	Discarded position 6
CBD07	Discarded position 7
CBD08	Discarded position 8
CBD09	Discarded position 9
CBD10	Discarded position 10
CBD11	Discarded position 11
CBD12	Discarded position 12
CBD13	Discarded position 13
CBD14	Discarded position 14
CBD15	Discarded position 15
CBD16	Discarded position 16
CBFBE	Free buffer list empty
CBSBU	System buffer unavailable
CBUBU	User buffer unavailable
CBUFD	Unrecognized frame dest
CBXXX	This word actually reserved for ucode
CBUNI	Portal ID

MONITOR TABLES

CB-SCPAR

The DECnet-36 Connect Block is used to describe the information present in the NSP connect initiate message.

Defined in: SCPAR

Format

The Internal Connect Block

CBNUM	Node number	
CBCIR	Loopback circuit ID	
		/\
N CBDST	Destination end user name	PB.LE
		\ \
		/\
N CBSRC	Source end user name	PB.LE
		\ \
		/\
9+3>/4> CBUID	Source user identification	<<^D3
		\
9+3>/4> CBPSW	Access verification password	<<^D3
		\
9+3>/4> CBACC	Account data	<<^D3
		\
6+3>/4> CBUDA	End user connect data	<<^D1
		\
		/\
	CBUCT User ID byte count	CBPCT Password byte count
	CBACT Account data byte count	CBCCT User connect data count

MONITOR TABLES

CC-LATSRV

CC is the LAT circuit counters block. This data structure is part of the Circuit Block (CB) data structure.

Defined in: LATSRV

	Format
	CIRCUIT COUNTERS
CCRCV	Messages received
CCXMT	Messages transmitted
CCRTR	Messages retransmitted
CCSEQ	Receive message sequence errors
CCIMR	Illegal messages received
CCISR	Illegal slots received
CCRES	Resource errors
CCMSK	Illegal message error mask

MONITOR TABLES

CC-NIPAR

CC is the read channel counters block. There are two words in the table for each entry. CC is used by NICTRS for the SHOW COUNTERS and SHOW and ZERO COUNTERS network management functions.

Defined in: NIPAR

	Format
	Network management data
CCSLZ	Seconds since last zeroed
	Network management data
CCBYR	Bytes received
	Network management data
CCBYS	Bytes sent
	Network management data
CCDGR	Datagrams received
	Network management data
CCDGS	Datagrams sent
	Network management data
CCMBR	Multicast bytes received
	Network management data
CCMDR	Multicast datagrams received
	Network management data
CCDSD	Datagrams sent, initially deferred

MONITOR TABLES
CC-NIPAR (Cont.)

	Network management data
CCDSI	Datagrams sent, single collision
	Network management data
CCDSM	Datagrams sent multiple collisions
	Network management data
CCSF	Send failures
CCSFM	Send failure bit mask
	Network management data
CCRF	Receive failure
CCRFM	Receive failure bit mask
	Network management data
CCUFD	Unrecognized frame destination
	Network management data
CCDOV	Data overrun
	Network management data
CCSBU	System buffer unavailable
	Network management data
CCUBU	User buffer unavailable

MONITOR TABLES
CC-NIPAR (Cont.)

0	23	24	25	26	27	28	29	30	31	32	35
-----+-----											
CCSFM											
-----+-----											

Symbol	Bit	Contents
CCLOC	24	Loss of carrier
CCXBP	25	Xmit buffer parity error
CCRFD	26	Remote failure to defer
CCXFL	27	Xmitted frame too long
CCOC	28	Open circuit
CCSC	29	Short circuit
CCCF	30	Collision detect check failed
CCEXC	31	Excessive collisions

0	26	27	28	29	30	31	32	35
-----+-----								
CCRFM								
-----+-----								

Symbol	Bit	Contents
CCFLE	27	Free list parity error
CCNFB	28	No free buffers
CCFTL	29	Frame too long
CCFER	30	Framing error
CCBCE	31	Block check error

MONITOR TABLES

CD

This is the DECnet remote console command data area; the data buffer is supplied by the user.

Defined in: LLMOP

Format

		Remote Console Command Data Output MSD	\
-----+-----			
N	CDMSD		MD.LE
		\	\ \
-----+-----			

MONITOR TABLES

CDB

Channel Data Block. This table, one per channel, contains channel dependent instructions and data, pointers to the units (that is, UDBs) belonging to the channel and information about the currently active unit. When the channel interrupts, control passes (by way of a JSP instruction) to CDBINT. The CDB address is stored in AC, P1, and the principal analysis routine, PHYINT, is called.

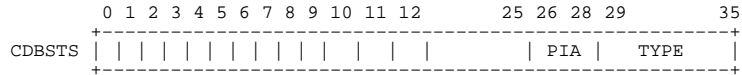
Defined in: PHYPAR

	Format	
CDBINT	0(2-word PC stored on interrupt)	
-5	0	
-4	(Flags) 0	
-3	0,, .+1	
-2	MOVEM P1, .+2+CDBSVQ	
-1	JSP P1, PHYINT	
CDBSTS=0	Status and Configuration Information	*
CDBMBW=1	Memory Bandwidth Scheduling Information	
CDBODT	Overdue Timer when Data Transfer Active	
CDBICP	EXEC Virtual Adrs (EPT Adrs) of Interrupt Vector,, Data Logout Area	
CDBIUN	Initial AOBJN Pointer to UDB Table	
CDBCUN	Current AOBJN Pointer to UDB Table	
CDBDSP	Unit Utilities Dispatch Main Entry Dispatch (Channel Dispatch Table)	*
CDBFCT	Fairness Count for Latency	
CDBPAR	Channel Memory Parity Errors	
CDBNXM	Channel NXMs	
CDBXFR	Currently Transferring UDB	
CDBCCL	Channel Command List (3 words)	

MONITOR TABLES
CDB (Cont.)

CDBUDB	KDB or UDB Table (16 words)
CDBSVQ	P1 Saved Here on Vector Interrupt Entry
CDBJEN	BLT 17, 17 (Interrupt Dismiss)
	DATA0 RH, CDBRST
	XJEN CDBINT
CDBRST	Location Used by CDBJEN
CDBCNI	Channel CONI at Start of Interrupt
CDBONR	Fork Who Has Channel in Maint. Mode
CDBADR	Number of This Channel (CHNTAB index)
CDBCS0	Channel Status 0 at Error
CDBCS1	Channel Status 1
CDBCS2	Channel Status 2
CDBCC1	First CCW
CDBCC2	Second CCW
CDBOVR	Number of Overruns
CDBICR	Initial STCR When Device Started
CDBCL2	Alternate CCW List (3 words)
CDBIRB	IORB to start transfer for
CDBLUN	Last UDB which did transfer or positioning
CDBCAD	CCW for first command
	CCW for second command
CDBDDP	CDB Device Dependent Block

MONITOR TABLES
CDB (Cont.)

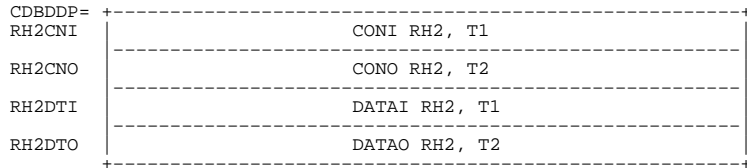


Symbol	Bits	Content
CS.OFL	0	Offline
CS.AC1	1	Primary command active
CS.AC2	2	Secondary command active
CS.MAI	3	Channel is in maint. mode
CS.MRQ	4	Maint. mode requested for a unit
CS.ERC	5	Error recovery in progress
CS.STK	6	Channel Support, Command Stacking
CS.ACL	7	Alternate CCW List is Current
CS.CWP	8	Channel write parity error detected on this channel
CS.CIP	9	This is a CI port channel
CS.DEN	10	(CI port) DIAG TO TAKE
		CHANNEL is enabled
CS.NIP	12	This is an NI port channel
	26-28	PIA field
	29-35	Channel type field

CDBDSP
See Tables, UDS and CDS

CDBDDP
CDB Device Dependent Block for the RH20 Controller

Defined in: PHYH2

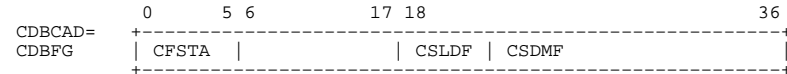


MONITOR TABLES

CDBCAD

This is the CDB Device Dependent Block for the CI or NI.

Defined in: PHYPAR



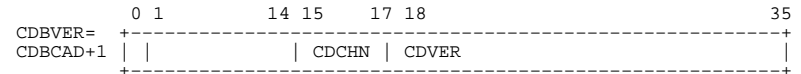
CFSTA

States of the Port:

Symbol	Port States	Port-state description
CHNUNK	0	Unknown (system startup)
CHNSTP	1	Stopped (and needs to be restarted)
CHNNRL	2	Needs to have microcode reloaded
CHNRIP	3	Microcode reload in progress
CHNNDM	4	Needs to have dump taken
CHNDIP	5	Dump in progress
CHNMAI	6	Maintenance mode (owned by diagnostic)
CHNDED	7	Dead (we are not trying to restart it)
CHNRUN	10	Running
CHNRLC	11	Microcode reload complete
CHNDMC	12	Microcode dump complete

CSLDF Last fork that loaded the port's microcode

CSDMF Last fork that dumped the port's microcode



Symbol	Bits	Contents
CDPRT	0	Port; 0 = CI; 1 = NI
CDCHN	15-17	RH20 channel number
CDVER	18-35	Microcode version number

MONITOR TABLES
CDBCAD (Cont.)

CDBLGO= CDBCC1	Logout Word 0
CDBLG1= CDBCC2	Logout Word 2
CDBLG2= CDBICR	Logout Word 3
CDBQRQ= CDBRST	Non-0 if had to requeue a request
CDBCTR= CDBCL2	Monotonic number,,Fork which owns counters
CDBFQE= CDBCL2+1	Message,,datagram free queue error count
CDBECW= CDBCL2+2	CCW from PCB at error

MONITOR TABLES

CDR-STORAGE-AREA

Card Readers (Physical) Storage Area. Most entries are CDRN words long where CDRN equals the number of card readers on the system.

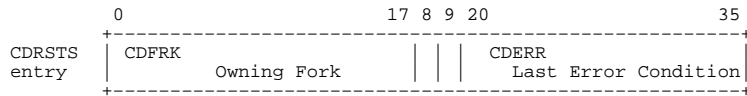
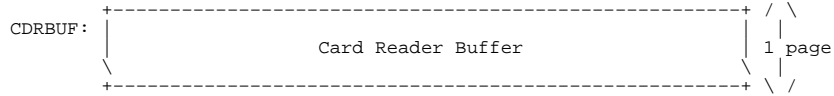
Defined in: STG

	Format	
CDRCTL:	Buffer Count	\/ CDRN
CDRCKT:	Word for Scheduler Test	\/ CDRN
CDRSTS:	Status Word	\/ *CDRN
CDRST1:	Second Status Word	\/ CDRN
CDRST2:	Third Status Word	\/ *CDRN
CARDCT:	Count of Cards Read	\/ CDRN
CARDER:	Number of "Hardware" Errors	\/ CDRN
CDRLCK:	CDR Lock Word	
CDRCNT:	Count of CDRs Opened	
CDUBAD:	Address of UBA Window	\/ CDRN
CD11A:	Address of UBA-11 Address	\/ CDRN
CDERBF:	Error Status for Cardreader	\/ CDRN *16
CDUNIT:	Unit Number of Cardreader	\/ CDRN

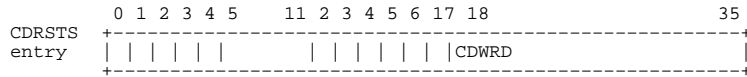
KS10
only

MONITOR TABLES
CDR-STORAGE-AREA (Cont.)

The Non-resident area contains:

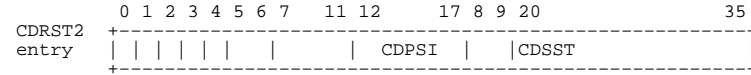


Bits	Pointer	Content
0-17	CDFRK	Owing fork
18	CDOL	If one, cards in reader
19	CDBLK	Waiting for a card
20-35	CDERR	Last error condition



Bits	Pointer	Content
0	CDAII	CDR opened in ASCII
1	CDATN	CDR needs attention
2	CDMSG	Suppress system messages
3	CDOPN	CDR is open
4	CDER	Error in this CDR
12	CDCNT	Count of bytes now in buffer
13	CDEOF	EOF button was pushed
14	CDBUF	Buffer for process level
15	CDPIR	Process needs interrupt
16	CDBFI	Buffer for PI level
17	CDDON	If one, doing a buffer by process
18-35	CDWRD	Current internal storage word

MONITOR TABLES
CDR-STORAGE-AREA (Cont.)



Symbol	Bits	Pointer	Content
CD%SHA	0	CDSHA	"Status has arrived" flag
	1	CDMWS	MTOPR is waiting for status to arrive
CD%RLD	2	CDRLD	Front end has reloaded
	3	CDOFI	Offline interrupt is pending
	4	CDEFI	End of file interrupt already given
	5-6	CDRTYP	Type of card reader
	7	CDEXST	Existance of reader
	12-17	CDPSI	PSI chan. no. for on-line transitions
	20-35	CDSST	Software status word

Symbol	Bits	Content
.DVFFE	28	Device has a fatal, unrecoverable error
.DVFLG	29	Error logging info. follows
.DVFEF	30	EOF
.DVFIP	31	I/O in progress
.DVFSE	32	Software cond.
.DVFHE	33	Hardware error
.DVFOL	34	Offline
.DVFNX	35	Nonexistent device

MONITOR TABLES

CDS

Channel Dispatch Service Routine Table. This table contains vectored addresses to channel dependent functions, and is given in its generalized form. The channel dispatch table for the RH20 and RH11 begins at RH2DSP. See PHYPAR for definitions of arguments given and returned on calls to these channel routines.

Defined in: PHYPAR

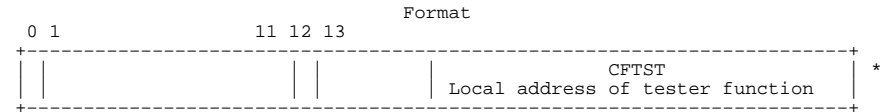
	Format
CDSINI=0	Initialize and Build Data Structure
CDSSTK=1	Stack Second Channel Command, Skip if OK(fails if RH11)
CDSSIO=2	Start I/O on IORB (skip if started O.K.)
CDSPOS=3	Do Positioning to Idle Unit (skips if O.K.)
CDSLTM=4	Return Latency and Best Request (that is, best IORB)
CDSINT=5	Interrupt Entry
CDSCCW=6	Generate Single CCW Entry
CDSHNG=7	Hung Reset
CDSRST=10	On Restart, Reset Channel and All Devices
CDSCHK=11	Periodic Check Entry, PIA, ...
CDSEXT=12	Check legality of a unit (skip if existent)
CDSSCA=13	Extract address from CCW entry

MONITOR TABLES

CF

This table defines the structure of the wait check tables.

Defined in: SCLINK



Field CFIFI (0-0) The sign bit is reserved for IFIW flg

Field CFCHN (12-12) Set if a channel is req'd for this fcn

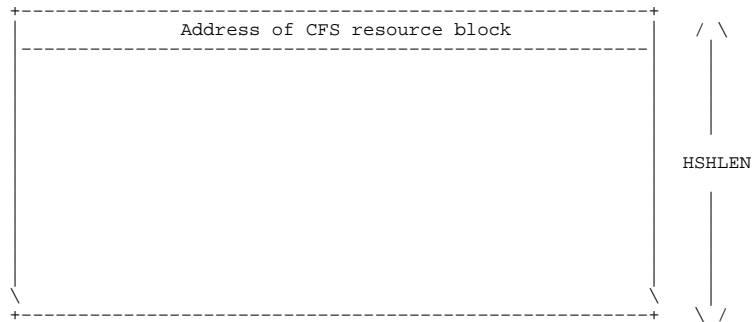
MONITOR TABLES

CFHSHT

This table is the CFS resource hash table and it contains the addresses of CFS resource blocks. The hash number used to index into the table is a combination of the root and qualifier of the resource. Collisions are linked off of the forward pointer of each resource block.

Defined in: STG

Index: Hash number calculated from root and qualifier of resource

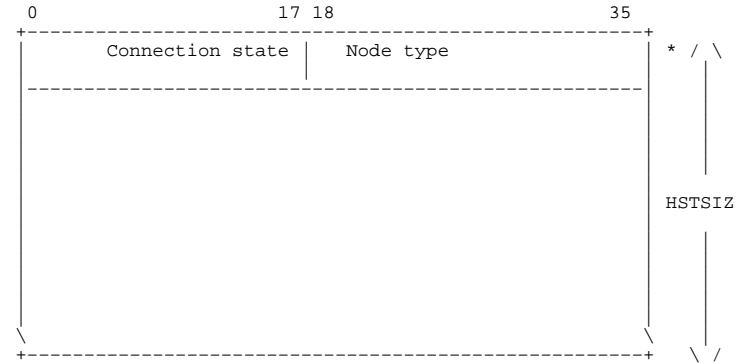


MONITOR TABLES

CFHSTS

This table contains the status of each connection that CFS has. This table is parallel to CFSHST.

Defined in: STG



Connection State:

- 1 --- When connection is fully open
- 0 --- When connection is being opened
- 1B0 -- This bit is turned off when a disconnect happens and the interlock is set.
- 1B17 - This bit is turned off to indicate a lack of credit.

Node Type:

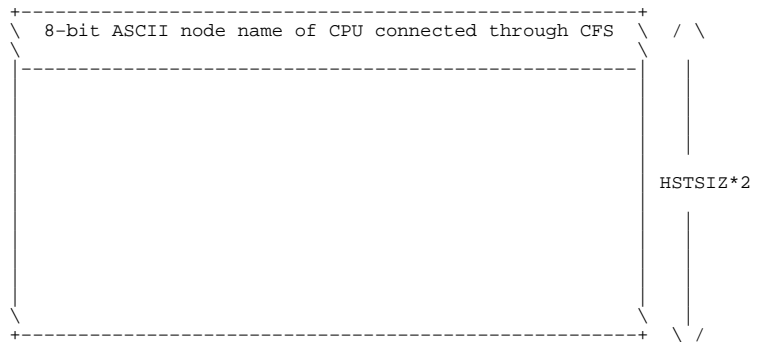
- 1 --- Full CFS node
- 0 --- Not full CFS node

MONITOR TABLES

CFNNAM

This table contains the node names of the processors to which CFS on this system is connected.

Defined in: STG

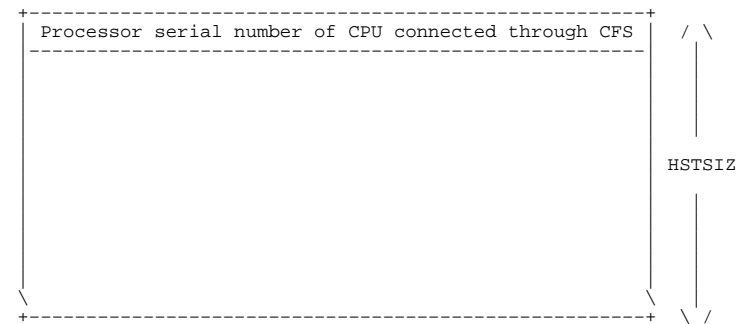


MONITOR TABLES

CFSHNM

This table contains the serial numbers of the processors to which CFS on this system is connected. This table is parallel to CFSHST (where the connect ID can be found for the connection).

Defined in: STG

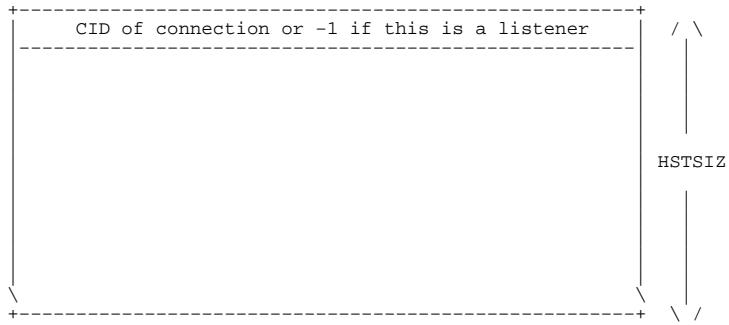


MONITOR TABLES

CFSHST

This table contains the connection ID for each connection that CFS has. The number of connections that CFS currently has is kept in location CFSHCT. CFSHCM contains the count of full voting hosts.

Defined in: STG



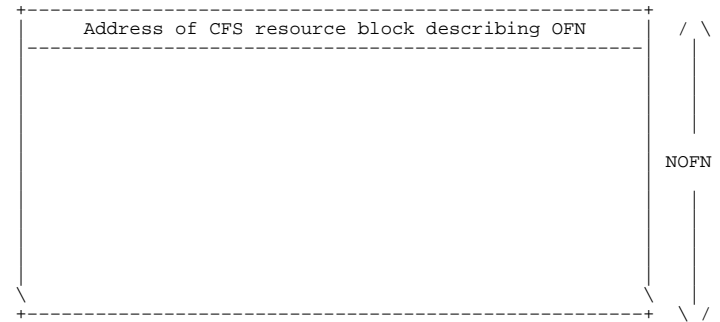
MONITOR TABLES

CFSOFN

This table, indexed by OFN, contains the address of the CFS resource block which describes this system's access to that OFN.

Defined in: STG

Index: OFN



MONITOR TABLES

CFS RESOURCE BLOCK

This is the format of the CFS resource block. This block fully describes a resource known to CFS. The root and qualifier uniquely describe the resource. The base address of the hash table (which contains these resource blocks) is contained in CFHSHT.

Defined in: CFSPAR

HSHLNK=0	Link to next resource block	
HSHROT=1	Root	
HSHQAL=2	Qualifier	
HSHTIM=3	Time stamp when the resource was granted	
HSFLAG=4	Flags for resource *	
HSHCOD=5	Unique code used for ID	
HSHPST=6	Post address for when resource is released (call-back)	
HSHVWD=7	HSHLKF Lock field	HSHVCT Votes in
HSHVRW=10	Reserved	HSHDRC Denial reason code *
HSHNBT=11	Node bit table (nodes to contact upon release)	
HSHRET=12	Return address used for removal (SHTADD or LNGADD)	
HSHDVD=13	HSHRHN Dest port number of commit	HSHVVL Vote code
HSHMSK=14	HSHDLY Delay mask	HSHFRK Owning fork
HSHOPT=15	Optional data from vote	
HSHOP1=16	Transaction number for optional data	
HSHOKV=17	Call-back routine for when a vote is OKed	
HSHCDA=20	Call-back routine for optional data in vote	
HSHFCT=21	Fairness timer	

MONITOR TABLES
CFS RESOURCE BLOCK (Cont.)

HSHWTM=22	Vote retry time
HSHBKP=23	Back pointer
HSHBTT=25	First word of hash bit table (for directory locks)
HSHDRI	Additional words for hash bit table
HSFLAG=4	Flags for resource

Symbol	Bits	Meaning
HSHWVT	0	If on, we are voting
HSHYES	1	Yes/No vote (1 if anyone said no)
HSHSTYP	2-5	Type of entry
.HTPLH=0		Place-holder entry
.HTOAD=1		Owned for full sharing
.HTOSH=2		Owned Read-Only shared
.HTOEX=3		Owned exclusively
.HTOPM=4		Owned for Promiscuous read
HSHTWF	6	"Token" wait flag
HSHRTY	7	Retry now bit
HSHLSG	8	Entry being released
HSHVRS	9	Vote restart flag
HSHLOS	10	Long/Short flag (1 if block is long)
HSHUGD	11	Voting for an upgrade
HSHODA	12	Optional data valid
HSHKPH	13	Don't purge this entry
HSHVTP	14-17	Type we are voting on
HSHDWT	18	If here, waiting for delay to be up
HSVUC	19	Bit to indicate vote must include HSHCOD
HSHLCL	20	Local exclusive
HSHRFF	21	For tokens only
HSHAVT	22	Vote on all nodes, even reduced CFS nodes
HSHBTF	23	If set, this is a bit-table file
HSHCNT	24-35	Count of sharers

MONITOR TABLES
CFS RESOURCE BLOCK (Cont.)

HSHVRW=10

Reserved	HSHDRC Denial reason code
----------	------------------------------

Contents of field HSHDRC

Symbol	Value	Meaning
.CDDWT	1	We are in VOTDWT
.CDVUC	2	HSHCODs are unequal
.CDYUX	3	We are voting, HSHYES set, we have .HTOEX
.CDYUN	4	We are voting, HSHYES set, unequal access
.CDVDL	5	We are voting, HSHDLY set
.CDVLN	6	We are voting, tie, our serial bigger
.CDVUX	7	We are voting, tie, HSHUGD set, he wants .HTOEX
.CDVUN	10	We are voting, tie, HSHUGD set, unequal access
.CDOCT	11	We own resource, conflicting access, HSHCNT set
.CDOFC	12	We own resource, conflicting access, HSHFCT valid

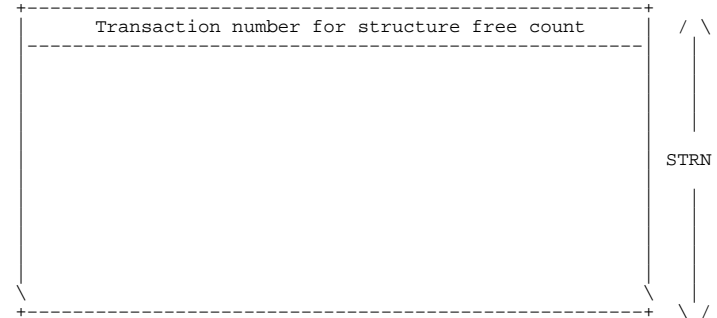
MONITOR TABLES

CFSSTR

This table, indexed by structure number, contains the transaction number for the structure free count of each structure.

Defined in: STG

Index: Structure number



MONITOR TABLES

CFS VOTER MESSAGE BUFFER

This is the format of the text area of the message packet sent by CFS upon a vote request or reply. It does not include the SCA header, which appears above the first word of the text area (SCALEN).

Defined in: CFSSRV

SCALEN=11	CFFLG Flags	CFCOD Opcode	CFUNQ Unique code
CFROT=12	Root		
CFQAL=13	Qualifier		
CFTYP=14	Access required or answer		
CFDAT=15	Optional data (OFNLEN or retry time)		
CFDT1=16	Transaction number for optional data		
CFDST0=17	Structure free count in bit table		
CFDST1=20	Transaction number for structure free count		
CFVGRD=21	CFGWD Guard word (for debugging)	CFDRC Denial reason code	

SCALEN=11	CFFLG Flags	CFCOD Opcode	CFUNQ Unique code
-----------	----------------	-----------------	----------------------

Contents of FLAGS field

Symbol	Bits	Meaning
CFODA	0	Optional data present
CFVUC	1	Vote to include HSHCOD

MONITOR TABLES
CFS VOTER MESSAGE BUFFER (Cont.)

Contents of OPCODE field

Symbol	Value	Meaning
.CFVOT	1	Vote request
.CFREP	2	Reply to vote request
.CFRFR	3	Resource freed
.CFCEZ	4	Seize resource
.CFBOW	5	Broadcast of OFN change
.CFBEF	6	Broadcast end-of-file info
.CFTAD	7	Time and date arrived
.CFSHT	10	Shutdown of system is pending
.CFENQ	11	Cluster ENQ message

See the description of the HSHDRC field in the CFS Resource Block table for the possible value of the denial reason code field (CFDRC).

MONITOR TABLES

CH-CTERMD

This is the CTERM Connection Data Block. One CTERM Connection Data Block exists for each active CTERM connection.

Defined in: CTERMD

Format

Per connection CTERM data base - same as CDB

CHIMB	Address of CTERM message input buffer	
CHUID	Unique ID (used for stale detection)	
CHCO1	Last CCOC word (1) sent to server	
CHCO2	Last CCOC word (2) sent to server	
CHBR1	Last break mask (word 1) sent to server	
CHBR2	Last break mask (word 2) sent to server	
CHBR3	Last break mask (word 3) sent to server	
CHBR4	Last break mask (word 4) sent to server	
CHRFL	START-READ flags	
	CHLIN TOPS-20 TTY #	CHCHL DECnet36 channel number
	CHINC Count of bytes in input buffer	CHSTS Current status of DECnet link
	CHSTA Current CTERM state for this TTY	CHSSZ Maximum protocol message size
	CHMAX Maximum input buffer length	CHRLN START-READ length
	CHRID Remote host ID (node address)	CHRBL ^R Buffer length (0<RBFCNT)
	CHFLG	CHFL1
CHRBF CNT>/5>	<<RBF	
	Remote username string	

MONITOR TABLES
CH-CTERMD (Cont.)

For field CHFLG(0-17):

CHRDA	0	A read request is active in the server.
CHMRD	1	There is input data available in the server
CHSSD	2	Set "do not discard" in the next write message
CHDSO	3	Discard output (control-O is in effect)
CHRCX	4	CR-LF forced on in server's break mask
CHCLI	5	Clear input buffer
CHASR	6	Send another START-READ
CHCOC	7	Send CCOC words
CHTCI	8	Sending input characters to TTYSRV
CHCTM	9	CTERM INITIATE message has been received
CHBIN	10	Last message sent to server was Transparent (binary)

For field CHFL1(18-35):

CHEDT	18	Remote server supports editing
CHLWI	19	Remote server supports line width setting
CHRTI	20	Remote server supports remote TEXTI% prompts

MONITOR TABLES

CH-D36COM

This table defines the memory-manager data base for DECnet-36 pre-allocated message blocks and buffers.

Defined in: D36COM

Format

Core handler structure	
CHBOT	Pointer to free pool start
CHPTR	pointer to first free block
CHAVL	Number of available blocks
CHLWM	CHREQ
Low water mark	Size requested
CHNUM	CHSIZ
Total blocks, alloc & unalloc	Size of blocks

Field CHCON (0-0) Set if this block type subject to congestion

MONITOR TABLES

CH-LLMOP

This is the DECnet remote console LLMOP header MSD.

Defined in: LLMOP

Format

MSD for header	
CHIDD	ID word to hack for Transmit Complete
CHMSD	MD.LE
CHDAT	Room for Largest Remote Console header
.LN+3>/4>	<<RCH

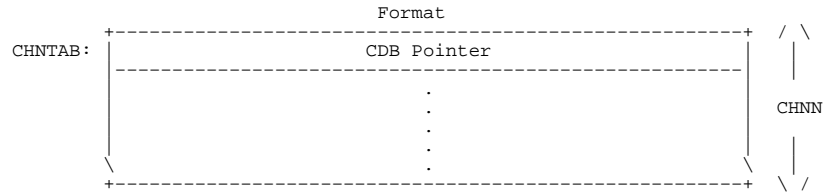
MONITOR TABLES

CHNTAB

Channel Table contains channel data block (CDB) pointers.

Defined in: STG

Index: Channel Number



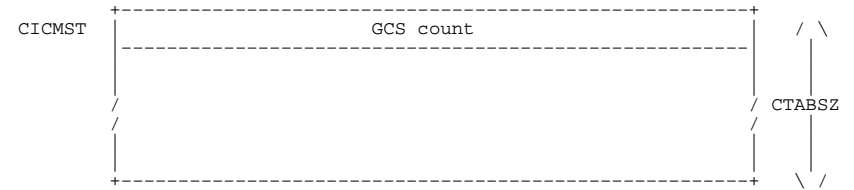
MONITOR TABLES

CICMST

This table contains the status of the oldest MSCP driver command for each connection. This is the status returned from the server. If the number does not decrease after each GCS command, we assume the remote is dead.

Defined in: PHYMSC

Index: Server connect id.



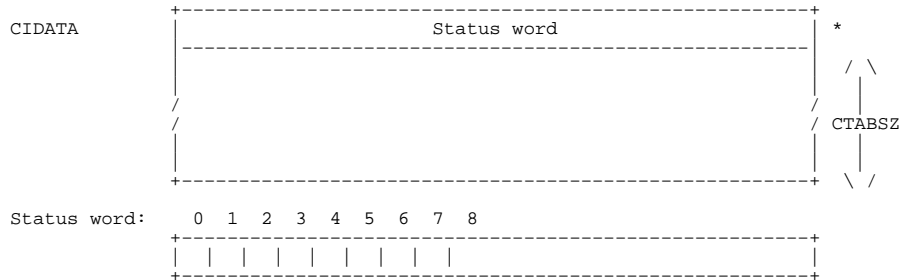
MONITOR TABLES

CIDATA

This table contains the state of the MSCP driver connection during initialization and, after initialization, the status of the connection.

Defined in: PHYMSC

Index: Server connect id.



Status word: 0 1 2 3 4 5 6 7 8

Symbol	Bits	Content
DT.TAP	0	Controller is a tape drive (must be sign bit)
DT.GAW	1	Node has gone away (connection broken)
DT.GCS	2	A GCS command is outstanding
DT.IDC	3	We have initiated a disconnect
DT.IRC	4	We have initiated a reconnect
DT.DIS	5	Other side has initiated a disconnect
DT.DI1	6	Already tried disconnect once
DT.NXU	7	First pass next unit test
DT.KL	8	Remote is KL

MONITOR TABLES

CI RELATED VARIABLES

This is a list of various CI related variables in SCAMPI. They are not stored in this contiguous format.

Defined in: SCAMPI

TOPFQ:	Address of top of message free queue
BOTFQ:	Address of bottom of message free queue
FQCNT:	Count of buffers on message free queue
TOPDC:	Address of top of "don't care" queue
BOTDC:	Address of bottom of "don't care" queue
TOPDFQ:	Address of top of datagram free queue
BOTDFQ:	Address of bottom of datagram free queue
DFQCNT:	Count of buffers on datagram free queue
SBCNT:	Number of system blocks
NOTTAB:	Address of notification table
NOTEND:	Address of end of notification table
UNQBTS:	Uniqueness bits to be assigned to next CID
UNQRFL:	Number of times uniqueness bits have been recycled
NXTIDX:	Next free index into table of CID's
CIDRFL:	Number of times CIDTAB has been recycled
CIDTAB:	Base address of the CID address table
UBTTAB:	Base address of the CID uniqueness bits table
SBSTUK:	Bit mask indicating which systems are stuck on buffers
RAPTIM:	Timer for SCA
RAPINC:	Min. time increment in milliseconds between reap runs
RNGSW:	Indicates which ring buffer events are recorded

MONITOR TABLES
CI RELATED VARIABLES (Cont.)

SNDTAB:	Table of packets sent	/\ .STLST \
RECTAB:	Table of packets received	/\ .STLST \
LISTEN:	Number of listeners	
RCBCNT:	Number of connections deleted by reaper	
TMGCNT:	Count of systems timed out by idle chatter	
TMGSBI:	Current system under investigation by idle chatter	
TMGTIM:	Timeout period for idle chatter	
MBPS:	Minimum message buffers per system block	
MBCR:	Minimum datagram buffers per system block	
MINMSG:	Minimum number of message buffers which should exist	
MINDG:	Minimum number of datagram buffers which should exist	
NMBCNT:	Count of times we ran out of message buffers	
NDBCNT:	Count of times we ran out of datagram buffers	
TOTMGB:	Total number of message buffers ever created	
TOTDGB:	Total number of datagram buffers ever created	
MBUST:	Number of times a small request was honored Even under message threshold	
DBVST:	Number of times a small request was honored Even under datagram threshold	
DMRCNT:	Number of message buffer requests deferred	
DDRCNT:	Number of datagram buffer requests deferred	
RMRCNT:	Number of message buffer requests refused	
RDRCNT:	Number of datagram buffer requests refused	

MONITOR TABLES
CI RELATED VARIABLES (Cont.)

ASRMR:	Average size of refused message request
ASRDR:	Average size of refused datagram request
LRGREQ:	Buffer requests of less than this size are small req.
MGTRSH:	MSG Threshold SC.ABF does not allocate a large request *
DGTRSH:	DG Threshold SC.ALD does not allocate a large request *

* A large request is any request larger than 2.

MONITOR TABLES

CLASS-SCHEDULER-STORAGE

This storage is used by the class scheduling algorithms.

Defined in: STG

Index: A number of the sections are indexed by either class (sections of length MAXCLS) or by job number (sections of length NJOBS).

	Format	
MJBUSE:	Highest job in use	
RDRTIM:	Time to do next reorder	
UTLTIM:	Time to compute utilization	
UTLINT:	Interval to compute next utilization	
OLDSLD:	Previous sold time	
OLDIDL:	Previous idle time	
CLASSF:	If non-zero, doing classy scheduling	
CLSCTL:	Class control word	*
CLSUTL:	Class utilization	\ / MAXCLS
JOBCLS:	Class per job	\ / NJOBS
JOBUTL:	Job utilization	\ / NJOBS
JOBIRT:	Job incremental runtime	\ / NJOBS
JOBDST:	Job distance	\ / NJOBS
CLSSHR:	Class share	\ / MAXCLS

MONITOR TABLES
CLASS-SCHEDULER-STORAGE (Cont.)

CLSSWA:	Windfall allocation (or -1)	\ / MAXCLS
CLSSHI:	Share per member	\ / MAXCLS
CLSCNT:	CLGLC Count of processes on GOLST per class	\ / MAXCLS
CLSDST:	Class distance	\ / MAXCLS
CLSSUM:	Integral of NRUN for classes	\ / MAXCLS
CLSIRT:	Class incremental runtime	\ / MAXCLS

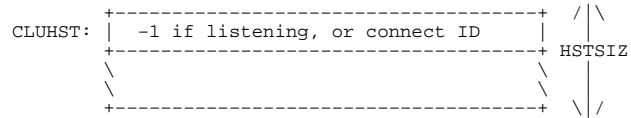
CLSCTL entry	0 1	9 10	18 19 20	25 26	36
	CLSDF	CLSBT	CLSKV		
	Bits	Pointer	Content		
	0	CLSBD	BATCH jobs to dregs queue		
	1-9	CLSDF	Default class		
	10-18	CLSBT	Batch class		
	19	CLSAC	If on, class by accounts		
	20-25	CLSKV	Current knob value		

MONITOR TABLES

CLUHST

This table contains information CLUDGR uses when it receives a connection to its listener. CLUHST is a maximum of HSTSIZ words long. HSTSIZ is defined in STG.

Defined in: CLULSN

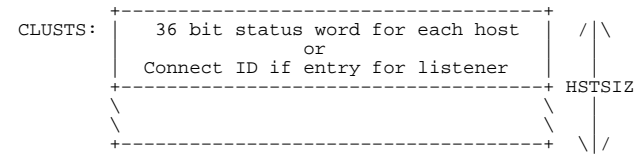


MONITOR TABLES

CLUSTS

This table is kept in parallel with CLUHST. It contains the status word or it contains a connect ID if this entry is associated with a listener. CLUSTS is a maximum of HSTSIZ words long. HSTSIZ is defined in STG.

Defined in: CLULSN



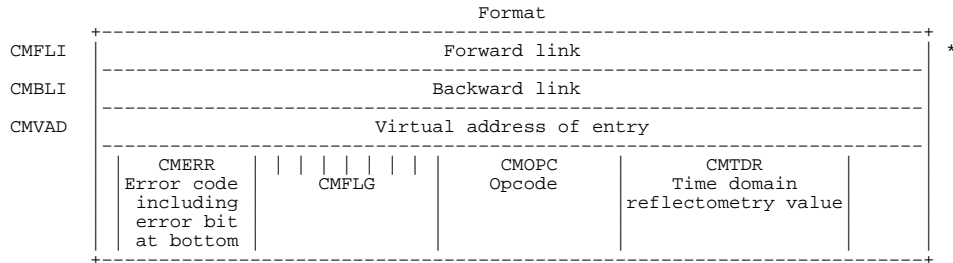
Name	Bit	Meaning
CL%RDY	0	Set when connection is fully opened
CL%OPN	1	Set when connection is being opened
CL%DNY	2	Set when remote system is rejecting CLUDGR requests
CL%LCL	3	Set when remote system has little credit left
CL%NOS	4	Set when remote system is refusing SEND ALLs
	5-17	Reserved for future expansion
CIDBUF	18-35	Contains the count of buffers in use by this connection.

MONITOR TABLES

CM

CM is the common header used in all NI command blocks. The remainder of a command block for a particular command is appended to the end of the common header.

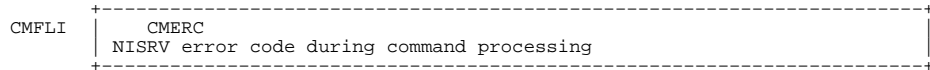
Defined in: PHYKNI



Field CMSRI (0-0) Send/receive indicator

For field CMFLG(7-14):

- CMPAC 7 Packing mode for non-BSD
- CMCRC 8 CRC included
- CMPAD 9 Unused
- CMB03 10 Unused
- CMBSD 11 Buffer segment descriptor format
- CMB05 12 Unused
- CMCLR 13 Clear counters
- CMRSP 14 Response needed

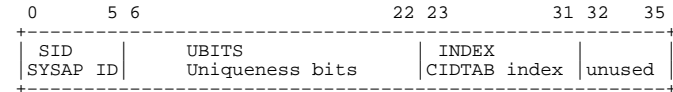


MONITOR TABLES

CONNECT ID FORMAT

This is the format of a SCA connect ID. Each SYSAP can specify the SYSAP ID to be of any value.

Defined in: SCAPAR



MONITOR TABLES

CSTnX

The CSTnX tables, where n ranges from 0 to 3, are the tables that allow access to the core status tables, now residing in extended sections. Each table holds 16 values, which allow indirect access to each of the CSTs, instead of the indexed access that was used when the CSTs were in section 0/1.

The values in the CSTnX tables are never changed and are determined when the monitor is linked. CST5 is still in section 0/1, so there is no need for a CST5X table.

Defined in: CSTnX

	0	5 6	35
CSTnX:	0	Address of CSTn	
	1	Address of CSTn	
	2	Address of CSTn	
	3	Address of CSTn	
	.		
	.		
	17	Address of CSTn	

MONITOR TABLES

CST0

Core Status Table 0 (sometimes referred to as CST). Each entry in this table is principally defined by the pager. If the page is in use, the entry contains the age stamp for the page; if the page is not in use, the age stamp field is used to show the page's state.

Defined in: STG

Index: Physical page number

Format

CST0:	CSTAGE Page State or Age	XGAGE	CFXRD	Fork #	* / \
					MAXCOR

MONITOR TABLES
CST0 (Cont.)

Symbol	Bits	Pointer	Content
AGEMSK	0-8	CSTAGE	If page in use, contents of pager age register (>= 100) at last age register reload If page not in use, this field indicates (right-justified) the page state as follows: PSRPQ = 0 On replaceable queue PSDEL = 1 To be put on replaceable queue PSRDN = 2 Read completed PSWIP = 4 Write in progress PSRIP = 6 Read in progress PSSPQ = 7 Page on special memory queue PSASN = 10 Page assign to process if age field >=PSASN. (The age field should always be strictly greater than 10 as it is initialized to 100 and increases in value as process runs.)
	9-14	XGAGE	Age at last XGC (low bits only)
	18	CSWRB	CST write bit
	19-32	CFXRD	Number of fork which initiated read if page not in use (that is, age field < 10).
PSTFLD	33-34	CSTPST	Special page state PSTAVL=.MCPASA=0 Available for RPLQ when freed PSTSPM=.MCPSS=1 Place on SPMQ when freed PSTOFL=.MCPSO=2 Offline-action as PSTSPM PSTERR=.MCPSE=3 Offline due to error action as PSTSPM
CORMB	35		This is the "modified" bit which is set by the pager on any write reference. This bit is 1 if the page has been written since the last operation.

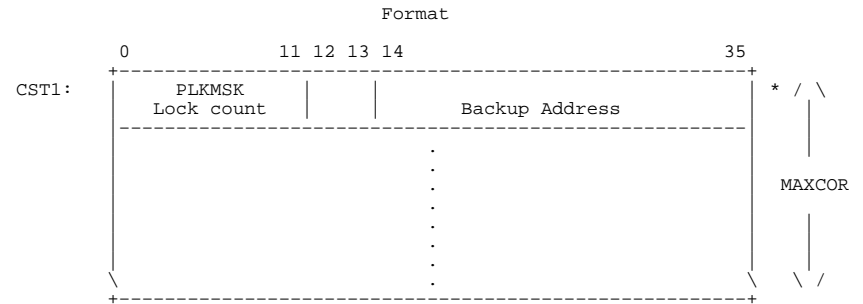
MONITOR TABLES

CST1

Core Status Table 1. This table is referenced only by the software and is parallel to CST0. It contains the lock count which indicates the number of system events requiring the page be locked in core (that is, page table contains other core addresses) and the backup address (next level of storage) for each page in core (1000000 if unassigned).

Defined in: STG

Index: Physical page number



Symbol	Bits	Pointer	Content
	0-11	PLKMSK	Lock count field-if non-zero, the page is not considered for swapping
PLKV	11		Page lock value in CST1
	14-35		Backup address

MONITOR TABLES

DEV`DTB

Device Dispatch Table. Each device has its own dispatch table that conforms to the format described below. An error return dispatch address is placed in those words which have no corresponding device function. The naming convention for these tables is the device name concatenated with DTB (that is, MTADTB, DSKDTB, and TTYDTB)

Defined in: PROLOG

	Format
DTBLH=0	Length of DTB Block
DLUKD=1	Directory Setup
NLUKD=2	Name Lookup
ELUKD=3	Extension Lookup
VLUKD=4	Version Lookup
PLUKD=5	Protection Insertion
ALUKD=6	Account Insertion
SLUKD=7	Status Modification
OPEND=10	Open File
BIND=11	Sequential Byte Input
BOUTD=12	Sequential Byte Output
CLOSD=13	Close File
REND=14	Rename File
DELD=15	Delete File
DMPID=16	Dump Mode Input
DMPOD=17	Dump Mode Output
MNTD=20	Mount
DSMD=21	Dismount
INDD=22	Initialize a Directory

MONITOR TABLES
DEV`DTB (Cont.)

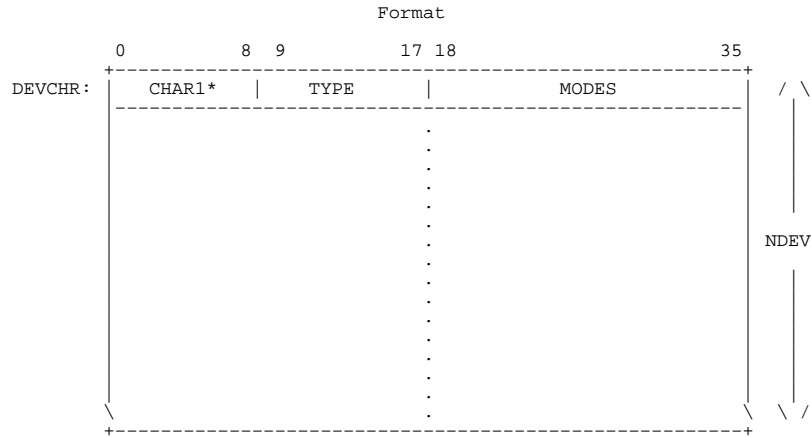
MTPD=23	MTOPR Operations
GDSTD=24	Get Device Status
SDSTD=25	Set Device Status
RECOU=26	Force Record Out (SOUTR)
RFTADD=27	Read File Time and Date
SFTADD=30	Set File Time and Date
JFNID=31	Set JFN for Input
JFNOD=32	Set JFN for Output
ATRD=33	Check Attribute
RLJFD=34	Release JFN

MONITOR TABLES

DEVCHR

Device Characteristics Table. This table contains indexed information about each device unit and is initialized from the INIDVT table at system startup time. See INIDVT table for bit definitions.

Defined in: STG



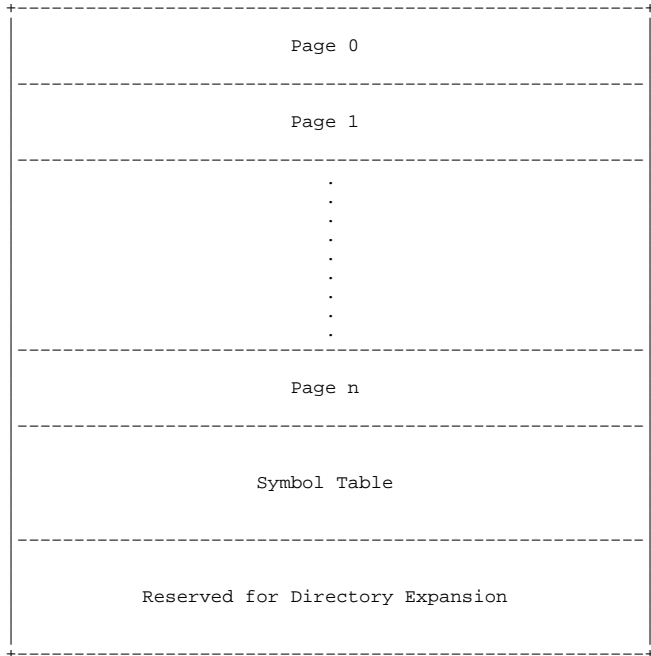
MONITOR TABLES

DIRECTORY

Directory Format. The following illustrations show the format of a TOPS-20 directory.

Defined: PROLOG

Overview of a Directory



MONITOR TABLES
DIRECTORY (Cont.)

First Page of a Directory

0	17	18	23	24
DRTYP	Block Type	TYDIR (400300)	DRVER	DRHLN
			Ver. #	Length of Header
DRRPN	Relative Page # in DIR		DRNUM	Directory Number
DRFFB	Pointer to First Free Block			
DRSBT	Address of start of Symbol Table			
DRSTP	Address of end of Symbol Table			
DRFTP	Address of Last Used Word+1 for Strings and FDBs			
DRFBT	Pointer to Free Bit Table			
DRDPW	Default File Protection			
DRPRT	Default Directory Protection			
DRDBK	Backup Specification			
DRLIQ	Logged In Quota			
DRLOQ	Logged Out Quota			
DRDCA	Current Directory Allocation			
DRNAM	Pointer to Directory Name String			
DRPSW	Pointer to Password String			

.DRFFB=2

*

MONITOR TABLES
 DIRECTORY (Cont.)

DRPRV	Privilege Bits	
DRMOD	Mode Bits	
DRDAT	Date and Time of Last Interactive LOGIN	
DRUGP	Pointer to User Group List	
DRDGP	Pointer to Directory Group List	
DRUDT	Date and Time of Last Update to Directory	
DRSDM	DRSDC	
Max # of Subdirectories	Count of Subdirectories	
DRCUG	CRDIR allowed specifying these User Groups	
DRACT	Pointer to Dir. Default Account	
DRDNE	Default online expiration date/interval	
DRDFE	Default offline expiration date/interval	
DRRNA	Pointer to remote alias list	
Reserved	DRPEV	Password encryption ver.
DRPDT	Creation date/time of password	
DRPED	Expiration date/time of password	
DRPUD	Password use data	

MONITOR TABLES
 DIRECTORY (Cont.)

DRPPN	TOPS-10 project-programmer number			
DRNIL	Last non-interactive LOGIN date-time			
DRFIL	DRFNL			
Failed interactive Login attempts	Failed non-interactive Login attempts			
Spare Words				
Free Space for Strings and FDBs				
	18	23 24	29 30	35
DRPRT	DRPOW	DRPGP	DRPWL	
	Bits	Pointer	Content	
	18-23	DRPOW	Owner field	
	24-29	DRPGP	Group field	
	30-35	DRPWL	World field	
DRPUD	DRPCU	DRPMU		
	0-17	DRPCU	Current password use count	
	18-36	DRPMU	Maximum password use count	

MONITOR TABLES
 DIRECTORY (Cont.)

General format for all blocks

0	17 18	23 24	35
BLKTYP Type code	BLKVER Ver. #	BLKLEN Length	

Possible type codes are:

Code	Value	Type
.TYNAM	400001	Name Block
.TYEXT	400002	Extension Block
.TYACT	400003	Account Block
.TYUNS	400004	User Name Block
.TYFDB	400100	File Descriptor Block
.TYLAC	400200	Legal Account List
.TYDIR	400300	Directory
.TYSYM	400400	Symbol Table
.TYFRE	400500	Free Block
.TYFBT	400600	Free Storage Bittable
.TYGDB	400700	Group Descriptor Block

Subsequent Directory Pages

DRTYP .TYDIR (400300)	DRVER Ver. #	DRHLN Length of Header
DRRPN Relative Page # in DIR	DRNUM Directory Number	
DRFFB	Pointer to First Free Block	
Free Space for Strings and FDBs		

MONITOR TABLES
 DIRECTORY (Cont.)

Symbol Table

SYMTY .TYSYM (400400)	SYMDN Dir. # of Sym.Tbl.
-1	
SYMET Type	SYMAD Address of FDB
SYMVL	First 5 Characters of Name, Account or User Name for last writer/author in ASCII
	.
	.
	.
	.
	.
	.
	.

0 1 2 3	35
Type	Address of FDB

Bits	Pointer	Content
0-2	SYMET	Entry Type 0 = .ETNAM Name 2 = .ETUNS User Name 4 = .ETACT Account
3-35	SYMAD	Address of FDB

MONITOR TABLES
 DIRECTORY (Cont.)

User Name String

UNTYP .TYUNS (400004)	Ver. #	UNLEN Length
UNSHR Share Count of User Name String		
UNVAL ASCIZ User Name String		

Name String

NMTYP .TYNAM (400001)	Ver. #	NMLEN Length
NMVAL ASCIZ Name String		

Extension String

EXTYPE .TYEXT (400002)	Ver. #	EXLEN Length
ASCIZ Extension String		

Account String

ACTYP .TYACT (400003)	Ver. #	ALLEN Length
ACSHR Share Count		
ACVAL ASCIZ Account String		

MONITOR TABLES
 DIRECTORY (Cont.)

File Descriptor Block (FDB)

FBTYP .TYFDB (400100)	FBVER Ver. #	FBLEN Length
See FDB Table for Details of this Block		

Free Space

FRTYP .TYFRE (400500)	FRVER Ver. #	FRLEN Length
FRNFB Pointer to Next Free Block or 0 if at end		
Remainder of Free Block		

Free Storage Bit Table

.TYFBT (400600)	Ver. #	Length
Bit Table Containing 1 Bit per Directory Page		
0 = No Room on the Page		
1 = There is Room on the Page		

MONITOR TABLES
 DIRECTORY (Cont.)

Group List

.TYGDB (400700)	Ver. #	Length
Group #		Group #
Group #		0

MONITOR TABLES

DIRECTORY CACHE

This resident table contains the directory cache and a lock for the cache. Every five words (excluding the lock) describes an entry.

Defined in: STG, PROLOG

Reference by: DIRECT

Format

DIRCLK:	Directory cache lock		
DIRCSH:	Directory number of this entry		/ \
DCDIRN=0			
DCSTRN=1	Structure information (1.half of SDBFLK in SDB)	Structure number	
DCSHRC=2	Share count of the entry		normal entry
DCSOFN=3	OFN for this directory		
DCSTIM=4	Time at which this entry was last referenced		
	.		DIRSCZ (^D25) *5
	.		
	.		

MONITOR TABLES

DL

This is the DECnet data link block -- DL.

Defined in: D36PAR

Format

DLNXT	Link to next data link block		
DLUID	ID supplied by DNADLL user		
DLDID	Device ID		
DLUNB	<table border="1"> <tr> <td>DLFLG</td> <td>DLKNO Kontroller number (DTE only)</td> </tr> </table> Pointer to the User-NI block	DLFLG	DLKNO Kontroller number (DTE only)
DLFLG	DLKNO Kontroller number (DTE only)		
DLPID	Portal ID		
DLLTP	Line table pointer		
DLSLZ	(0) Seconds since last zeroed		
DLBYR	(1000) Total bytes received		
DLBYS	(1001) Total bytes sent		
DLDBR	(1010) Total data blocks received		
DLDBS	(1011) Total data blocks sent		
DLUBU	(1065) User buffer unavailable		

For field DLFLG(0-5):

DLRUN	0	Data link is running
DLEBU	1	Emergency buffer in use
DLLIU	2	Line in use by circuit

MONITOR TABLES

DNA PARAMETER AND COUNTER DATA BASE

This is the DNA parameters and counters data base description. The entity data bases are pointed to by table PRMP.

Defined in: NTMAN

Each entity type (NODE, LINE) has a data base composed of two word blocks associated with it. The two word blocks have the format:

Word 0	0	3 4	8 9	14 15	20 21	35
	NTTYP	NTLEN	NTROU	NTDEV	NTQUA	

Bits	Pointer	Content
0-3	NTTYP	Data type
		NT.FC=1 - Coded format
		NT.FCM=2 - Coded multiple
		NT.FAI=3 - Ascii image (8-bit)
		NT.FDU=4 - Decimal, unsigned. Cannot be zero
		NT.FDS=5 - Decimal, signed
		NT.FH=6 - Hex integer
		NT.FHI=7 - Hex, image
		NT.FOC=10 - Octal
		NT.FDM=11 - Decimal, milliseconds
		NT.FVN=12 - Version number
		NT.FNE=13 - Node entity ID
		NT.FNN=14 - Ascii node name
		NT.FCN=15 - Ascii circuit name
4-8	NTLEN	Length
9-14	NTROU	Index to routine to call
15-20	NTDEV	Device applicability
		NTD.R - DMR-11
		NTD.N - Ethernet (NIA20)
		NTD.C - Computer Interconnect (CI20)
		NTD.P - DDP (DUP11)
		NTD.K - KDP (KMC11/DUP11)
		NTD.D - DTE-20 (UGH)
21-35	NTQUA	Qualifier Parameter Number

MONITOR TABLES
DNA PARAMETER AND COUNTER DATA BASE (Cont.)

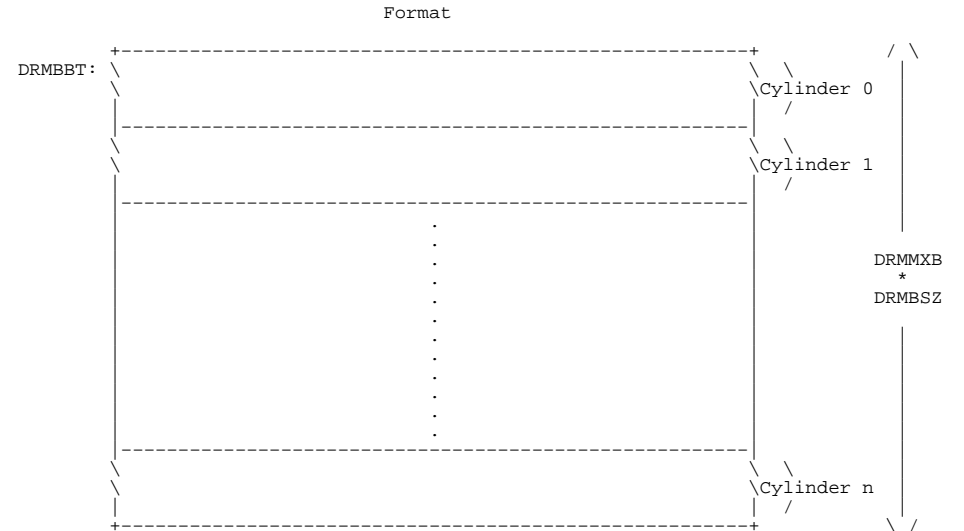
	0	3 4	9 10	11 12	13	22 23	35
Word 1	NTAPL	NTINF	NTSET	NTBUF	NTBSZ	NTSEQ	
Bits	Pointer	Contents					
0-3	NTAPL	Applicability restrictions NTA.E - Executor NTA.L - Loop nodes NTA.R - Remote nodes NTA.H - Home area nodes					
4-9	NTINF	Information type NTI.C - Characteristics NTI.S - Status NTI.% - Summary NTI.K - Circuit State NTI.Q - This parameter is qualified NTI.N - None. NOOP bit					
10-11	NTSET	Settability restrictions NTS.=0 - Read and write NTS.R=1 - Read only parameter NTS.W=2 - Write only parameter					
12	NTBUF	Buffer Field NTB.=0 - Parameter value fits into a word NTB.B=1 - Parameter value too big					
13-22	NTBSZ	Buffer size needed (if needed)					
23-35	SEQ	Sequence or type of field					

MONITOR TABLES

DRMBBT

Drum Bit Table. This bit table indicates which pages are in use and which pages are available in the swapping area.

Defined in: STG



NOTE

The bit map for each cylinder starts on a word boundary and contains as many full words as are needed for all of its pages.

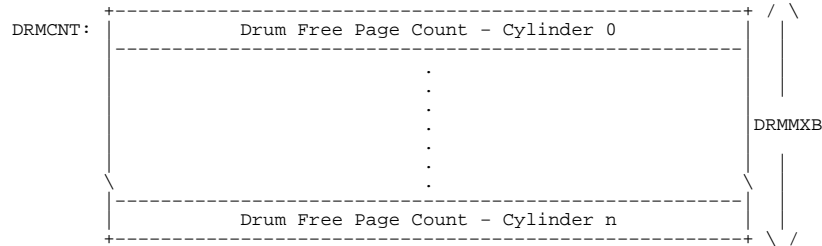
MONITOR TABLES

DRMCNT

Drum Count Table. This resident table, indexed by cylinder, records the free page count for the drum (logical swapping area). The total free page count for all the cylinders is kept in the storage word, DRMFRE.

Defined in: STG

Format



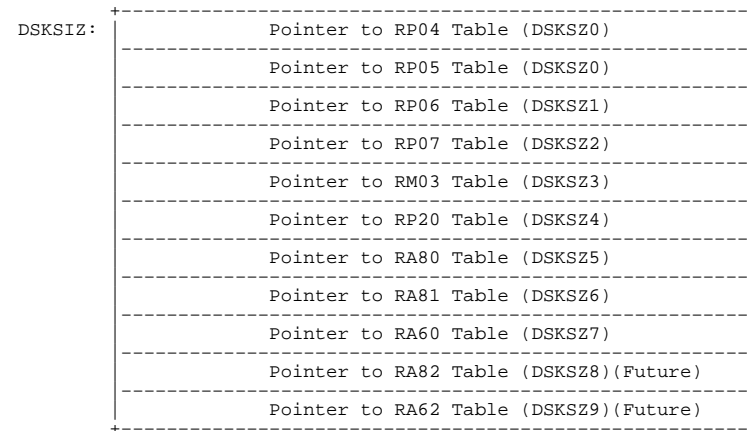
MONITOR TABLES

DSKSIZ

Disk Size Pointer Table. This table contains pointers to the disk size data tables. DSKSIZ is parallel to DSKUTP which contains codes for the known disk types. When an entry is added to DSKUPT, a corresponding entry must be added to DSKSIZ to point to the correct size data for that type of disk.

Defined in: PHYSIO

Format



MONITOR TABLES

DSKSZ`N

Disk Size Table (for type n). The resident table contains size data (for disks) based on type.

n = 0 for RP04 and RP05
 n = 1 for RP06
 n = 2 for RP07
 n = 3 for RM03
 n = 4 for RP20
 n = 5 for RA80
 n = 6 for RA81
 n = 7 for RA60
 n = 8 for RA82 (future)
 n = 9 for RA62 (future)

Defined in: STG

Format

DSKSZ`n:	Sectors per Page
SEGPAG=0	
SECCYL=1	Sectors per Cylinder
PAGCYL=2	Pages per Cylinder
CYLUNT=3	Cylinders per Unit
SECUNT=4	Sectors per Unit
BTWCYL=5	No. of Bit Words in Bit Table per Cylinder
LPPCYL=6	Lost Sectors per Surface
MINFPG=7	Minimum Free Pages for Free Choice Allocation
MAXFPU=10	Pages per Unit for DSKASN turning point
SECSRF=11	Sectors per Surface
USSECU=12	Microseconds per LATOPT sector unit
TRECPP=13	True Section per Page (RAXX disks only)

MONITOR TABLES

DSKUTP

Disk Unit Type. This table contains the unit types used by the file system.

Defined in: PHYSIO

Format

DSKUTP:	RP04 Disk Unit Code (.UTRP4 = 1)	/ \
	RP05 Disk Unit Code (.UTRP5 = 5)	
	RP06 Disk Unit Code (.UTRP6 = 6)	
	RP07 Disk Unit Code (.UTRP7 = 7)	
	RM03 Disk Unit Code (.UTRM3 = 11)	
	RP20 Disk Unit Code (.UTP20 = 24)	
	RA80 Disk Unit Code (.UTR80 = 27)	
	RA81 Disk Unit Code (.UTR81 = 30)	
	RA60 Disk Unit Code (.UTR60 = 31)	
	RA82 Disk Unit Code (.UTR82 = 32) (Future)	
	RA62 Disk Unit Code (.UTR62 = 33) (Future)	

NDSKUT

MONITOR TABLES

DST

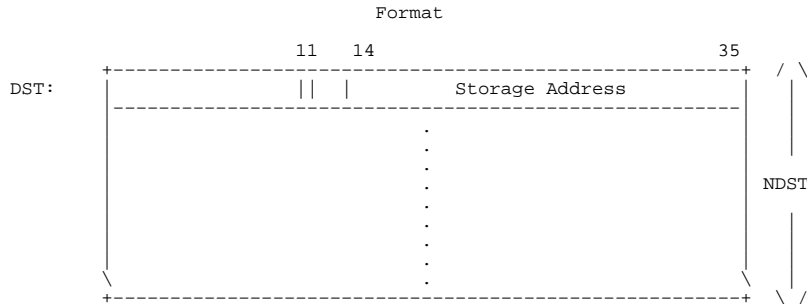
Drum Status Table. This table is indexed as a function of the drum (swapping space) address. The DST holds the address of the next lower level of storage (usually disk) for the page stored at that address on the drum.

BWRBIT (bit 11) indicates if the page has been changed since being read from the lower level storage. The page is only copied back on to the lower level storage if BWRBIT is set (that is, page modified) when the page is no longer in use. A slot no longer in use contains a -1.

The DST table is in an extended section and is pointed to by DSTLOC.

Defined in: STG, PROLOG

Index: Drum page number



MONITOR TABLES
DTE-STORAGE-AREA (Cont.)

COMH:	Queue Header (Points to 1st Free Packet in COMQ)	\\
DTESTS:	DTE 1 Status Word	* \\
	.	
	DTE n Status Word	DTEN
DTEST1:	DTE 1 Secondary Status Word	* \\
	.	
	DTE n Secondary Status Word	DTEN
DTE TMR:	DTE 1 Timer Variable	\\
	.	
	DTE n Timer Variable	DTEN
DTBFWD:	Hdr. Word for DTE 1 Buf (Ptr. to 2nd Input Buf,, Ptr. to 1st Input Buf)	\\
	.	
	Header Word for DTE n Buffer	\\
DTE TR4:	Interrupt Return PC for DTE 1	\\
	.	
	Interrupt Return PC for DTE 2	\\
DTE SKP:	Local PDL Stack	DTESZ
DTE ACB:	Block to Save ACs	16 \\
DTE IND:	Storage for Indirect Function for DTE 1	* \\
	.	
	Storage for Indirect Function for DTE n	DTEN
DTE END:	DTE 1 Resident free space debugging storage	\\
	.	
	DTE n Resident free space debugging storage	DTEN

MONITOR TABLES
DTE-STORAGE-AREA (Cont.)

DTEOBL:	DTE 1 Pointer to section zero output block	\\
	.	
	DTE n Pointer to section zero output block	DTEN
DTEIBL:	DTE 1 Pointer to section zero input block	\\
	.	
	DTE n Pointer to section zero input block	DTEN
DTEDID:	DTE 1 Router's circuit ID list	\\
	.	
	DTE n Router's circuit ID list	DTEN
DCNCID:	DTE 1 DECnet callback ID list	\\
	.	
	DTE n DECnet callback ID list	DTEN
PKTADR:	Storage for Queue Packets (One 3-Word Packet/RSX20F Protocol DTE)	* \\
		PKTSZ1
COMBUF:	Processor # Index into COMBAS to get to this Processor's Comm Area	\\
	4	DTEN+1
	3	Header Area
	2	Area
	1	
	0	\\
COMBAS:	KL10 "Owned" Area	* \\
	"To" DTE1 Area	
	"To" DTE2 Area	Master Process Comm Area
	.	
	.	

MONITOR TABLES
DTE-STORAGE-AREA (Cont.)

	"To" DTEn Area	Communication Region
	DTE1 "Owned" Area	DTE1 Comm Area
	"To" KL10 Area	
	.	
	.	
	DTEn "Owned" Area	DTEn Comm Area
	"To" KL10 Area	
TAD11:	Time Packet from -11	/ \ 3
TO11TM:	Time Packet to -11	/ \ 3
	KLINIK Data Base	/ \ KLISIZ
RLDFRK:	System wide handle of reload fork	/ \
SNGPK1:	Single-Packet-1 Header Word	/ \
	Packet Data (5 Words)	/ \ 5
SNGPK2:	Single-Packet-2 Header Word	/ \ *
	Packet Data (5 Words)	/ \ 5

MONITOR TABLES
DTE-STORAGE-AREA (Cont.)

COMQ area for queue packets where a packet (5 words in length) has the form:

	0	17 18	35
	QINT Int loc for this function		QLINK Link to next packet
QNSPH	QFNC Function work for this request		QDEV DTE device code for this request
	0 QLIN Device unit number	17 QMODE Data must be byte mode	19 QCNT Byte count or byte or 0
	QPNTR Byte pointer for indirect operation or Local 8-bit datum if QCNT = 0		
	QCOD Unique code returned to interrupt routine, TTYINT		

COMQ area is currently assembled for room of ^D20 packets.

MONITOR TABLES
DTE-STORAGE-AREA (Cont.)

	0	1	2	3	4	5	6	17	18	29	30	35	
DTESTS entry								DTEB1		DTEBC		DTEST	
	Bits							Pointer		Contents			
	0	DTERL								If set, DTE exists			
	1	DTEBF								Says which buffer is in use for RSX20 protocol			
	2	DTBLK								For MCB, to -10 is blocked on free space			
	3	DTRLD								If set, -11 is being reloaded			
	4	DTKAC								If set, -11 is ill			
	5	DSTI								Status packet is split			
	6-17	DTEB1								Byte count of list transfer			
	18-29	DTEBC								Byte count remaining for subsequent transfer			
	31	DTIPU								If set, protocol is running			
	32-35	DTEST								DTE status			
										DTE10=1--KL10 is receiving last fragment of message			
										DTE11=2--11 is receiving bytes			
										DTE11I=4--11 is receiving an indirect queue entry			
										DTE1F=10--KL10 is receiving 1st fragment of a message			

MONITOR TABLES
DTE-STORAGE-AREA (Cont.)

DTEST1 is parallel to DTESTS and contains current operation data and special request bits for "To" -11 conditions.

	0	15	16	31	32	33	34	35
DTEST1 entry	DT1FC		DT1DV					
	Bits		Pointer		Contents			
	0-15	DT1FC		Current function code				
	16-31	DT1DV		Current device code				
	32	DT1TM		-11 wants time of day				
	33	DT1ID		Waiting for indirect setup				

Storage for indirect packets:

	0	7	8	15	16	17	35
DTEIND entry	INUNT		INCNT				
	Bits		Pointer		Contents		
	0-7	INUNT		Unit			
	8-15	INCNT		Count			
	16	INVLD		If set, says unit field is invalid			

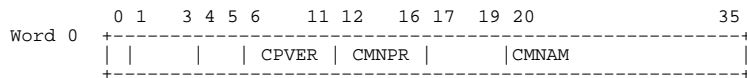
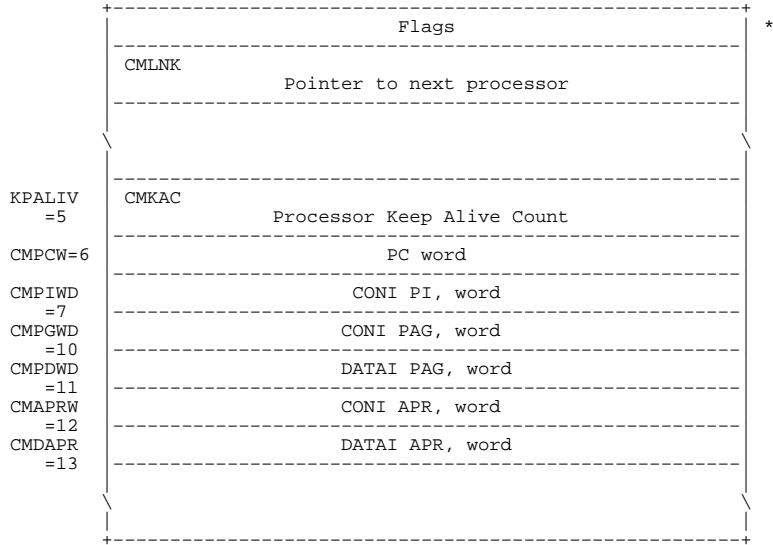
PKTADR is storage for currently activated DTE packets for each DTE (packet taken from the linked list of packets on the queue in COMQ and placed here). The packet has the following form:

	0	15	16	31	32	35
	HDCNT		HDFNC			
	Count		Function			
	HDDEV		HDSPR			
	Device code		Spare			
	HDLIN	7	8	HDDT1		
	Line #	DHDAT		Datum for a single datum packet		
		Datum *				

Datum could be a character (direct packet case) or Max number of characters to be sent (indirect packet case)

MONITOR TABLES
DTE-STORAGE-AREA (Cont.)

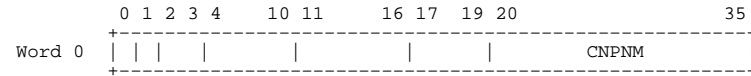
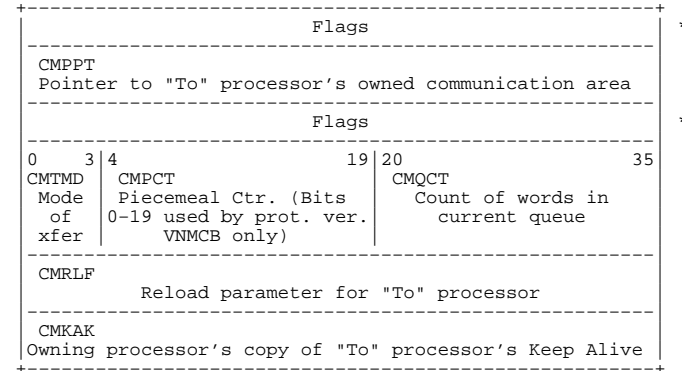
COMBAS "Owned" Area Block Format



Bits	Pointer	Contents
0	CMTEN	Set if area belongs to KL10
1-3	CMVER	Communication area version number
6-11	CPVER	Protocol version number
12-16	CMNPR	Number of processors represented in this area (including owner)
17-19	CMSIZ	Size of area in 8-word blocks
20-35	CMNAM	Processor name (= serial number)

MONITOR TABLES
DTE-STORAGE-AREA (Cont.)

"To" Area Block Format



Bits	Pointer	Contents
0	CMPRO	If set, it implies connected to a KL10
1	CMDTE	If set, there is a DTE connecting this processor and owning processor
2-3	CMDTN	If CMDTE is set, this is the number of that connecting DTE
11-16	CMVRR	Protocol in use by the 2 processors
17-19	CMSIZ	Size of "to" area in 8-word blocks
20-35	CMPNM	"To" processor number

MONITOR TABLES
DTE-STORAGE-AREA (Cont.)

	0	1	2	3	4	12	13	14	16	17	18	19	20	27	28	35
Word 2																

Symbol	Bits	Pointer	Contents
	0	CMPWF	Power fail indicator -11
	1	CML11	Wants reload (set by -11)
	2	CMINI	Initialization bit for MCB protocol only
	3	CMTST	Valid examine if set (should always be set)
	13	CMQP	Set if using queued protocol
	17	CMFWD	-11 doing full word transfer (set by -11)
CMIP	18		-11 doing indirect transfer
CMTOT	19		"Toit" bit. Set to 1 by KL10 in -11's section of -10's Comm area after -11 sets QMode bit or increments Q-count, and after -10 processes the doorbell. Cleared by KL10 after receiving T010DN. Assures -11 that the KL10 has not lost a T010DN interrupt
	20-27	CMOIC	-11s wrap around count of direct Q transfer
	28-35	CM1IC	KL10's wrap around count of direct Q transfers.

MONITOR TABLES
DTE-STORAGE-AREA (Cont.)

	0	1	2	3	16	17	31	32	35
Header Word									

Symbol	Bits	Contents
SNGONQ	0	On the DTE packet queue pointed to by DTEQS
SNGAVL	1	Packet has space available
SNGACT	2	Packet active (that is, DTE processing it)
	16-31	Link to next packet

SNGPK1	0	7	8	16	17	24	25	31	32	35
/2	Flags			Link to next packet						
	Packed byte count			Function						
	Device			Spare						
	Line #	Datum	Line #	Datum	Line #	Datum	Line #	Datum	Line #	Datum
	Line #	Datum	Line #	Datum	Line #	Datum	Line #	Datum	Line #	Datum
	Line #	Datum	Line #	Datum	Line #	Datum	Line #	Datum	Line #	Datum

MONITOR TABLES

DTEDTV

DTE Protocol Device Dispatch Table. The entries with the dispatch address TTYDTV are for the CTY, DL11, DH11 and DLS devices.

Defined in: STG

Format

DTEDTV:	Reserved for Unknown Device
	TTYDTV
	TTYDTV
	TTYDTV
	TTYDTV
	LPTDTV
	CDRDTV
	0 (Unknown Device)
	FEDTV

MONITOR TABLES

EC

This is the DECnet event communication block, a communications area between a layer and N1MAN.

Defined in: D36PAR

Format

	ECLOS Count of "events lost"	ECCNT Count of events on queue
*	ECLAY	ECETY Entity type of DECnet device this EC block belongs to
ECEID	Entity ID of DECnet device this EC block belongs to	
	ECMAX Maximum number of events on queue allowed	
Field ECDEL	(0-0)	This EC block marked for deallocation
Field ECLAY	(3-5)	DECnet layer this EC block belongs to

MONITOR TABLES
EL (Cont.)

ELDIM	Ptr to DI message	\
ELNSL	The normal sublink block	ES.LE
ELOSL	The other sublink block	ES.LE
ELCIR	Output circuit for loopback connection	
ELCHK	Address of this EL, for addr check	

For field ELFLG(0-8):

ELOJQ	0	Link is on the jiffy-request queue
ELSNC	1	Set if not yet told SC about no conf
ELCNF	2	Set if we have confidence in link
ELSCM	3	Send connect ACK message next jiffy
ELSDM	4	Send disconnect confirm message next jiffy
ELABO	5	Aborting this logical link
ELDTO	6	Delay timer is for "other" sublink

Field ELVER (18-20) Version of remote NSP, see VER3.1,VER3.2

MONITOR TABLES

ENQ/DEQ-LOCK-BLOCK

Enqueue Lock-Block. Each resource is described in a lock-block. The lock-block is created at the time of the first request.

Defined in: ENQ

	Format	
	0	17 18 35
0	ENQLHC	Back Pointer to Last Lock-Block on Hash Chain
1	ENQNHLC	Pointer to Next Lock-Block on Hash Chain
2	ENQLLQ	Back Pointer to Last Q-Block on Lock Queue
3	ENQNLQ	Forward Pointer to First Q-Block on Lock Queue
4	ENQFLG	ENQLVL
	Flags	Reserved Level Number of this Lock *
5	ENQTR	ENQRR
	Total Number of Resources in this Pool	Remaining Number of Resources in this Pool
6	ENQTS	Time Stamp Time of Last Request Locked
7	ENQFBP	Free Block Pointer to Free Q-Block
10	ENQLT	Long Term Lock List for System
11	ENQOFN	ENQLEN
	OFN, or -2, or -3, or 400000 + Job Number	Length of this Lock-Block

MONITOR TABLES
ENQ/DEQ-LOCK-BLOCK (Cont.)

12	ENQNMS Number of Words in the Mask Block	ENQHS Hash value for this Lock Block
13	ENQAFP Forward Pointer to Lock Block Action List	
14	ENQABP Backward Pointer to Lock Block Action List	
15	ENQTXT ASCIZ String or 500000,,0 + User Code	

The flags word must occur in the same position in both the Lock-Block and the Q-Block. The flags word is used to distinguish a Lock-Block from a Q-Block.

Defined in: ENQPAR

	0	11 12	17 18	35
Word 4	ENQFLG Flags	Reserved	ENQLVL Level # of this Lock	

Symbol	Bits	Pointer	Meaning
	0-2		Unused
EN.SDO=400	3		Scheduling pass needed on Lock-Block
EN.CLL=200	4		Cluster-wide queue block or Cluster-wide lock-block
EN.NOV=100	5		No vote for this lock-block Set during caching and for -1 type locks
EN.LTL=40	6		Long Term Lock
EN.INV=20	7		This Q-Block is invisible
EN.LOK=10	8		The Q-Block has the Lock Locked.
EN.TXT=4	9		This Block has a Text String Identifier.
EN.EXC=2	10		Request is Exclusive
EN.LB=1	11		This is the Lock-Block
	12-17		Reserved
	18-35	ENQLVL	Level # of this lock.

MONITOR TABLES

ENQ/DEQ - STORAGE AREA

Enqueue/Dequeue Storage Area. The non-resident local area for the ENQ/DEQ Facility is illustrated first followed by the resident bit table, ENFKTB. A bit is set in the ENFKTB bit table if the fork should be woken up or interrupted because it owns a lock. (The Scheduler's wake-up test routine address is ENQTST.)

Defined in: STG

Format

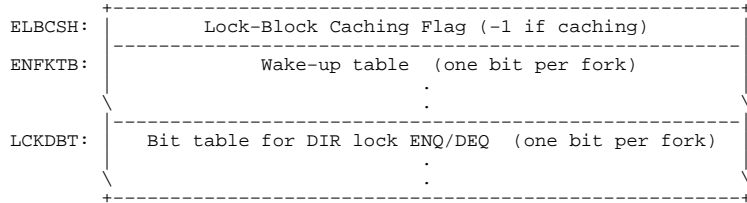
HSHTBL:	Hash table for ENQ locks Two words per logical slot	/ \ * HSHTLEN* 2 / \
ENQLOK:	Data base lock for ENQ and DEQ (-1 if free)	
ENQLTL:	List of long term locks	
ENQLTS:	Time of next garbage collection	

Each logical slot in HSHTBL is two words long:

HSHTBL:	Back Pointer
	Forward Pointer
	Back Pointer
	Forward Pointer
	.
	.
	.
	Back Pointer
	Forward Pointer

MONITOR TABLES
ENQ/DEQ - STORAGE AREA (Cont.)

Resident storage



* The name (or identifying number) of a lock block is hashed to provide a number. This number, module HSHLEN, then doubled, is used as an index into HSHTBL. If the hashing algorithm yields the same index for more than one lock block name, the lock blocks are linked together; the HSHTBL entry is the linked list header.

MONITOR TABLES

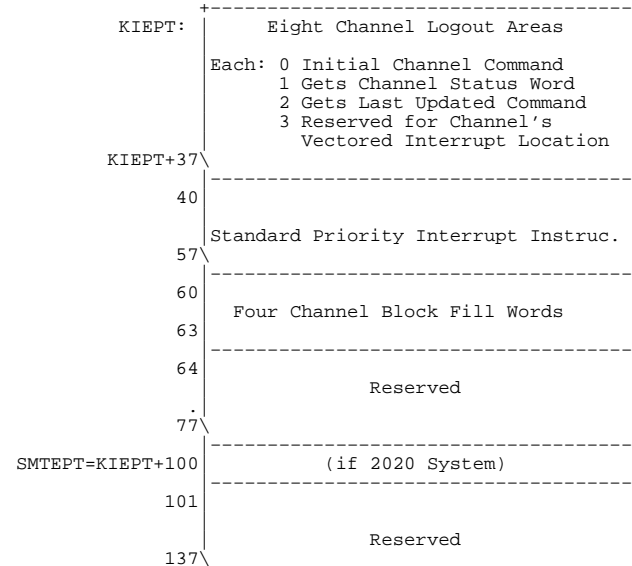
EPT

Executive Process Table. This memory resident table pointed to by the Executive Base Register (EBR), contains the vectored dispatch addresses for system events. All device interrupts pass control to a specific offset position in this table.

This table also includes the executive section map table, the time of day clock and arithmetic trap instructions which are executed when arithmetic conditions occur in executive mode.

Defined in: STG

Format



MONITOR TABLES
EPT (Cont.)

DTEEBP=KIEPT+140	Four 8-word DTE20 Control Blocks Each: 0 To -11 Byte Pointer 1 To -10 Byte Pointer 2 Interrupt Location 3 Reserved 4 Examine Protection Word 5 Examine Relocation Word 6 Deposit Protection Word 7 Deposit Relocation Word
DTEETBP=KIEPT+141	
DTEINT=KIEPT+142	
143	
DTEEPW=KIEPT+144	
DTEERW=KIEPT+145	
DTEDPW=KIEPT+146	
DTEDRW=KIEPT+147	
	DTE1 Control Block
	DTE2 Control Block
	DTE3 Control Block
177\	
EPTMHI=KIEPT+200	Available to Software
417\	
EPTTPI=KIEPT+420	LUUO from Executive Mode (.LUTRP)*
421	Executive Arithmetic Overflow Trap Instruction (JFCL)*
422	Executive Stack Overflow trap Instruction (.PDOVT)*
423	Executive Trap 3 Trap Instruction (JFCL)*
424	Reserved
437\	
440	Reserved for Software
443\	

MONITOR TABLES
EPT (Cont.)

DTEFLG=KIEPT+444	Operation Complete Flag
DTECFK=KIEPT+445	Clock Interrupt Flag
DTECKI=KIEPT+446	Clock Interrupt Instruction
DTEI11=KIEPT+447	"To" 11 Argument
DTEF11=KIEPT+450	"From" 11 Argument
DTECMD=KIEPT+451	Command Word
DTESEQ=KIEPT+452	DTE20 Operation Sequence Number
DTEOPR=KIEPT+453	Operation in Progress Flag
DTECHR=KIEPT+454	Last Typed Character
DTECMD=KIEPT+455	Monitor TTY Output Complete Flag
DTEMTI=KIEPT+456	Monitor TTY Input Flag
DTESWR=KIEPT+457	Console Switch Register
460	Reserved for Software
477\	
500	Reserved
507\	
TIMBAS=KIEPT+510	Time Base
511	
512	Performance Analysis Count
513	
TIMVIL=KIEPT+514	Internal Counter Interrupt Instruc.
MSECTB=KIEPT+540	EXEC SECTION 0
577\	EXEC SECTION 37

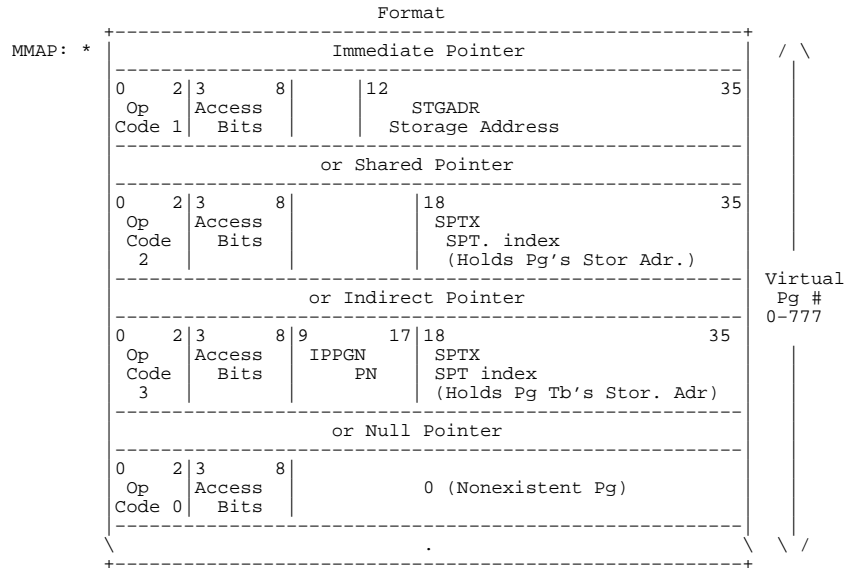
MONITOR TABLES

EXEC-PG-MAP-TBL

Executive Page Map Table. This 512-word memory resident table holds or points to other tables that hold all of the mapping information needed by the firmware to translate executive (monitor) virtual addresses in a given section into physical memory addresses. It is pointed to by an entry in the monitor's section table in the Executive Process Table (EPT).

The four possible formats for an entry in this table (that is, Immediate, shared, indirect or null pointers) are illustrated below. The details of these four possible pointer words as well as the mechanics of the virtual to physical translation process for a monitor page is identical to that described for the User-Page Map Table (See User-Pg-Map-Tbl)

Defined in: STG



* Currently MMAP is the monitor's page map table for section 0 and section 1. The layout of the monitor's virtual address space for section 0 is described in Appendix B of the Monitor Structures Book.

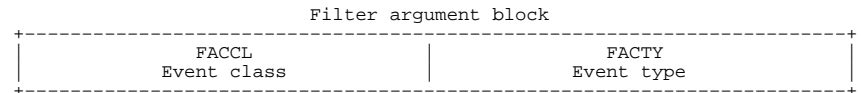
MONITOR TABLES

FA

This is the DECnet Filter argument block which is used to pass arguments to the EV.FIL function of NMXEVT.

Defined in: D36PAR

Format



MONITOR TABLES

FB

This is the Free Block pointer used by DECnet for maintaining a list of free storage.

Defined in: D36COM

Format

FBNXT	Forward pointer in a free block
-------	---------------------------------

MONITOR TABLES

FDB

File Description Block. All attributes of a file are stored in its description block (FDB) maintained in the file's directory. An FDB is built in the directory's free space area when a file is created. This table is referenced by the DIR table.

Defined in: PROLOG, MONSYM

Format

.FBHDR =0	0	17	18	23	24	35	
	FBTYP	.TYFDB (400100)		FBVER Ver. #	FBLEN Length		
.FBCTL =1	0	FBFLG				35	*
		Flags					
.FBEXL =2	2	3	FBEXL				
			Link to FDB of Next Extension				
.FBADR =3	FBADR						
	Disk Address of File's Index Block						
.FBPRT =4	FBPRT						
	Protection of the file						
	500000			File Access Bits			
.FBCRE =5	FBCRE						
	Date and Time of Last Write to File						
.FBAUT =6	FBAUT						
	Pointer to Author String						
.FBGEN =7	FBGEN			FBDRN			*
	Generation Number			Dir.# (if it's a Dir File)			
.FBACT =10	FBACT						
	500000,,0 + Account Number or Pointer to Account String						
.FBBYV =11	0	5	6	11	14	17	18
	FBNPG	FBSZ	FBSZ	FBSZ	FBNPG	FBNPG	FBNPG
	# Gens.	Byte Sz	Byte Sz	Mode	# of Pages in File		
.FBSIZ =12	FBSIZ						
	# of Bytes in File						

MONITOR TABLES
FDB (Cont.)

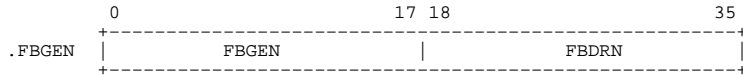
.FBCRV =13	FBCRV Date and Time of Creation
.FBWRT =14	FBWRT Date and Time of Last User Write
.FBREF =15	FBREF Date and Time of Last Nonwrite Access
.FBCNT =16	FBNWR # of Writes FBNRF # of References
.FBBK0 =17	FBBK0 Backup Word #1
.FBBK1 =20	FBBK1 Backup Word #2
.FBBK2 =21	FBBK2 Backup Word #3
.FBBBT =22	FBBBT Tape system flag bits
.FBNET =23	FBNET Date and time of online expiration
.FBUSW =24	FBUSW User Settable Word
.FBGNL =25	2 3 FBGNL Link to FDB of Next Generation
.FBNAM =26	FBNAM Pointer to File Name Block
.FBEXT =27	FBEXT Pointer to Extension Block
.FBLWR =30	FBLWR Pointer to Last Writer String
.FBTDT =31	FBTDT Date and time of archive/collection tape write
.FBFET =32	FBFET Date and time of off-line expiration

MONITOR TABLES
FDB (Cont.)

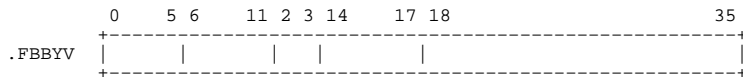
.FBTP1 =33	ARTP1 Tape ID for first archive/collection run
.FBSS1 =34	TSN1 Saveset # for 1st tape TFN1 Tape file # in saveset
.FBTP2 =35	ARTP2 Tape ID for second archive/collection run
.FBSS2 =36	TSN2 Saveset # for 2nd tape TFN2 Tape file # in saveset
.FBCTL	0 1 2 3 4 5 6 7 8 9 0 1 2 3 14 17 18 19 20 35

Symbol	Bits	DEFSTR	Content
FB%TMP	0	FBTMP	File is temporary
FB%PRM	1	FBPRM	File is permanent
FB%NEX	2	FBNEX	No extension for this file yet; file doesn't really exist.
FB%DEL	3	FBDEL	File is deleted
FB%NXF	4	FBNXF	File doesn't exist (first write not complete)
FB%LNG	5	FBLNG	Long file
FB%SHT	6	FBSHT	Reserved for DEC
FB%DIR	7	FBDIR	File is a directory
FB%NOD	8	FBNOD	File is not saved by backup system
FB%BAT	9		File may have bad pages
FB%SDR	10	FBSDR	This directory has subdirectories
FB%ARC	11	FBARC	File has archive status
FB%INV	12	FBINV	File is invisible
FB%OFF	13	FBOFF	File is off-line
FB%FCF	14-17		File class field 0 = .FBNRM Not an RMS file 1 = .FBRMS RMS file
FB%NDL	18		File is not delete table
FB%WNC	19		Last write not closed
FB%FOR	20		FORTRAN data file
FB%SEC	21		File is secure (ACJ consulted on each access)

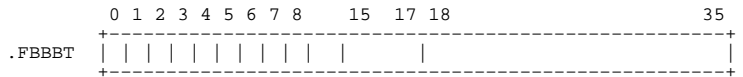
MONITOR TABLES
FDB (Cont.)



Symbol	Bits	DEFSTR	Content
FB%GEN	0-17	FBGEN	Generation number
FB%DRN	18-35	FBDRN	Directory number



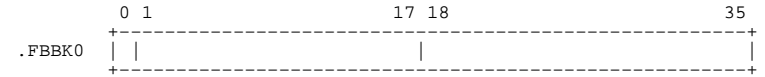
Symbol	Bits	DEFSTR	Content
FB%RET	0-5	FBGNR	Generation retention count
FB%BSZ	6-11	FBBSZ	Byte size
FB%MOD	14-17	FBMOD	Last OPENF mode
FB%PGC	18-38	FBNPG	Page count



Symbol	Bits	DEFSTR	Content
AR%RAR	1	KORAR	Request for file to be archived
AR%RIV	2	KORIV	System request for migration
AR%NDL	3	KONDL	Do not delete disk contents after archiving
AR%NAR	4	KONAR	Resist migration
AR%EXM	5	KOEXM	File is exempt from migration
AR%1ST	6	K01ST	First pass is in progress
AR%RFL	7	KORFL	Restore failed
AR%WRN	8		User warned of file expiration
AR%RSN	15-17	KORSN	Reason file pushed off-line: 1 = .AREXP File expired 2 = .ARARR Archive requested 3 = .ARRIR Migration requested
AR%PSZ	18-35	ARPSZ	Number of pages in file when removed from disk

MONITOR TABLES
FDB (Cont.)

FBBK0 is used by DUMPER as follows:



Bits	Contents
0	Indicator for interrupted incremental save
1-17	Count of incremental saves since last time write count changed
18-35	Write count at last incremental save

NOTE

For additional information on the FDB see the Monitor
Call's Reference Manual.

MONITOR TABLES

FE-STORAGE-AREA

Front End Storage Area. Each entry is FEN words long (except the lock--FELOCK), where FEN equals the number of front end devices.

Defined in: STG

Format

FEUDB0:	Flags	FEFEM FE Alloc	FEFRK Fork # Owing Device	* FEN
FEUDB1:	FEICT Current Input Byte Count	unused	FEFEI Bytes Now in FE	FEN
FEUDB5:	Byte information			* FEN
FEUDB6:	Output output pointer			FEN
FEUDB7:	0 FEIE1 Bytes remain. for input level	11 12 FEOEB Bytes remain. for output int. level	23 24 FEIEB Bytes remain. for input int. level	35 FEN
	0 FEIBF Buffer Address	17 18 FEBSZ Byte Size of Opening	23 24 FEOCT Output Count	35 FEN
FEUDB4:	Input Input Pointer			FEN
FELOCK:	Front end storage area lock			

MONITOR TABLES
FE-STORAGE-AREA (Cont.)

	0	1	2	3	4	5	6	17	18	35
FEUDB0 entry								FEFEM		FEFRK

Bit(s)	Pointer	Content
0	FEACT	Output active bit
1-2	FEDTE	DTE owning this device
3	FEBLK	Unit is blocked
4	FEEOF	Input EOF declared by FE
5	FEVDT	FE assignment is valid
6-17	FEFEM	FE Allocation
18-35	FEFRK	Fork owning device

	0	1	11	12	23	24	35
FEUDB5 entry			FEPRO		FEIBC		FEOE1

Bit(s)	Pointer	Content
0	FEHNG	Hung bit
1-11	FEPRO	Count of input since last ack
12-23	FEIBC	Count of bytes in interrupt buffer
24-35	FEOE1	Bytes remaining for output level

MONITOR TABLES

FKBSPW

This resident table contains pointers that comprise a linked list of the current balance set members. The initial pointer to this list is BSLST. The list is used by AJBALS to determine the status of the current members of the balance set. Note that an entry may contain a non-zero value without being a balance set member. Only entries found by following the BSLST link are considered. If a fork is placed on the balance set without hold time, it does not appear on this list.

Defined in: STG

Index: Fork number

Format

FKBSPW:	FKGOLN	FKBLP Balance set list pointer
	.	
	.	
	.	
	.	
	.	

NFKS

When the fork is blocked, FKGOLN contains the block priority, which may be one of the following:

- FHV1 = 1
- .
- .
- .
- FHV7 = 7

When the fork is runnable, FKGOLN contains the GOLST position.

MONITOR TABLES

FKCNO

Fork Core Number Table. The left half of this table is used to hold the SPT index for the second page of each fork's PSB table. (see FKPGS table for SPT index for first page of each fork's PSB).

Defined in: STG, PROLOG

Index: Fork number

Format

FKCNO:	FKPS2 SPTn for 2nd pg of PSB	FKJPT Page table for extended JSB (currently unused)
	.	
	.	
	.	
	.	
	.	
	.	
	.	
	.	
	.	
	.	
	.	

NFKS

MONITOR TABLES

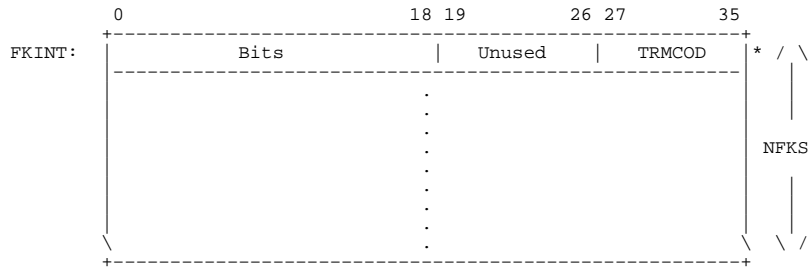
FKINT

Fork Interrupt Table. This table contains the pseudo-interrupt communication register for each fork. The left half of each entry contains bits recording the type of request. The symbols for these requests have right half bit assignments (that is, bits 20-35) but are tested against the left half of the table.

Defined in: STG

Index: Fork number

Format



Symbol	Bits	Pointer	Content
FKPSI0	0		Interrupt Request(s) pending
FKPSI1	1		Fork not interruptable
NEWFK%	2		Initiate new fork
NEWJB%	3		Initiate new job
PSIIF%	4		Channel interrupt requested in FKINTB
PSIT1%	5		Terminal code Interrupt, Phase 1
PSIT2%	6		Terminal code Interrupt, Phase 2
SUSFK%	7		Suspend fork request
PSIWT%	8		Job was in wait state
PSILO%	9		Logout job request
FRZB1%	10		Direct freeze has been done
FRZB2%	11		Indirect freeze has been done
FRZBB%==FRZB1%+FRZB2%			Both bits for external references
JTFRZ%	12		JSYS trap freeze
ABFRZ%	13		Address break freeze
FRZBA%==ABFRZ%+JTFRZ%+FRZBB%			All types of freezes
PSICO%	14		Carrier off action request

MONITOR TABLES

FKINT (Cont.)

PSITL%	15		Time limit exceeded interrupt
PSIJT%	16		JSYS trap request
ADRBK%	17		Address break request
PSIPRI	18		Priority word set
PSIDP%	19		DAP% JSYS Attention
PSISC%	20		SCS% JSYS work queue entries for this fork
UNUSED	21-26		Unused
	27-35	TRM COD	Field for terminal

MONITOR TABLES

FKINTB

Fork Interrupt Table. This table contains the pseudo-interrupt channel requests pending for each fork since the fork's last PSI interrupt.

Defined in: STG

Index: Fork number

Format

FKINTB:	Interrupt Channel Request(s) Pending	/ \
	.	
	.	
	.	
	.	
	.	
	.	
	.	
	.	
	.	
	.	
	.	
	.	

NFKS

MONITOR TABLES

FKJOB

Fork Job Table. This table holds each fork's job number and JSB address (SPT index).

Defined in: STG

Index: Fork number

Format

FKJOB:	FKJBN Job Number	FKJSB JSB (SPT Index)	/ \
	.	 	
	.		
	.		
	.		
	.		
	.		
	.		
	.		
	.		
	.		
	.		
	.		

NFKS

MONITOR TABLES

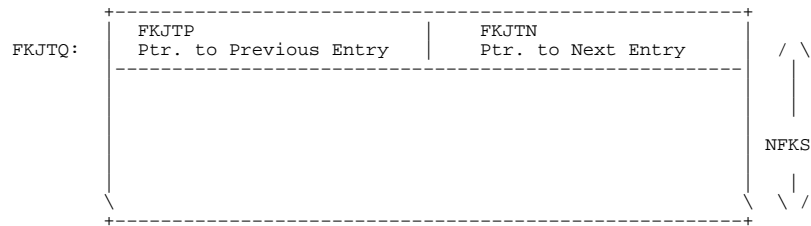
FKJTQ

Fork JSYS Trap Queue. This doubly linked list is a JSYS Traps Queue of forks waiting to program software interrupt (PSI) the monitor. JTLST points to the top fork on the linked JSYS traps queue in FKJTQ.

When a fork tries JTLOCK (in the JSB) and some other fork has the lock, the fork is added to FKJTQ and blocked. When the lock is cleared, the queue is scanned for the first fork (if any) waiting on the lock. That fork is removed from the queue and allowed to run.

Defined in: STG

Format



MONITOR TABLES

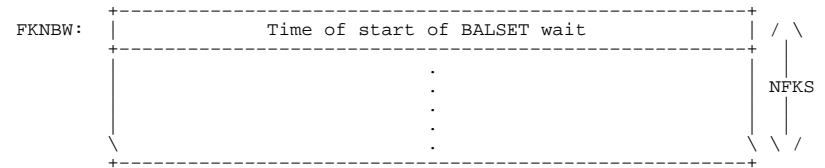
FKNBW

This resident table saves the time of start of a balance set wait of a fork.

Defined in: STG

Index: Fork number

Format



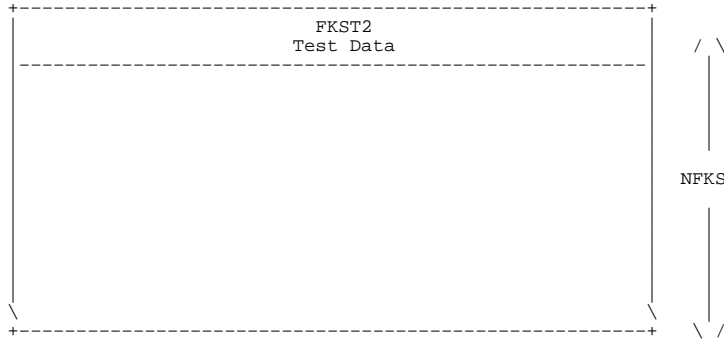
MONITOR TABLES

FKSTA2

This table, indexed by fork number, contains the test data for a given fork. It is similar to FKSTAT except that this table can contain a full 36-bit test data word.

Defined in: STG

Index: Fork number



MONITOR TABLES

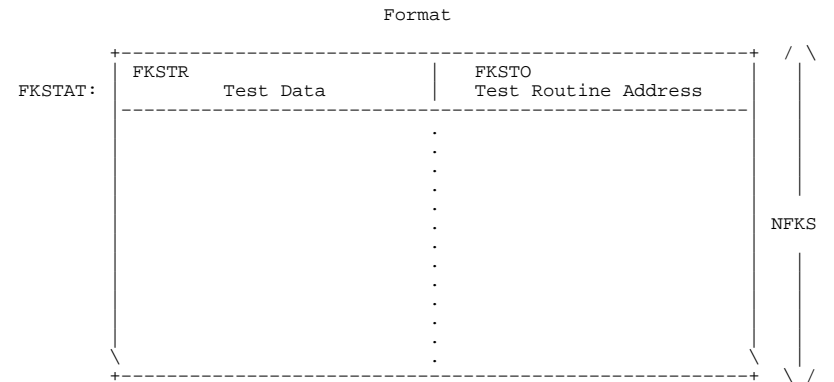
FKSTAT

Fork Status Table. This table has useful information when a fork blocks and leaves the GOLST (that is, LH (FKPT) contains the list address, WTLST).

The blocked fork's entry in this table contains the address of the test routine which, when called, determines if wait satisfied has occurred for the fork.

Defined in: STG

Index: Fork number



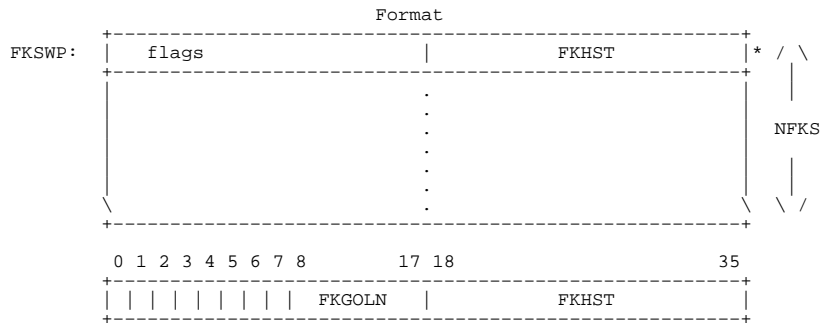
MONITOR TABLES

FKSWP

This resident table contains fork information that is used primarily by the working set manager in its decisions.

Defined in: STG, PROLOG

Index: Fork number



Bits	Pointer	Content
0	FKWSL	Working set loaded
1	FKBLK	Fork blocked off if on GOLST
2	FKIBS	Fork in balance set
3	BSWTB	Fork in balance set wait
4	BSNSK	NOSKED--on if fork is NOSKED and not running
5	BSCRSK	CRSKED--on if fork is CRSKED and not running
6	FKIBH	In balance set hold--on if fork entered balance set since last update to history
7	FKBSHF	In balance set hold in AJBALS algorithm
8	BSSPQ	Special queue (system fork)
9	BSOVRD	Override high priority
10	BSNST	Last block was long
11	SCWAK%	SCJSYS is waking
12	SCBLK%	SCJSYS is blocked
13	FKSPL	Inferior fork has been spliced
14	FKKIL	Fork is being killed
15	FKOGL	Fork is on GOLST
16-17		Unused
18-35	FKHST	Fork history

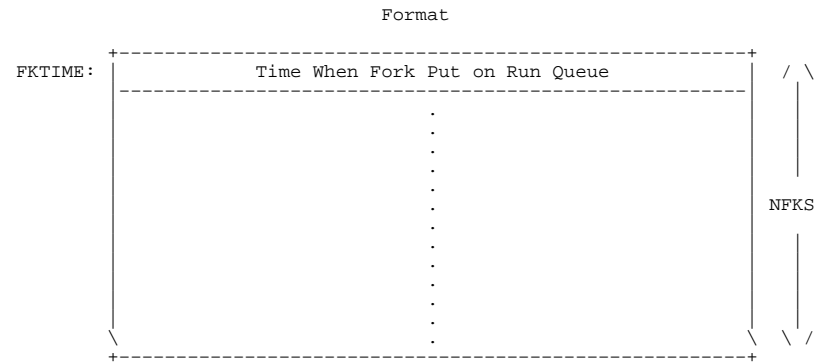
MONITOR TABLES

FKTIME

Fork Time Table. This table gives the time of day (TODCLK) at which each fork was put on its current run queue.

Defined in: STG

Index: Fork number



MONITOR TABLES

FKWSP

Fork Working Set (In-Memory Size) Table. This table contains in the right half the number of physical pages currently assigned to each fork. The left half is used to hold the preload size as determined by LDJOB when a fork enters the balance set.

Defined in: STG

Index: Fork number

Format

FKWSP:	FKNWCE # of pages to be loaded (either # of pages of the working set currently not loaded or # of overhead pages if not preloading (NFKSPP=4))	FKCSIZ Current Size	/ \
	.		NFKS
	.		
	.		
	.		
	.		
	.		
	.		

MONITOR TABLES

FL

FL is the format of the NI Flush Command Queue command.

Defined in: PHYKNI

Format

FLCHK	Check word
FLPID	Portal ID

MONITOR TABLES

FREESPACE BLOCK HEADER/TRAILER

At a minimum, a header of length 3 is required (no trailer is ever required). The header is infinitely expandable, as is any trailer.

While in the pool, blocks are manipulated by pointers that address the first word past the header (thus the negative offsets for the header definitions). Before a block is assigned to the user, the pointer is SOS'd and the user area of the block overlays the header by one word. (Specifically, the user area of the block begins with header word FSPNXT.)

Unless the monitor has been assembled with the debug conditional, the block header is three words long and no trailer is used.

Defined in: FREE

Format

FSPAPC= -7	PC of block assigner
FSPAJF= -6	Job #,,fork # of block assigner
FSPDPC= -5	PC of block deassigner
FSPDJF= -4	Job #,,fork # of block deassigner
FSPFLG= -3	Flags,,unique code
FSPSIZ= -2	Size of block (including header/trailer)
FSPNXT= -1	Pointer to next block

MONITOR TABLES

FREESPACE DESCRIPTOR

The free space descriptor is a block that contains information about the individual free space pools and pointers to them. The address of each descriptor is contained in the FSPTAB table.

Defined in: FREE

Format

FSPFFL=0	Flags
FSPLOK=1	Pool lock
FSPORG=2	Origin address of freespace pool
FSPEND=3	Ending address of freespace pool
FSPCNT=4	Count of space remaining in pool
FSPSML=5	Smallest balance of free space achieved
FSPBAP=6	Pointer to block-accounting area
FSPMTB=7	Minimum total block size
FSPFFB=10	Pointer to first free block
FSPRFB=11	Randomized pointer to first free block
FSPHDS=12	Block header size
FSPTRS=13	Block trailer size
FSPHTS=14	Combined header and trailer size
FSPBCS=15	Smaller of header or trailer size
FSPHBP=16	History buffer address
FSPHBX=17	Max History transactions Index to current hist rec

FSPDSS = descriptor size in words

MONITOR TABLES

FREESPACE-DESCRIPTOR INDEX TABLE

This is the table that points to the swappable and JSB freespace structures.

Defined in: FREE

Format

FSPTAB:	Pointer to freespace descriptor
	Pointer to freespace descriptor
	.
	.
	Pointer to freespace descriptor

FSPTBL = Freespace-descriptor index-table size in words

MONITOR TABLES

FREESPACE HISTORY RECORD

The free space history record is a ring buffer that is used to record free space transactions. There is one ring buffer for each free space pool. Word FSPHBO in the free space descriptor contains the base address of this buffer. The right half of word FSPHBX in the free space descriptor contains the index to the current history record.

Defined in: FREE

Format

FSPHST=0	Transaction Type (-1 = assign; 0 = deassign)
FSPHPC=1	PC of Caller
FSPHJF=2	Job,, Fork of Caller
FSPHBA=3	Block Address
FSPHBS=4	Block Size

FSPHRC (200 decimal) is the number of history records in the history buffer.

MONITOR TABLES

GB

The format of the LAT Service Block is shown below. There is one service block for each service provided by the host. A host must provide at least one service if it is to function as a LAT host. If no services have been defined by the LCP interface at the time LAT operations are started, a default service is defined with the same name as the host node name.

Defined in: LATSrv

Format	
SERVICE BLOCK	
Service Rating	
GBRAT	
GBNC	GBLC
Count of bytes in service name	Count of bytes in service description
GBNAM	Storage for up to 16 bytes of service name
SNM+4>/5>	<<ML.
GBHID	Storage for up to 64 bytes of service id
SID+4>/5>	<<ML.

MONITOR TABLES

GTOKPR

This table is used by the access control code. It contains one entry for each legal GETOK/GIVOK function.

Defined in: STG

Format

GTOKPR:	DGOUSR -- User requests	/ \
	DGOASD -- Assign device	
	DGOCAP -- Enable/disable capabilities	
	DGOCJB -- Create job	
	DGOLOG -- Login	
	DGOCFK -- Create fork	
	DGOTBR -- Set terminal baud rate	
	DGOLGO -- Logout	
	DGOENQ -- ENQ quota setting	MXGOKF
	DGOCRD -- Create/modify directory	
	DGOSMT -- Structure mount	
	DGOMDD -- Enter MDDT	
	DGOCLS -- Set class for job	
	DGOCL0 -- Set class at login	
	DGOMTA -- MT access	
	DGOACC -- ACCESS JSYS	
	DGOOAD -- Assign device via OPENF	
	DGODNA -- DECnet access	
	DGOANA -- ARPAnet access	

MONITOR TABLES
GTOKPR (Cont.)

DGOATJ -- Attach job
DGOINF -- INFO% monitor call
DGOLAT -- LATOP% monitor call
DGOCTM -- Incoming CTERM connections
DGOTTM -- Allow TTMSG%
DGOSMN -- Allow SMON%
DGOMSY -- Allow HSYS%
DGOSGT -- Allow SYSGT%
DGOGTB -- Allow GETAB%
DGOOPN -- OPENF% of secure file
DGORNF -- RNAMEF% of secure file
DGODLF -- DELF%/DELNF% of secure file
DGOTLK -- Allow TLINK%
DGOCRL -- Allow CRLNM% (only some functions)
DGODTC -- Allow DTACH%
DGOCPD -- Allow CHFDB% to set file secure

MONITOR TABLES

HC

Data structure HC is the LAT circuit counters portion of the Host Node (HN) data structure.

Defined in: LATSrv

Format

HCRCV	Messages received
HCXMT	Messages transmitted
HCRTTR	Messages retransmitted
HCSEQ	Receive message sequence errors
HCIMR	Illegal messages received
HCISR	Illegal slots received
HCRES	Resource errors
HCMASK	Illegal message error mask

MONITOR TABLES

HN

The HN (Host Node) data structure is used by LAT service to store status and configuration information describing the local host. TOPS-20 stores the address of this block in location LAHNDB.

Defined in: LATSrv

Format	
HOST NODE Data Base	
HNFLG	HNCFL *
Maximum allocatable circuit blocks	Number of currently allocated circuit blocks
HNMXC	HNNCC
Maximum number of active circuits	Number of currently active circuits
HNMAC	HNNAC
Maximum number of simultaneous connects	Current number of active connects
HNMCO	HNCON
Host number	LAT access state
HNNUM	HNLAS
Virtual circuit message retransmit limit	Virtual circuit timer initial value (ms)
HNRLI	HNTIM
Multicast timer initial value (sec)	Host node dynamic rating
HNMTI	HNRAT
Host progress timer	Number of receive buffers allocated
HNPRG	HNNRB
Command message retry timer	Command message retry limit
HNCMT	HNCMX
Address of state table	
HNHST	
Queue header for active circuit blocks	
HNQAC	
Queue header for inactive circuit blocks	
HNQIC	

MONITOR TABLES
HN (Cont.)

HNNIQ	Interrupt level message queue	/\
		2
HNSCQ	Scheduler level message queue	/\
		2
HNPID	NI Portal ID	/\
HNNXI	Number of offered services	/\
Next circuit block index to assign		2
HNLK	Lock for HN data base	/\
HNNMC	Host node name count	/\
Host node name string	Host identification string count	2
HNNAM	Host node name string	/\
		/\
HNID	Host identification string	<<ML.DS
C+4>/5>		/
HNSMT	Start message template	<<<ML.H
SM+3>/4>		+SB
F.OF>		/
HNMCM	Copy of the multicast message	<<ML.HM
C+3>/4>		/
HNSRV	Storage for service blocks	<GB.LEN
*MXHSRV>		/

For field HNFLG(0-17):

HNRUN	0	NI run state
HNANY	1	Reconstruct of START message necessary
HNCIP	2	Virtual circuit connect in progress

For field HNCFL(28-35):

HNOTH	28	Something other than above changed
HNFIL	29	
HNCLS	30	A host service class changed
HNSVD	31	A host service description changed
HNSVR	32	A host service rating changed
HNSVN	33	A host service name changed
HNDD	34	Host Node Description changed
HNACS	35	Access Codes changed

MONITOR TABLES

HOM

Home Block. Block on each disk unit which contains vital statistics that cannot be built in when a monitor is generated. These are primarily parameters of the unit and the STR to which it belongs.

Defined in: DSKALC

	Format
HOMNAM=0	SIXBIT/HOM/
HOMID=1	SIXBIT/Unit ID/
HOMPHY=2	Physical Disk Address of This Home Block Physical Disk Address of Other Home Block
HOMSNM=3	SIXBIT/Structure Name/
HOMLUN=4	# of Packs in STR Logical Pack # Within STR
HOMHOM=5	Block # of This Home Block Block # of Other Home Block
HOMP4S=6	# of Pages for Swapping on This Structure
HOMFST=7	First Swapping Track on Unit
HOMRXB=10	Address of Index Block of ROOT-DIRECTORY
HOMBXB=11	Address of Index Block of BACKUP-COPY-OF-ROOT-DIRECTORY
HOMFLG=12	Flags
HOMSIZ=13	Number of Sectors in This Unit
HOMBTB=14	Number of Tracks in Structure
HOMMID=15	Pack Unique Code
	Reserved for Expansion
HOMFE0=61	Front End File System (sector #)
HOMFE1=62	Front End File System (# of sectors)

MONITOR TABLES
HOM (Cont.)

	Reserved for the Front End	
HOMFE2=101	BOOTSTRAP.BIN Word One (Sector #)	
HOMFE3=102	BOOTSTRAP.BIN Word Two (# of Sectors)	
	Reserved for Expansion	
HOMLS1=160	CPU Serial Number	CPU Serial Number
HOMLS2=161	CPU Serial Number	CPU Serial Number
HOMLS3=162	CPU Serial Number	CPU Serial Number
HOMLS4=163	CPU Serial Number	CPU Serial Number
HOMSER=164	APR Serial # of CPU booked from this structure	
HOMUID=165	12 Character Unit I.D. (PDP-11 Format) (3 words)	
HOMOID=170	12 Character Owner I.D. (PDP-11 Format) (3 words)	
HOMFSN=173	12 Character File System Name (PDP-11 Format)(3 words)	
HOMCOD=176	0	CODHOM (707070)
HOMSLF=177	0	This Block #

MONITOR TABLES
HOM (Cont.)

PDB Format

High Serial Number	
Low Serial Number	
Non CI Processor Serial Number	
0	CI Processor Serial # CI State
17	

MONITOR TABLES

HOME

Home Table. This table contains the disk pages for the HOME and BAT blocks and the 11 Bootstrap program.

Defined in: STG

Format	
HOME:	0 (11 Bootstrap)
	1 (Home Block)
	2 (BAT Block)
	3 (PDB Block)
	4 .
	5 .
	6 .
	7 .
	10 .
	11 .
	12 (Secondary Home Block)
	13 (Secondary Bat Block)

/ \

|

NHOME

|

\ /

MONITOR TABLES

HOMTAB

This table contains the logical to physical mapping (channel and unit) per logical unit, and its length equals the maximum number of packs in a structure.

Defined in: STG

Format

HOMTAB:	Physical Channel	Physical Unit
	.	
	.	
	.	
	.	
	.	
	.	
	.	
	.	

/ \
|
HOMTBL
|
\
/

MONITOR TABLES

IA

This structure is used by DECnet. The Connect Initiate and Connect Confirm calls' argument format for T2. T1 holds the NSPpid for the new logical link.

Defined in: D36PAR

Format

IAFLO	IASIZ
Flow control type	Max bytes allowed in a message segment

MONITOR TABLES

INDEX

The Index Block (1 page) exists for each disk file and contains pointers to where each of the file's pages resides on disk. If more than one index block is needed for non-directory files, a super index block (1 page) is created which points to the home disk address of each index block. (Note that the maximum file size is 512*512 pages.)

When the file is referenced, an in-core copy of the index block is maintained which keeps track of the file's active pages in the system. (That is, whether the pages are in-core, on the swapping area, or on disk.)

Format

0	C	8	Storage address
	H		
0	E	8	Storage address
	C		
	K		
0	S	8	Storage address
	U		
0	M	8	Storage address
			Storage address
			.
			.
			.

MONITOR TABLES

INIDEV

Initialization Device Routines. This table contains calls to initialize devices after loading the swappable monitor.

Defined in: STG

Format

INIDEV:	CALL MTAINI
	CALL LPTINI (2020 only)
	CALL CDPINI (KL only)
	RET

MONITOR TABLES

INIDV1

Front End Initialization Device Routines.

Defined in: STG

Format

```

INIDV1: +-----+
        | CALL FEINI (KL only) |
        +-----+
        | CALL CDRINI         |
        +-----+
        | CALL LPTINI (KL only)|
        +-----+
        | RET                  |
        +-----+
    
```

MONITOR TABLES

INIDVT

Device Initialization Table. This static table generated at assembly time, contains a four word block for each type of device on the system. It is used at system startup time to generate unit number of entries per device type in the device tables, DEVCHR, DEVCH1, DEVNAM, and DEVUNT. Thus, each unit of each device type has an entry in the device tables.

Defined in: STG, MONSYM

Format

```

INIDVT: +-----+ / \
        | SIXBIT/Name/       | |
        +-----+         | |
        | Device Type Index Number | Dispatch Adr. | |
        +-----+         | |
        | Char1| <TYPE>B17 | Modes | |
        +-----+         | |
        | CHAR2 + CHAR3 + Number of Units | |
        +-----+         | |
        | . | |
        | . | |
        | . | |
        | . | |
        | . | |
        | . | |
        +-----+         | |
        \ /
    
```

CHAR1 can be a combination of the following:

Symbol	Bit	Meaning
DV%OUT	0	Can do output
DV%IN	1	Can do input
DV%DIR	2	Has a directory
DV%AS	3	Is assignable
DV%MDD	4	Is a multiple directory device
DV%AV *	5	Is available to this job
DV%ASN *	6	Is assigned by ASND
DV%MDV	7	Is a mountable device
DV%MNT *	8	Is mounted

MONITOR TABLES
INIDVT (Cont.)

TYPE is one of the following:

Symbol	Value	Meaning
.DVDSK	0	Disk
.DVMTA	2	Magtape
.DVPTP	5	Spooled PTP
.DVLPT	7	Spooled & physical line printer
.DVCDR	10	Spooled & physical card reader
.DVFE	11	Front End Device
.DVTTY	12	Terminal
.DVPTY	13	Pseudo TTY
.DVNUL	15	Null Device
.DVNET	16	ARPA network
.DVPLT	17	Spooled Plotter
.DVCDP	21	Spooled Card Punch
.DVTCP	25	TCP Device

MODES can be a combination of the following:

Symbol	Bit	Meaning
DV%M0	35	Can be opened in mode 0
DV%M1	34	" 1
DV%M2	33	" 2
DV%M3	32	" 3
DV%M4	31	" 4
DV%M5	30	" 5
DV%M6	29	" 6
DV%M7	28	" 7
DV%M10	27	" 10
DV%M11	26	" 11
DV%M12	25	" 12
DV%M13	24	" 13
DV%M14	23	" 14
DV%M15	22	" 15
DV%M16	21	" 16
DV%M17	20	" 17

MONITOR TABLES
INIDVT (Cont.)

CHAR2 can be a combination of the following:

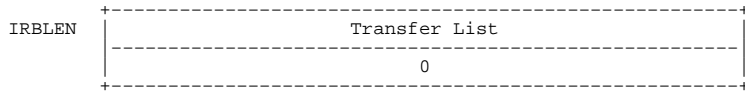
Symbol	Bit	Meaning
D1%SPL	0	Is spooled
D1%ALC *	1	Is under control of allocator
D1%VVL *	2	Volume valid
D1%NIU *	3	Device slot not in use
D1%INI *	4	Device is being initialized (currently for structures only)
D1%MTU	5	Device can do MTOPR without JFN opened

* These bits are zero at assembly time and are set by the monitor when appropriate in their corresponding device tables. (DEVCHR or DEVCH1)

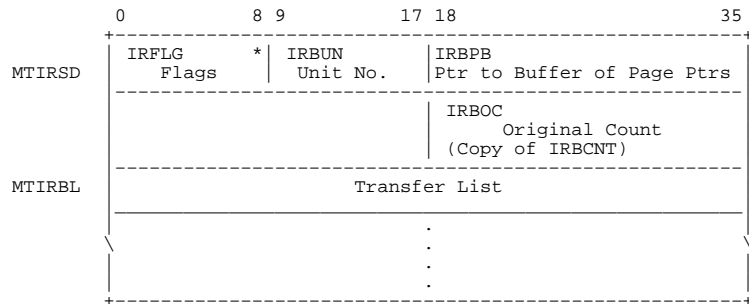
CHAR3 is either zero or DV%PSD (bit 18) which indicates pseudo-device.

MONITOR TABLES
IORB (Cont.)

If device is DSK, IRBLEN becomes:



If device is MTA, IRBLEN=MTIRSD becomes:



Value of flags in IRFLG:

Bits	Pointer	Content
0	IRBFR	Buffer ready for use
1	IRBFQ	Current buffer flag
2	IRBFA	Active flag, IORB being filled or emptied by service routine
3	IRBAB	IORB aborted due to an error
4	IRBFF	IORB free

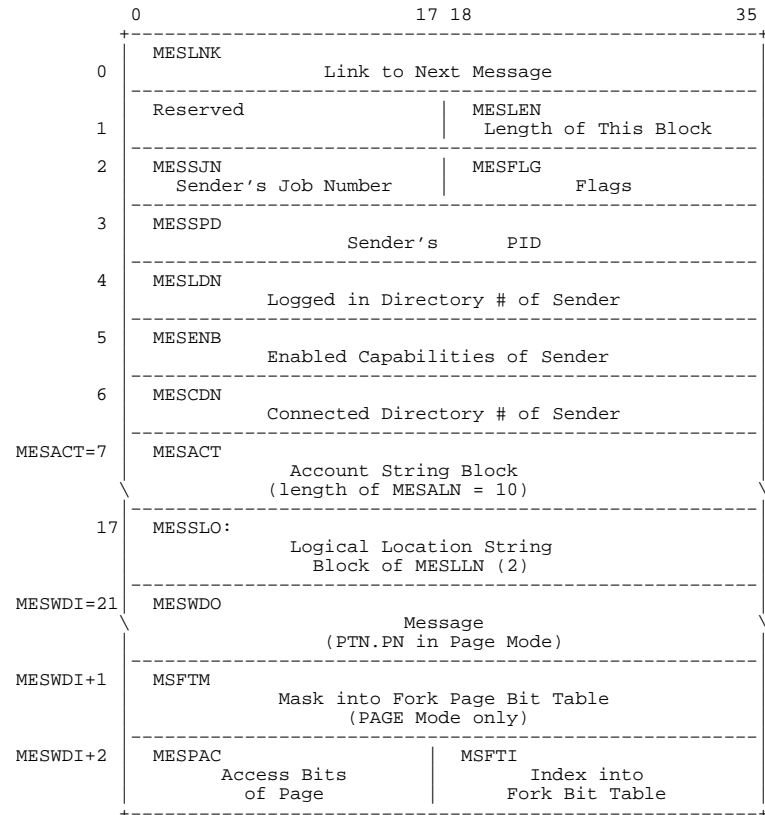
MONITOR TABLES

IPCF-MESSAGE-HEADER

IPCF Message header. This table describes the format of the message header for message sent by the Inter-Process Communications Facility.

Defined in: IPCF

Format

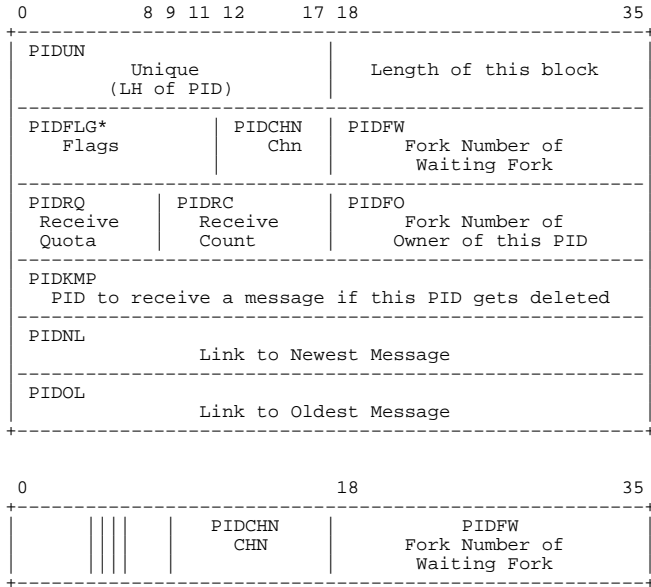


MONITOR TABLES

IPCF-PID-HEADER

IPCF Process ID Header. This contains overhead information for each PID in use.

Defined in: IPCF



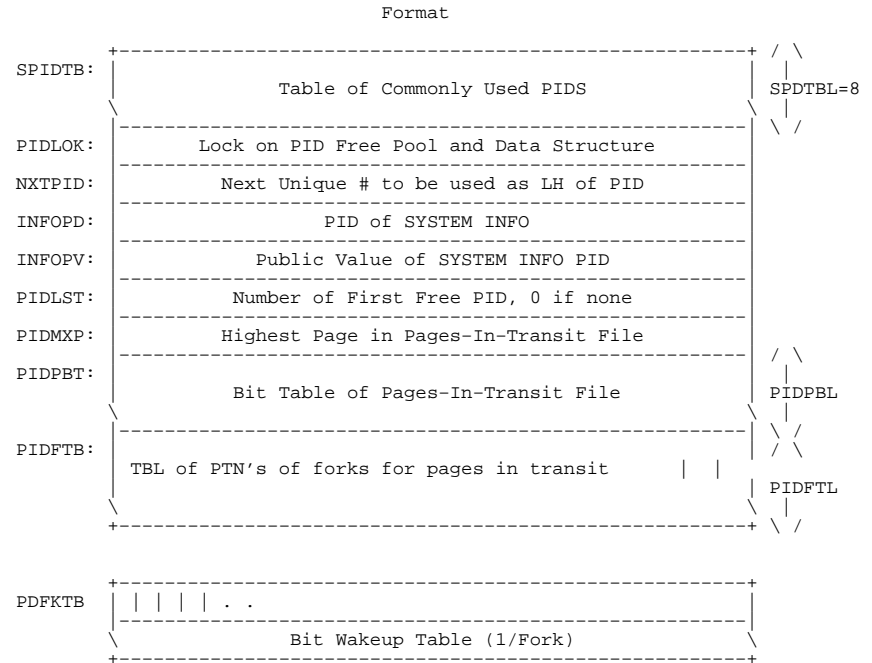
Symbol	Value	Content
PD%JWP	10	PID is a Job-wide PID
PD%DIS	4	PID is disabled
PD%CHN	2	Channel is set up to get interrupts
PD%NOA	1	No access by other forks

MONITOR TABLES

IPCF-STORAGE-AREA

Inter-Process Communication Facility Storage Area. This non-resident storage is described followed by the resident wake-up bit table (PDFKTB). THE PID headers and messages are contained in the Swap-free-space pool which immediately follows this table in non-resident storage. See also the tables, PIDCNT and PIDTBL.

Defined in: STG



MONITOR TABLES
JSB (Cont.)

FKDPSI:	Deferred Terminal Interrupts Mask Table (1 Entry /Job Fork)	/ \ NUFKS / \
FREJFK:	Free Job Fork Slot List	
FKLOCK:	Lock for Fork Structure Modification	
FLKCNT:	Nest Count for Fork Lock	
FLKOWN:	Fork That Locked Fork Lock	
FKTIMW:	TIMER word for lock timeout	
FKCNT:	Count of Active Forks in This Job	
LSTLGN:	Last Interactive LOGIN Date and Time	
NLDLGN:	Last Non-interactive LOGIN Date and Time	
SRTTIM:	Data & Time Job Was Initialized	
ARDFRT:	Job Default for Retrievals	
CTRLTT:	Line Number of Controlling TTY	
GBLJNO:	Global Job Number	
TTSPSI:	Code Enabled Anywhere in This Job	
TTSDPS:	Terminal Interrupt Code Deferred	
TTJTIW:	Terminal Interrupt Enable Mask	
JBFLTM:	Time of Last Password Failure	
JBFLCT:	Count of Password Failures in Interval	
CONSTO:	Console Time On (TODCLK units)	
CTIMON:	Connect Time On (GTAD units)	
CONCON:	Console Connect Time (for usage)	
JBRUNT:	Job Run Time (for usage)	
JBNODE:	Node Name (SIXBIT)	
JBBNAM:	Batch Job Name (SIXBIT)	

MONITOR TABLES
JSB (Cont.)

JBBSEQ:	Batch Sequence Number	
ACCTSL:	Length of ACCTSR	
ACCTSR:	Account String	/ \ MAXLW / \
ACCTSX:	Expiration Data of ACCTSR	/ \ MAXLW / \
CSHACT:	Most recently Validated Account	/ \ MAXLW / \
CSHUSR:	User for Whom Cached Account was Validated	
CSHACX:	CSHACT Expiration Date	
CSHCLS:	Class of Cached Account	/ \ WPN / \
LLSR:	Logical Location	/ \ / \
JSSRM:	Session Remark	/ \ MAXLW+1 / \
USRNAM:	User Name String	/ \ MAXLW+1 / \
JFNLCK:	Lock to Prevent Tampering with JFNs	
MAXJFN:	Maximum Number of JFNs for Job	
ENQLST:	Forward Pointer to Q-Block	
	Backward Pointer to Q-Block	
ENQQOT:	ENQ Quotas & Counts Reserved	
TIMALC:	TIMER Clocks Limit	
LNTABP:	Pointer to Logical Name Table (Tbl is in JSB Space)	
LNMLCK:	Lock for Logical Name Data Base	
NPRIVP:	Number of private pages in job	
JOBUNT:	Connected Disk Unit	
JBCLCK:	Lock for ASGPAG	
JBCOR:	Page Allocation Bit Table for Job Storage Area	/ \ 4 / \

MONITOR TABLES
JSB (Cont.)

JSBFRE:	Ptr. to 1st Free Block 0	Job area free storage header
	Lock	
	Space Counter	
	Most Common Block Size	
	Max Top of Free Stor. Min. Bottom of Free Stor.	
	Temp	
	Temp	
JSFREE:	Free Storage Area in Job Block (^D64 words) [Free Blocks have Hdr. Wd of: Ptr. to Next Blk,, Length]	IJSFRE
JSSTRT: JSSTRF=0	Flags JSSTN Structure Unique Code	* / \
JSGRPS=1	JSGRP AOBJN Pointer to List of Groups	
JSADIR=2	JSADN **Unused** JSSTMX Accessed DIR # for This STR	*STRN
JSFKMT=3	JSFMT Fork-mount bit word (4 Words per Structure)	
JSSTLK:	Lock on the JSSTRT Block	
JSBSDN:	JSUC Connected STR Unique Code JSDIR Connected Directory #	
JSBCDS:	0 18 35 JSCDF String Ptr. JSCDS Ptr. to Connected Valid if set Dir. Name String	

MONITOR TABLES
JSB (Cont.)

MODES:	DDBMOD Word from LOGIN	
GROUPS:	Groups to Which LOGIN User Belongs	
RSCNPT:	RESCAN Pointer	
RSCNBP:	Ptr. to RESCAN Buffer (max. buf. size is 777)	
JBINFO:	PID of Private <SYSTEM>INFO for JOB	
JSCDR:	Next Version # (or -1) Adr. of Spool Set String for CDR	
JSMTAL:	MTA Parity, Density, Mode, and Default Record Size	*
JBFLAG:	Spooler Flags General Job-wide Flags (Sent on CLOSE/LOGOUT)	*
JSLOPD:	PID to get LOGOUT message from CRJOB	
JSLOJB:	Job # of Who Logged Out this Job	
JSFSTK:	Stack of Things to be Done on Fork Cleanup	
JSFLCK:	Lock for This JSFSTK Structure	
CRJFLG:	Flag that this is CRJOB Startup. (Used by MEXEC & LOGIN)	
DCNCNT:	DCMAX Job's Network Link Quota DCCUR Current Count of Open Links	
JSSRTM:	Runtime at Start of this Accounting Session	
JSSCTM:	Console Time at Start of this Session	
JSSCTI:	Universal Date and Time at Start of Session	
JSATCT:	ATS HTN Quota, ,Count	
JOBSKD:	Special Job Scheduling Parameter	
BATSTF:	Batch Stream Number and Flags Word	
BATRID:	Batch Request ID	

MONITOR TABLES
JSB (Cont.)

JFNO:	Byte Pointer to Current Window		
FILBYT:	New I/O = FILBFI - byte pointer to current input buffer		
FILBFO:	Byte Pointer to Current Buffer New I/O = byte pointer to current output buffer		
FILBYN:	Byte # of Current Byte New I/O = FILBNI - input byte number of current byte		
FILBNO:	New I/O - Output Byte Number of Current Byte		
FILACT:	Ptr to Account String or Account #		
FILLEN:	Total File Length in Bytes		
FILCNT:	Bytes Remaining in Current Buffer New I/O = FILBCI = Bytes remaining in Current Input Buffer		
FILBCO:	Bytes Remaining		
FILLCK:	File Lock Word		
FILWND:	FLPGN Current Page #	FLWPG Location of Current Window	
FILSTS:	File Status Bits	Status	Mode
FILST1:	Status		
FILDEV:	STR Structure Number	FLDTB DEV'DTB (i.e.Dev Disp. Tbl)	
FILNLP:	FLFCO Flow Control Option	FLSCS Segment Size	
FILOFN:	FLPTN OFN for This File	FLPTT OFN of Long File PT Table	JFN
FILLFW:	FLMPC Count of Pages Mapped	FLTTW Loc. of Page Table Table	BLOCK
FILDDN:	FLDSB Ptr. to Device String Block	FLDNO Directory #	
FILDNM:	FLDIR Directory Name String	FLATL Ptr to Attribute List	
FILNEN:	FLNSB File Name String Blk. Ptr.	FLESB Ext. String Blk. Ptr.	

MONITOR TABLES
JSB (Cont.)

FILVER:	ORG Fork # of JFN Originator	FLVNO Version #
FILMS1:	FLDMS Directory Wild Mask	FLNMS Name Wild Mask
FILMS2:	FLEMS Extension Wild Mask	
FILFDB:	Address of FDB in the Directory	
FILCOD:	FLUC STR Unique Code	FLP0 PTO OFN for Long File
FILNND:	FLLNK DECnet Port #	FLLND Ptr to node name string
	Additional JFN Blocks	

Each JFN uses a block of 19 (MLJFN) words. (Since JFNs can grow beyond the end of the JSB into successive pages, the JFN blocks must be the last storage defined in the JSB.) MJFN is the maximum number of JFNs.

These definitions are used in the above positions only during the GTJFN procedure:

- (1) FILTMP / Ptr. to temp string block for default ,, Ptr. to temp string block
- (2) FILPRT / Ptr. to protection string or protection number
- (3) FILSKT / Arpanet connection no.,, Unused
- (4) FILOPT / Byte Ptr. to Store String in GTJFN
- (5) FILLIB / For DECNET, Ptr to LL Block
- (5) FILLNM / Ptr. to RDTEXT buffer ,, Ptr. to logical name chain **
- (6) FILBFO / For DECNET, Output Buffer Ptr.
- (7) FILIDX / 0 ,, Index into device tables for original devices GTJFNed
{(doesn't change during spooling)}
- FILBFI / For DECNET, Ptr. to Input Buffer
- (8) FILBCT / For DECNET, Ptr. to Counts

MONITOR TABLES
JSB (Cont.)

Logical Name Header Format

LNMCNT Depth Count		LNMSTP Step Counter
LNMLNK Link to Next BLK		LNMPNT Logical Name String Ptr

Bits	Pointer	Content
0-17	LNMCNT	Depth count for logical names
18	LMMIDX	Index into logical name tables
19-35	LNMSTP	Step counter at time of chaining
0-17	LNMLNK	Link to next chain block
18-35	LNMPNT	Pointer to logical name string

FILSTS	flags	mode
--------	-------	------

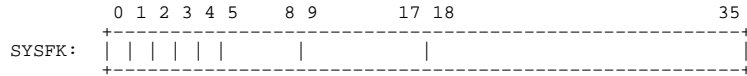
Symbol	Bits	Pointer	Contents
OPNF	0		File is open
READF	1		File is OK to read
WRWF	2		File is OK to write
XCTF	3		File is OK to execute
RNDF	4		File is OK to reset ptr. (that is, not append)
NONXF	5		Non-existent File, delete FDB on RLJFN
NWTF	6		No wait on DUMP I/O
LONGF	7		File is a long file
EOFF	8		End of file if read attempted
ERRF	9		Bytes read may be wrong
NAMEF	10		Name is associated with this JFN
ASTF	11		An * was typed in
ASGF/BLKF	12		JFN is being assigned or service routine wants to block; shares a bit position with ASGF
HLTF	13		Halt if I/O error
WNUF	14		Window page has been set up

MONITOR TABLES
JSB (Cont.)

ENDF/TRNSL	15		File is past end of maximum length. Bit timeshared with ENDF to say the JFN is in a transitional state and may not be accessed.
SIZE	16		Illegal to change size of byte
FRKF	17		File is restricted to fork in LH(FILVER)
PASLSN	18		Set to skip line number checking on ASCII files
SKIPBY	19		Set by BYTINA to remember that it has to discard.
XQTAF	20		Quota exceeded Flag
FILDUD	21		Suppress DDMP action if set
FILINP	22		Direction of I/O is input
FILOUP	23		Direction of I/O is output
HLDF	24		Hold in balance set
RECF	25		End of record seen
ACRLFF	26		Add CRLF's after records on input
CRNXT	27		Return CR next
LFNXT	28		Return LF next
FROSTF	29		Record has been frosted
	18-35	IOMODE	Mode File is opened in

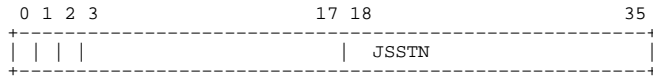
FILST1			
Symbol	Bits	Pointer	Contents
FILNO	0		New output
ASGF2	1		Shadow bit for ASGF

MONITOR TABLES
JSB (Cont.)

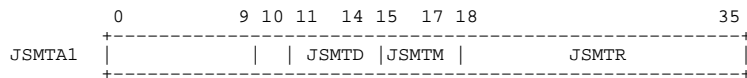


Bits	Pointer	Content
0		JRFN not in use
1	SFEXO	Fork is Execute-Only if set
2	SFNVG	Fork is not "virgin" if set
3	SFGXO	Fork can PMAP into execute-only forks
4	SFSRT	Fork has been started
9-17	FKHCNT	Count of handles on a given fork
18-35		System fork number

Work 0 of 4-word structure block (starts at JSSTRT)

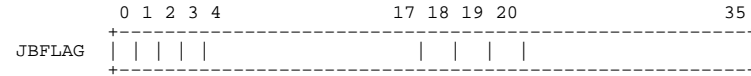


Symbol	Bits	Pointer	Content
	0	JSSDM	Structure is dismounted
	1	JSMCI	Mount count has been incremented by structure
	2	JSXCL	Structure is mounted exclusively by the structure
JSFRST	18-35	JSSTN	Structure unique code



Bits	Pointer	Content
10	JSMTM	Default Parity
11-14	JSMTD	Default Density
15-17	JSMTM	Default Mode for transfers
18-35	JSMTM	Default record size (hardware bytes)

MONITOR TABLES
JSB (Cont.)



Symbol	Bits	Pointer	Content
SP%BAT	0	JSBAT	Job is being controlled by BATCH
SP%DFS	1	JSDFS	Spooling is deferred
SP%ELO	2	JSELO	Job executed LOGOUT JSYS
SP%FLO	3	JSFLO	Job forced to LOGOUT by top Fork error
SP%OLO	4	JSOLO	Job logged out by other job
	18	JBMX	Job has been in the mini-exec
	19	JBT20	Job is at TOPS-20 command level

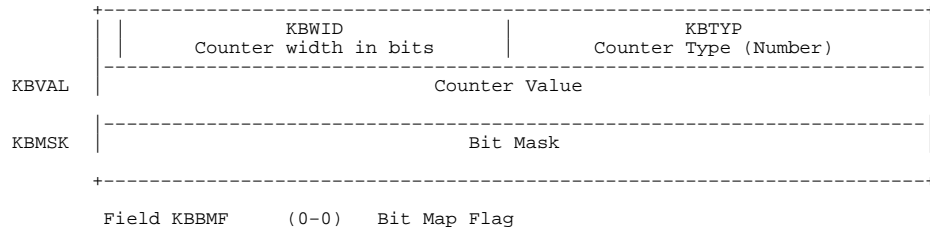
MONITOR TABLES

KB

KB contains the DECnet Counter Block Sub-fields.

Defined in: D36PAR

Format



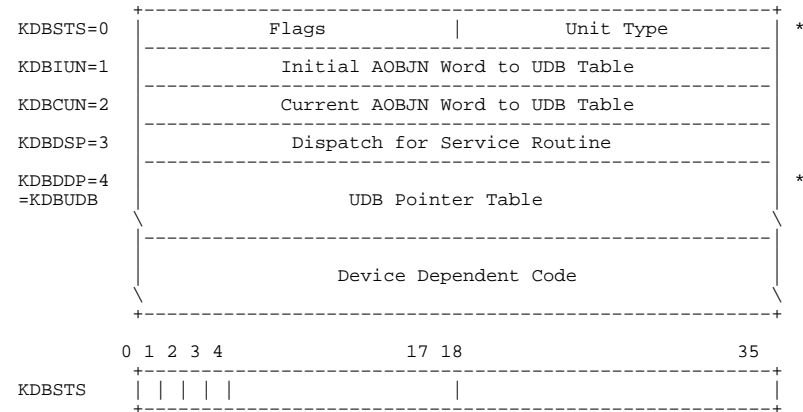
MONITOR TABLES

KDB

Kontroller Data Block (TM02/3, DX20, and CI nodes)

Defined in: PHYPAR, PHYM2, PHYP2, SCAPAR

Format



Symbol	Bits	Pointer	Content
KS.ACT	1		Controller Active if set
KS.HLT	2		Microcode is halted
KS.DSK	3		Controller for disks
	18-35		Unit type (see unit types in UDBSTS in UDB)

MONITOR TABLES
KDB (Cont.)

Device dependent sector for TM02/3

KDBUDB= KDBDDP	UDB Pointer Table	8
TM2ADR:	Massbus Address of TM02/3	
SAVUDB:	Current UDB (0 if none) 2020 Only	
TM.CNI:	CONI of RH goes here	
TM.CS1:	DATAI RH control Register	
TM.DBF:	DATAI RH Data Register	
TM2REG:	Drive Registers go here	12

LK.TM2 = Length of TM02 KDB

Device Dependent Sector for TM78

KDBUDB= KDBDDP	UDB Pointer Table
TM8ADR	MASSBUS Address of TM78
SAVUDB	Current UDB (0 if none)
SAVLSI	Last Interrupt Code
TM8XCW	CCW for Reading Extended Sense Info
TM8SCW	Saved CCW While Reading Extended Sense
TM8ACT	Count of Asynchronous Interrupts
TM8CNI	CONI of RH Goes Here
TM8CS1	DATAI RH Control Register

MONITOR TABLES
KDB (Cont.)

TM8DBF	DATAI RH Data Register	
TM8REG	Drive Registers Start Here:	
DR.CR=0	Drive Control Register	
DR.ICD=1	Interrupt code (Data XFER) Register	
DR.FMT=2	Record Count/Format Register	
DR.ER=3	Error Register	
DR.AS=4	Attention Summary Register	
DR.BC=5	Byte Count Register	
DR.DT=6	Drive Type Register	
DR.SR=7	Status Register	
DR.SN=10	Serial Number Register	
DR.DG=11	Diagnostic Register	
DR.DG2=12	Diagnostic Register	
DR.ICN=13	Interrupt Code (Non Data-XFER) Register	
DR.ND0=14	Non Data-XFER Command, Unit 0 Register	
DR.ND1=15	Command, Unit 1 Register	
DR.ND2=16	Command, Unit 2 Register	
DR.ND3=17	Command, Unit 3 Register	
DR.IA=20	Internal Address Register	
DR.TMS=21	TM Status Register	
TM8REV	ROM Rev Levels	2
TM8XSN	Extended Sense Information	17

MONITOR TABLES
KDB (Cont.)

Device dependent sector for DX20

K.DUDB= KDBDDP	UDB Pointer Table	/ \ NUMDRV / \
K.DXAD:	Massbus Address of DX20	/ \
K.STCT:	Number of Time Microcode Restarted	/ \
K.STCL:	Clock Timer for Restarts on Overdues	/ \
K.DNUM:	Number of Drives in Existence	/ \
D.SAVQ:	Storage for Q1 on ATTN Interrupts	/ \
K.DVER:	Microcode Version	/ \
K.DREG:	Drive Registers go here	/ \ REGNUM / \
K.DEXS:	Extended Status Table	/ \ (SNSNUM+3)/4 / \
K.DCNI:	CONI of RH on Error	/ \
K.DCS1:	DATAI of RH Control Register	/ \
K.DDBF:	DATAI of RH Data Register	/ \

MONITOR TABLES
KDB (Cont.)

LK.DX2 = Length of DX20 KDB

Device dependent sector for CI node

KDBUDB= KDBDDP	UDB Pointer Table	/ \ PRTMXU / \
KDBCID:	Controller ID	/ \
	8 8-bit Bytes	2
KDBIAC:	Saved ACs for Initialization of a Node	/ \
		10
	System Block (See description elsewhere in this manual)	/ \

MONITOR TABLES

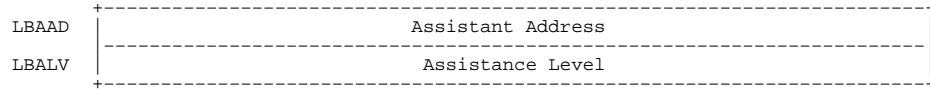
LB

This is the loopback portion of a DECnet Request Block.

Defined in: LLMOP

Format

Message Block for Loopback



MONITOR TABLES

LD

This is the DECnet loopback data area; the data buffer is supplied by the user.

Defined in: LLMOP

Format

Loopback Data Output MSD



MONITOR TABLES

LH

This is the DECnet Loopback LLMOP Header MSD.

Defined in: LLMOP

Format

MSD for header

LHIDD	ID word to hack for Transmit Complete	\
LHMSD		MD.LE
N		\
\		\
\		\
LHDAT	Room for Largest Loopback header (Full Assist)	<<LHH
.LN+3>/4>		\
\		\

MONITOR TABLES

LI

The following is the definition of the Line-ID (LI) that the DECnet router maps into a line block address. This is used:

- o On an initial open from the DLL to ROUTER;
- o By router to determine any Kontroller specific peculiarities;
- o By network management to communicate with ROUTER.

Defined in: D36PAR

Format

Line-ID

	LIDEV Device type	LIKON Controller number (CPU# for DTE's and CI's)	LIUNI Unit number	LIDRP Drop number (port for CI's)	*
--	----------------------	--	----------------------	---	---

Field LILXC (0-0) Bit indicating line ID (1) or circuit ID (0).

MONITOR TABLES

LK

LK represents the format of DECnet storage location NSPLKF, which is a bit map of pending NSPLCF requests.

Defined in: LLINKS

Format

BITS IN NSPLKF



For field LKFLG(0-5):

LKJIF	0	Jiffy service, must be sign bit for NSPJIF
LKCGT	1	Congestion-detected service
LKRLV	2	Congestion-relieved service

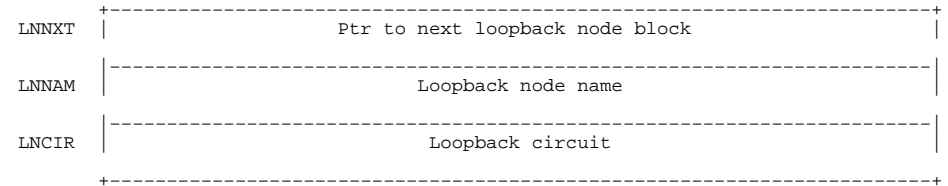
MONITOR TABLES

LN

LN is the definition of the DECnet-36 Loopback Node block. A block is created every time a loopback node is defined for a circuit. The blocks are chained together, and the first block on the chain is pointed to by monitor location SCTLNL.

Defined in: SCLINK

Format



MONITOR TABLES

LOGICAL-NAME-DEFINITION

Logical Name Definition Block. The block format given below is used for system and job-wide logical name definitions. The first definition block for a logical name is pointed to by its Logical Name List and is stored in the swappable free space if a system logical name or in the JSB space if a job-wide logical name.

Defined in: LOGNAM

Reference by: LOGNAM

Format

LNBLK=0	PTR TO NEXT DEFINITION (OR ZERO IF NONE)	SIZE OF THIS BLOCK (USUALLY 12)
LNDEV=1	ASCII BYTE PTR TO DEVICE BLOCK (IF ANY)	
LNDIR=2	ASCII BYTE PTR TO DIRECTORY BLOCK (IF ANY) (-3 MEANS STAR WAS TYPED)	
LNNAM=3	ASCII BYTE POINTER TO NAME BLOCK (IF ANY)	
LNEXT=4	ASCII BYTE POINTER TO FILE TYPE (IF ANY) (-2 MEANS A NULL FIELD WAS SPECIFIED)	
LNVER=5	500000,,0 + GENERATION NUMBER (IF ANY)	
LNACT=6	500000,,0 + ACCOUNT NUMBER -OR- ASCII BYTE POINTER TO ACCOUNT STRING (IF ANY)	
LNPR=7	500000,,0 + FILE PROTECTION (IF ANY)	
LNTMP=10	0 IF PERMANENT OR -1 IF TEMPORARY (IF ANY)	
LNATR=11	PREFIX VALUE OF CURRENT PREFIX	PTR TO ATTRIBUTE CHAIN

MONITOR TABLES

LOGICAL-NAMES-LIST

Logical Names List. The list described below is the format used for the system logical names list (pointed to by SYLNTB) and the job wide logical names list (pointed to by the JSB entry, LNTABP.)

The system logical names list is built in the swappable free space from the entries in SYNMTB at system initialization time. (See SWAP-FREE-SPACE and SYNMTB tables). A job's logical names list is built in the JSB space the first time a logical name is created.

An entry in a logical names list has a pointer to the logical name string (in ASCIIZ) in the left half and a link to the first definition block in the right half (See LOGICAL-NAME-DEFINITION description).

Defined in: STG

Format

# OF DEFINED LOG NAMES	SPACE ALLOCATED IN TABLE
LOGICAL NAME BLK ADDR	LINK TO FIRST DEFINITION
LOGICAL NAME BLK ADDR	LINK TO FIRST DEFINITION
.	.
.	.

MONITOR TABLES

LPT-STORAGE-AREA

Line Printer Storage Area. Each entry in the resident area is LPTN words long, where LPTN equals the number of line printers on the system.

Defined in: STG

	Format	
LPTTYP:	Type of LPT Vector for Dev. Independence	LPTN
LPTSTS:	Status Word	* LPTN
LPTST1:	Second Status Word	* LPTN
LPTST2:	Third Status Word	* LPTN
LPTST3:	Fourth Status Word	* LPTN
LPTERR:	Last Error Word	* LPTN
LPTCNT:	Buffer Counter	* LPTN
LPTCLS:	LPTCHK Clock Switch	* LPTN
LPTCCW:	BLKI/O Pointer	LPTN
LPTICT:	Interrupt Byte Count	LPTN
LPTCKT:	Interval for LPTTIM	LPTN
LPTLCK:	Lock on Opening LPT	LPTN
PGDATA:	Page Counter to be Sent to -11	* LPTN

MONITOR TABLES
LPT-STORAGE-AREA (Cont.)

The following LPT: storage items are in the nonresident area of the monitor.

LPTBUF:	2 Buffers (each NLPBF=400 words) for each LPT:	LPTN * 2 * NLPBF
LPTOFN:	VFUOFN VFU RAMOFN RAM OFN's to Prevent Opens for Write (1 entry/DTE)	LPTN
VFUFIL:	Swappable Storage Area for VFU File Names	LPFLSZ* LPTN
RAMFIL:	Swappable Storage Area for RAM File Names	LPFLSZ* LPTN

If the assembly flag, SMFLG, is set, indicating a 2020 monitor, then the following additional storage is assembled in the resident area of the monitor:

L11A:	Holds Fake -11 Adr of Buf (1 entry / LPT)	
LPWINA:	Address of Unibus Window	
LPACS:	AC Storage During LPT Interrupt	16
LPSTAK:	PDL During LPT Interrupt	LPSLEN
LPXJEN:	XJEN Instr. for Dismissing LPT Interrupt	
LPXPBT:	LPT Interrupt Instr. is XPCW to this 4-word Blk	LPTN(1)*4

MONITOR TABLES
LPT-STORAGE-AREA (Cont.)

0	11 12	23 4 5 6 7 8 9 0 1 2 3 4 5
LPTSTS:	LPTFE	LPTMX

Symbol	Bits	Pointer	Content
LP%FE	0-11	LPTFE	Bytes now in front end
LP%MX	12-23	LPTMX	Max. bytes allowed in front end
LP%LHC	24	LPLHC	Loading has completed flag for RAM/VFU load
LP%HE	25	LPTHE	Hard error on this LPT:
LP%OBF	26	LPOBF	Output is being flushed
LP%MWS	27	LPMWS	MTOPR is waiting for a status to arrive
LP%ER	28	LPTER	LPT had an error
LP%OL	29	LPTOL	LPT on-line
LP%TBL	30	LPTBL	LPT is over allocation
LP%TWT	31	LPTWT	Request on Q.
LP%THN	32	LPTHN	Line printer control failed
LP%OPN	33	LPOPEN	LPT is opened
LP%ALI	34	ALTI	Interrupt buffer pointer
LP%ALP	35	ALTP	Buffer Pointer

MONITOR TABLES
LPT-STORAGE-AREA (Cont.)

0	5 6	17 18 19 20	35
LPTST1:	LPPSI	LPPAG	LPSST

Symbol	Bits	Pointer	Content
LP%PSI	0-5	LPPSI	Channel number on which PSI's are desired
LP%PAG	6-17	LPPAG	Page Counter
LP%LCP	18	LPLCP	Lower case printer
LP%SHA	19	LPSHA	Status has arrived
LP%SST	20-35	LPSST	Software status word

Symbol	Bits	Content
.DVFFE	28	Device has a fatal, unrecoverable error
.DVFLG	29	Error logging information follows
.DVFEF	30	EOF
.DVFIP	31	I/O in progress
.DVFSE	32	Software condition
.DVFHE	33	Hardware error
.DVFOL	34	Offline
.DVFNX	35	Nonexistent device

0 1	12 13	28 29 30	35
LPTST2:	SAVBCT	SAVBUS	

Bits	Pointer	Content
0	ARROWF	Convert control to arrow character
1-12	SAVBCT	Saved byte counter during arrow
13-28	SAVBUS	Saved bus address register
29	LPTLOR	On when loading ram

MONITOR TABLES
LPT-STORAGE-AREA (Cont.)

2020 only:

	0	1	8	9	23	24	35
LPTST3:			SAVCHR		LPTCC		

Bits	Pointer	Content
0	LPXBIT	On if printer exists
1-8	SAVCHR	Saved LP buffer character
24-35	LPTCC	Count of characters sent to printer

	0	17	18	19	20	35
LPTERR:		LPFRK			LPERR	

Symbol	Bits	Pointer	Content
LP%FRK	0-17	LPFRK	Fork ID of owning PSI process
LP%MSG	18	LPMSG	If on, suppress standard messages
LP%PCI	19	LPPCI	Page counter has interrupted
LP%ERR	20-35	LPERR	Last error indication

	0	5	6	15	16	17	18	35
LPTCLS:		LPBSZ						

Symbol	Bits	Pointer	Content
LP%BSZ	0-5	LPBSZ	Byte size of OPENF
LP%RLD	16	LPRLD	Front end was reloaded
LP%NOE	17	LPNOE	Note occurrence of EOF

MONITOR TABLES
LPT-STORAGE-AREA (Cont.)

	0	15	16	17	31	32	33	34	35
PGDATA:		PGFNC			PGCTR				

Symbol	Bits	Pointer	Content
	0-15	PGFNC	Function code: load page counter
	16	PGENB	Enable interrupts
	17-31	PGCTR	Page counter value
LP%IRP	32	LPIRP	Interrupt request pending
LP%RBR	33	LPRBR	RAM or VFU being reloaded
LP%LTR	34	LPLTR	Translation RAM requires reloading
LP%LVF	35	LPLVF	VFU requires reloading

MONITOR TABLES

MB

The following is the definition of the DECnet-36 Message Block. This is the fundamental data structure used to represent an individual message. The Message Block is divided up into a public section and several private sections which belong to each of the layers of the DECnet architecture.

Defined in: D36PAR

Format							
The Public Section							
MBNXT	Ptr to next message. Must be full word for NSP, see BEGSTR QP in LLINKS.MAC						
MBFMS	Pointer to first MSD (DLLs expect this field to be right here)						
MBMSN	DDCMP message number (DLLs expect this field to be right here)						
MBDS1	<table border="1"> <tr> <td>MBDST</td> <td>MBSRC</td> </tr> <tr> <td>Destination node</td> <td>Source node</td> </tr> </table>	MBDST	MBSRC	Destination node	Source node		
MBDST	MBSRC						
Destination node	Source node						
MBDS1	First 32 bits of destination						
MBSR1	First 32 bits of source						
* MBCHN	<table border="1"> <tr> <td>MBFLG</td> <td>MBVST</td> <td>MBABS</td> </tr> <tr> <td>Visits count</td> <td>Adjacency's block size</td> <td></td> </tr> </table>	MBFLG	MBVST	MBABS	Visits count	Adjacency's block size	
MBFLG	MBVST	MBABS					
Visits count	Adjacency's block size						
MBCHN	Loopback channel (Circuit ID)						
MBPRC	Procedure processor (NSP & SC)						
MBAR1	Argument storage #1 (NSP & SC)						
MBAR2	Argument storage #2 (NSP & SC)						
MBAR3	Argument storage #3 (NSP & SC)						

For field MBFLG(0-8):

MBOTH	0	On the "other" sublink
MBBOM	1	Beginning of message
MBEOM	2	End of message
MBEBF	3	Message block has been allocated from emergency buffer free list
MBPH2	4	Phase II message
MBDON	5	"Synchronous" interlock done bit (NSP & SC)
MBLCL	6	Bound for the local NSP
MBUNR	7	Unreachable

MONITOR TABLES

MD-D36PAR

This is the DECnet-36 Message Segment Descriptor. Every Segment of the message is described by this small block. In the typical case, this descriptor resides in the owner's (the owner being a level of DECnet) portion of the Message Block.

Defined in: D36PAR

Format	
Input Meaning	Output Meaning
MDNXT	Ptr to next MSD
MDPTR	ILDB ptr into msg
MDAUX	ILDB ptr to beg of msg
MDBYT	Bytes written so far
MDVMC	MDALL
MDALA	Allocated length in bytes
	Allocated address of segment's data

Field MDVMC (0-2) Virtual map context

VMC.XC=0	EXEC Context (Map through EPT)
VMC.US=1	USER Context (Map through UPT)
VMC.NO=2	DO NOT Map (Physical Address)

MONITOR TABLES

MD-NIPAR

MD is the Network Interconnect (NI) Message Segment Descriptor block.

Defined in: NIPAR

Format		
Input Meaning	Output Meaning	
MDNXT	Must be zero	Ptr to next MSD
MDPTR	ILDB ptr into msg	IDPB ptr into msg
MDAUX	Not used	ILDB ptr to beg of msg
MDBYT	Bytes left to read	Bytes written so far
MDVVC		MDALL Allocated length in bytes
MDALA	Allocated address of segment's data	

Field MDVVC (0-2) Virtual map context

- VMC.XC=0 EXEC Context (Map through EPT)
- VMC.US=1 USER Context (Map through UPT)
- VMC.NO=2 DO NOT Map (Physical Address)

MONITOR TABLES

MN

MN represents the format of the DECnet-36 MENUVER field of the connect data. This field specifies what other connect data follows and what version of Session Control is running on the other node.

Defined in: SCPAR

Format	
MENUVER	
*	
Field MNRPA	(0-0) RQSTRID, PASSWRD, account fields are included
Field MNUSR	(1-1) USRDATA included
Field MNRSV	(2-4) Reserved field
Field MNVER	(5-6) Version of session control

MONITOR TABLES

MONITOR-STATISTICS

This table is available through GTTAB and is used by WATCH and EXEC.

Defined in: STG

Format

SKDTM0:	Time spent in SKDNUL with balance set empty	
SKDTM1:	Time spent in SKDNUL with balance set non-empty	
SKDTM2:	Time spent running scheduler	
SPTTIM:	Time spend in pager trap code	
DRMRD:	Number of drum reads	
DRMWR:	Number of drum writes	
DSKRD:	Number of disk reads	
DSKWR:	Number of disk writes	
TTYBKS:	Number of tty wakeups	
TTINTS:	Number of terminal interrupts	
BSTSUM:	Integral of NBPROC DT	
RJTSUM:	Integral of NBPROC NGOJOB DT	
RJAV:	Exponential average of number runnable forks	// \ NRJAVS =3 //
DSKWT:	Sum of process disk wait times	
DRMWT:	Sum of process drum wait times	
NTTYIN:	Total number terminal input characters	
NTTYOT:	Total number terminal output characters	
NGCCOR:	Count of GCCORs	
GCCTIM:	Integral of GCCOR time	
NREMR:	Count of WS removals while runnable	

MONITOR TABLES
MONITOR-STATISTICS (Cont.)

BSWT:	Sum of process wait times
SKDOVH:	Accumulated SCHED overhead time in HP units
SKDIDL:	Accumulated idle time in HP units
SKDSWP:	Accumulated swap-wait time in HP units
USRTIM:	Accumulated user time in milliseconds
HQFSUM:	Integral of NGQFK DT
LQFSUM:	Integral of NLQFK DT
DWRWT:	Sum of process disk write wait
NAJBAL:	Number of forced AJBALS calls
SNRSUM:	Integral of SUMNRN
RPQSUM:	Integral of NRPLQ
HSPTIM:	HP pager trap time
NCSWCH:	Number of context switches
BGNDTM:	Time doing background stuff (TTCH7,)
STRPCT:	System total page traps
SRPQSC:	System total "saves" from RPLQ
SGCCWR:	Number writes from GCCOR
NWSSUM:	Integral of number WS in memory
SKDFIL:	Integral of wait time with out swap waits
NWSLOD:	Count of WS loads
NREMJ:	Count of balance set removals while runnable
SXGCWR:	Number writes from XGC
TTWAKN:	Terminal input wakeup count
DSKRVC:	Skip reads count
CIPKSN	CI Packets Sent

MONITOR TABLES

MSCP SERVER COMMAND HEADER

This header resides within the invisible SYSAP area of an SCA message and contains command-specific information for the MSCP server.

Defined in: PHYMVR

.QCRTN=-13	Return address for this command
.QCNXT=-12	Pointer to next queued command
.QCLST .	Pointer to previous queued command
.QCPID .	Virtual page for I/O
.QCSTS .	Status
.QCIOR	IORB address
.QCDBD	Buffer name
.QCTMO	Time-out time
.QCDBG	Unused
.QCRT2	Return address for returning packet to SCA if the command is queued

.QCSTS	0	1	2	3	8	9	17	18	35
--------	---	---	---	---	---	---	----	----	----

Symbol	Bits	Meaning
MS.COQ	0	Command is queued
MS.ABT	1	Command is aborted
MS.CTO	2	Command is timed out

MONITOR TABLES
MSCP SERVER COMMAND HEADER (Cont.)

QCSTS	3-8	Command state, which can be:
	STCMD==0	Treat as incoming command
	STWAE==1	Waiting to allocate end
	STWSR==2	Waiting to send data (retryable)
	STWRR==3	Waiting to request data (retryable)
	STWSE==4	Waiting to send end packet (IO only) state
	STWSD==5	Wait for send data state
	STWRD==6	Wait for receive data state
	STIAC==7	IORB active (IO only) state
	STWSB==10	Waiting to send buffer (IO only) state
	STWRB==11	Waiting to request buffer (IO only) state
QCCNT	18-35	Timed retry counter

MONITOR TABLES

MSCP SERVER STORAGE

This storage contains variables used by the MSCP server module (PHYMVR).

Defined in: STG, PHYMVR

SVSTSW:	Status Word	*
SVSLSX:	Index into SCDBTB for listener	
SRVCHK:	Flags for periodic check	
SRVCKT:	Next time to check	
SVIRBH:	First free IORB	
SVBDKN:	# of disks to broadcast Online	
SVILCM:	# of illegal commands	
SVLCMO:	Last server command routine address	
SVPKIU:	# of packets in use	
SVMKIU:	Max # of packets in use	
SVCMIU:	# of commands in use	
SVMCIU:	Max # of commands in use	
SVIPIU:	I/O pages in use	
SVMPIU:	Max I/O pages in use	
SVBKNS:	Times reqeud because of nsked events	
SVCMDL:	Table of command counts (parallel to MSSDSP)	/\
		NMSFCN
		/\
SVCMRT:	Table of retried command counts (parallel to MSSDSP)	/\

MONITOR TABLES
MSCP SERVER STORAGE (Cont.)

	0	1	2		35
SVSTSW:					

Symbol	Bits	Meaning
SVSINF	0	Server has been initialized
SVSILB	1	Do not issue more MSSCGL BUGINFs
SVSLIS	2	OK to open a listener

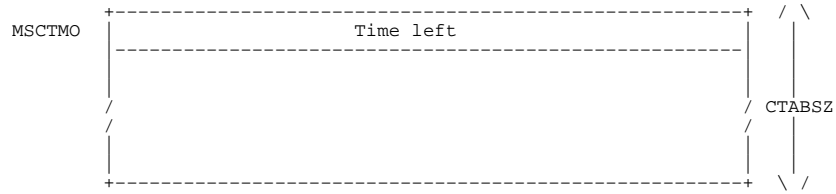
MONITOR TABLES

MSCTMO

This is the time left to wait for a remote MSCP driver connection.

Defined in: PHYMSC

Index: MSCP driver connect-id

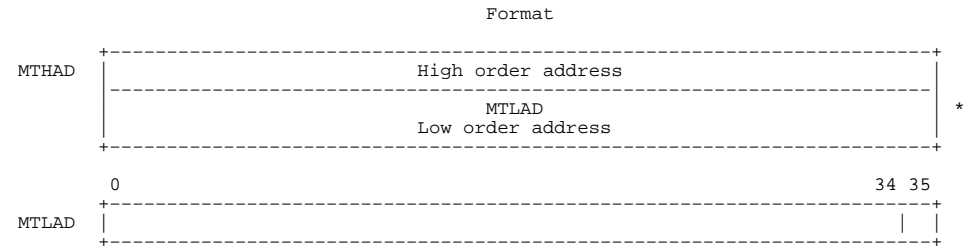


MONITOR TABLES

MT

NI Multi-cast address block. There is a block for each Multi-cast address that has been enabled for the NI port. Multi-cast address blocks are allocated at location MCTADR. There are NMTT (16) blocks in the table. The word MTUSE contains the number of NI multi-cast address blocks currently in use. The beginning of the table is pointed to by channel block word PSMTT, that is, PSMTT points to MCTADR.

Defined in: PHYKNI



Bit	Symbol	Contents
35	MTENA	Enable bit

MONITOR TABLES

MTA-STORAGE-AREA

Magtape storage area; each entry (unless otherwise noted) is MTAN words long where MTAN equals the number of magtape units on the system.

Defined in: STG

	Format	
MTALCK:	Lock Word	MTAN
MTASTS:	Status of Unit	MTAN
MTANR1:	Nonresident Storage for Magtape	MTAN
MTANR2:	Nonresident Storage for Magtape	MTAN
MTANR3:	Nonresident Storage for Magtape	MTAN
MTANR4:	Nonresident Storage for Magtape	MTAN
MTANR5:	Nonresident Storage for Magtape	MTAN
MTANR6:	Nonresident Storage for Magtape	MTAN
MTARS1:	Resident Storage for Magtape	MTAN
MTPSFK:	PSI Fork #	MTAN
MTCUTB:	CDB Table UDB Table (1 Entry/UDB)	MTAN
MTAPBF:	Space for Buffer Page Pointers	MTPBFL= MTBUFN*MAXPPB +MTAN
MTIRBF:	Space for IORBs	MTABFL= MTAN*MTBUFN* MTIRBL

MONITOR TABLES
MTA-STORAGE-AREA (Cont.)

MTIOWD:	IOWD for Next Transfer	MTAN
MTBIOW:	Backup IOWD for Next Transfer	MTAN
MTAOLS:	Length of last Xfer	MTAN
MTARCE:	Total Error Count	MTAN
REWCNT:	Number of Rewinding Units	
MTERAS:	Rewrite Erase Counter	
MTPNTR:	IOWD During Transfer	
MTAUNT:	Unit Currently Attached to Controller	
MTERRC:	Retry Counter	
MTERFL:	State of Retry	
MTACOM:	CONO Word of Current Operation	
MTDINR:	Return Address for Data Interrupt	
MTACLS:	Clock Routine Switch, 0 for No Clock Wanted	
TLABBP:	PNTR to Locked Buffer Page	2*MTAN
TLABR0:	Resident flags RCNT Record count info	MTAN
MTAJB0:	JOB 0 flag for MTA unit came on line	

MONITOR TABLES
MTA-STORAGE-AREA (Cont.)

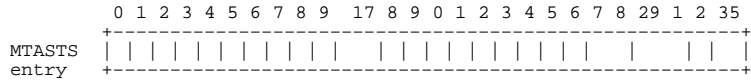
The following MTA storage items are in the nonresident area of the monitor and each item is MTAN words long.

	0	17	18	35	
MTANR1:	Flags, Density, Mode		MTRS Rec size in Hdw. Bytes		*/ \\ MTAN
MTANR2:	MTBYT Initial LH of FILBYT		MTBUF Ptr. to Buffer Pages List		*/ \\ MTAN
MTANR3:	0 Hdw. Byts Per Wd	5 6 MTUBW UserByts Per Wd	11 12 MTCBSB Current Service Routine Buffer	17 18 23 MTCUB Current User Buffer	*/ \\ MTAN
MTANR4:	MTCIRB Current IORB in Use		MTCUP Current User Page		*/ \\ MTAN
MTANR5:	MTUBB User Bytes per Buffer		MTUBP User Bytes per Page		*/ \\ MTAN
MTANR6:	MTALTC Last Transfer Count		MTLIRB Last Dump Mode IORB Adr.		*/ \\ MTAN
TLABL0:	Flags				*/ \\ MTAN
TLABL1:	TPERM Error codeset by MTCN		TPFRK Tape fork for PSI		*/ \\ MTAN
TLABL2:	TPJFN Saved JFN		TPLBLS Tape label buffers in SWAP		*/ \\ MTAN
TLABL3:	FSSAV Place to save file status				*/ \\ MTAN
TLABL4:	flags, section #		TPMTRS Place to save Rec Size		*/ \\ MTAN

MONITOR TABLES
MTA-STORAGE-AREA (Cont.)

TLABL5:	Tape position info				*/ \\ MTAN
TLABL6:	TPBSZ File blocksize	TPRSZ File record size			*/ \\ MTAN
TLABL7:	TPSCUP Saves Cur. pg. PTR for	TPIOB I/O buffer address			*/ \\ MTAN
TLABL8:	SVIOS Place to save IOS				*/ \\ MTAN
TLABL9:	SVBLK Place to save black address				*/ \\ MTAN
TLABL10:	TPLRC Local Status	TPPRO Protection			*/ \\ MTAN
TLABL11:	TPOCT old TPFcnt	TPOBY old TPFBYN			*/ \\ MTAN
TLABL12:	TPFSN Sixbit volume set name				*/ \\ MTAN
TLABL13:	TPEXPD Expiration date				*/ \\ MTAN
TLABL14:	Sequence Numbers				*/ \\ MTAN
TPFCNT:	MT filcnt				*/ \\ MTAN
TPFBYCN:	MT filbyn				*/ \\ MTAN
TPFLEN:	MT fillen				*/ \\ MTAN
TPFLNX:	Count of Bytes Expected in next Record				*/ \\ MTAN
TPSBYCN:	Pointer to where JCW should go when record is complete				*/ \\ MTAN

MONITOR TABLES
MTA-STORAGE-AREA (Cont.)

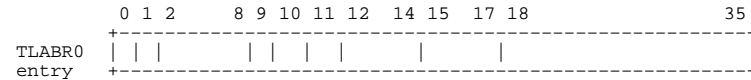


Symbol	Bits	Content
OPN	0	Unit has been opened
OPND	2	Unit has been opened for dump mode
DMPWT	3	Waiting for a dump mode operation to finish
LTERR	4	Error Occurred on last dump mode operation
BUFA	5	Buffers have been assigned
CLOF	6	CLOSF in progress
MTOWT	7	MTOPR in progress
MTIELW	8	Inhibit error logging
MTNOWT	9	Do not set MTOWT
MT%ILW	18	Write lock
MT%DVE	19	Hardware device error
MT%DAE	20	Data error
MT%SER	21	No error retry
MT%EOF	22	EOF
MT%IRL	23	Illegal record length
MT%BOT	24	Beginning of tape
MT%EOT	25	Physical end of tape
MT%EVP	26	Even Parity
MT%DEN	27-28	Density (0 is normal) .MTLOD=1 Low Density (200 BPI) .MTMED=2 Medium Density (556 BPI) .MTHID=3 High Density (800 BPI)
MT%CCT	29-31	Character Counter
MT%NSH	32	Mode or density not supported by hardware

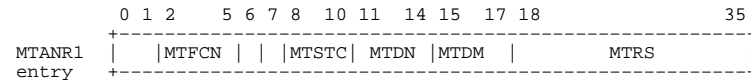
MONITOR TABLES
MTA-STORAGE-AREA (Cont.)



Bits	Pointer	Content
20	ABORTF	An error occurred and IORBs aborted
21-29	MTPPB	Number of pages per buffer
30-35	MTNIR	Number of IORBs queued
30-35	MTANIR	Absolute version of MTNIR

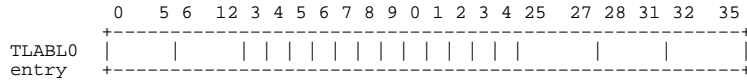


Bits	Pointer	Content
0	TPVV	Volume valid flag
1	TPNVV	Tape not valid
2-8	TPUNIT	Actual mta unit
9	SNEOT	EOT seen while writing labels
11	TPEDB	EBCDIC Volume
12-14	TPMTDM	Place to save data mode
15-17	TPMHBW	Place to save bytes/wd
18-35	RCNT	Record count info

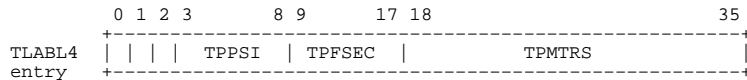


Bits	Pointer	Content
0-1	MTNTM	Count of EOFs written
2-5	MTFCN	Last function performed
6	MTPAR	Parity
7	MTRBF	Reading backwards flag
8-10	MTSTC	CLOSF function counter
11-14	MTDN	Density
15-17	MTDM	Data mode
18-35	MTRS	Record size in hardware bytes

MONITOR TABLES
MTA-STORAGE-AREA (Cont.)

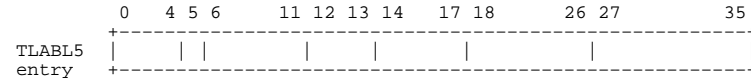


Bits	Pointer	Content
0-5	TPSTAT	State code
6-12	TPLPCS	Label processing code
13	TPBEGF	Set if beginning of spanned record
14	TPNBLL	New block read
15	TPUED	Use EBCDIC data if set
16	TPFVM	If set, first volume is mounted
17	TPLCT	User label count
18	HDR1	HDR1 data valid
19	HDR2	HDR2 data valid
20	RCCHK	Record count check error (TLRCHK)
21	TPEOF	EOF 1/2 seen in TLRCHK (also EOVS)
22	TPT20	TOPS-20 volume
23	UVLD	UVLD data valid
24	TPLBD	Unlabeled/labeled operation
25-27	TPDNS	MTA density - declared by MTCN
28-31	TPNUL	# of user labels written

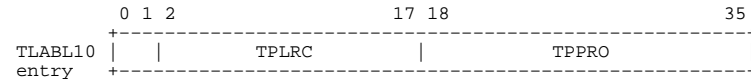


Bits	Pointer	Content
0	TPEUT	End of user labels encountered
1	TPAPP	Open for append
2	TPDPN	MT opened
3-8	TPPSI	Tape PSI for EOVS
9-17	TPFSEC	File section number
18-35	TPMTRS	Place to save record size

MONITOR TABLES
MTA-STORAGE-AREA (Cont.)



Bits	Pointer	Content
5	TPDVS	Defer volume switch if set
6-11	TPFRMT	Record format type code
12-13	TPMOD	Tape mode
14-17	TPRVN	Relative volume number
18-26	FSEQ	Tape file position (seq. #)
27-35	USRSEQ	User requested seq. #



Bits	Pointer	Content
0-1	TPXLB	Extra label count
2-17	TPLRC	Count of last read record
0-17	TPGDS	Local status
18-35	TPPRO	Save protection here

MONITOR TABLES

MTCUTB

This table contains the address of the CDB and the UDB for each tape drive on the system or the entry contains a zero if the drive does not exist.

Defined in: STG

Index: Tape drive number

Format

MTCUTB:	CDB		UDB	/ \
\	.		.	\ /
\	.		.	\ /
\	.		.	\ /
\	.		.	\ /

MTAN

MONITOR TABLES

NAMUTP

Name Unit Type Pointers. This table contains pointers to unit type names for disks (RP06, RM03, ...) and magtapes (TU45, TU77, ...).

Defined in: PHYSIO

Format

NAMUTP:	POINT 7,[ASCIZ/ (Illegal Type: 0) /]
\	POINT 7,[ASCIZ/RP04/]
\	.
\	.
\	.

MONITOR TABLES

NE

This is the DECnet network event block. An NE block contains all information about an event.

Defined in: D36PAR

Format

NENXT	Pointer to next NE block on queue		
NETIM	Time of event		
NECBK	Address of callback routine		
NEECP	Pointer to event communications block		
	NECCL Event class	NECTY Event type	NEDLN Data length in bytes
	NEETP Entity type		
NEEID	Entity ID		
NEDAT	Fullword pointer to data string		

MONITOR TABLES

NF

This is the DECnet NMX Interface Function Argument Block, whose purpose is to implement a standard calling interface between Network Management (NTMAN) and the DECnet Layers.

Defined in: D36PAR

Format

NFEID	Entity ID		
	NFBYT Byte count	NFPRM Parameter Number	
	NFETY Entity Type	NFSEL Selector	NFBLN Buffer Length
NFQUA	Qualifier		
NFBUF	Buffer Address or Parameter value		
NFBPT	Byte pointer to data		
Field NFBFF	(0-0)	Buffer Flag	
Field NFUBF	(1-1)	User Buffer passed (for return KNOWN NODES)	
Field NFQUF	(2-2)	Qualifier Flag	

MONITOR TABLES

NM

This is the Network Services Section of a DECnet message.

Defined in: D36PAR

Format

*		NMSGN	NMMGF	NMCNT	
	NMFLG	Message segment number	The MSGFLG field of the NSP header	Number of times we've sent message	
NMTIM	Time stamp				
NMPRT	Pointer to port block				
	NMLLA	NMRLA			
	Local link address	Remote link address			
NMMSD	Space for MSD				MD.LE
NMORQ	ORQ queue link				QP.LE
NMMAG	Magic word for DTESRV				
NMHDR	NSP header room				<<NMH
NMMK1	First mark				
NMMK2	Second mark				

For field NMFLG(0-5):

NMACK	0	Needs to be ACKed
NMRET	1	Return msg to SC
NMDLY	2	ACK delay allowed

MONITOR TABLES

NN

The DECnet node block contains all the information LLINKS has to know about a node. There is a node block for all nodes that we have active links to. The node block is created when someone tries to connect to a node that does not yet have a node block associated with it.

When the number of active links goes to zero, the node block is subject to possible deletion. If the number of node blocks is larger than NNDMAX, then the now unused node block is deleted after its counters are logged with a 3.2 (database reused) event.

The list of node blocks is pointed to by the queue header NMXNDQ.

Note that many counters are full words, even though they only have to be 16 bits wide. This is so the OPSTR logic generates a single read-modify-write instruction when updating them and spares us the worry of interlocking this data base.

Defined in: LLINKS

Format

	NETWORK NODE BLOCK		
NNNXT	Ptr to next node block		QP.LE
NNTLZ	Time (from DNGTIM) when last zeroed		
	NNNOD	Network node ID (2 bytes) (HWORD for speed)	*
NNTMC	Message timeouts to node		
NNRBC	User bytes received from node		
NNXBC	User bytes transmitted to node		
NNRMC	User msgs received from node		
NNXMC	User msgs transmitted to node		
NNTBR	Total # of bytes received from node		
NNTBX	Total # of bytes transmitted to node		
NNTMR	Total # of messages received from node		
NNTMX	Total # of messages received from node		

MONITOR TABLES
 NN (Cont.)

NNRCC	Connect inits received from node
NNXCC	Connect inits transmitted to node
NNRRC	Rejects received from node
NNXRC	Rejects transmitted to node
NNLKC	Current active links to node
NNLKM	Max active links to node
NNCRC	Connect resource errors received
NNDLY	Estimated round-trip delay (msecs)
NNSLZ	Seconds since last zeroed (time stamp)
NNPSZ	Pipe size (= 3 * last message's visit count)

For field NNFLG(0-1):
 NNGDL 0 Set if we've "got delay", see UPDELAY
 Field NNMSG (2-2) Set if we've sent a 'link broken' message
 for this node

MONITOR TABLES

NO-SCLINK

The NO defines a single node in a bucket in the DECnet-36 node name/number data base.

Defined in: SCLINK

	Format
	Represents a single node
NONAM	Node name
NOADR	Node address

MONITOR TABLES

NO-SCPAR

There is one node name block for each node. Node name blocks are kept on doubly linked lists, with the head of each list in a vector MAX-NODES long.

Defined in: SCPAR

	Format	
	Node name	
NONXT	POINTER TO NEXT NODE	
NOLST	POINTER TO LAST NODE	
NOCID	CIRCUIT ID USED ONLY FOR LOOPBACK	
NOCNT	COUNT OF BYTES IN NODE NAME (DOESN'T NEED FULL WORD, REST IS FREE)	
/\	NODE NAME TEXT	<<^D6
+3>/4>		
\		
\		

MONITOR TABLES

NR

The NR is the NRT (Network Remote Terminal) Data Block (also referred to as the NRB). One block is allocated for each active link to hold data associating the DECnet link with a terminal data block (TDB).

Defined in: NRTSRV

	Format	
NRTDB	Dynamic ptr to associated TDB	
	NRFLG NRCHN NRSTS	*
	DECnet channel number Current status of DECnet link	
NRSJB	Pointer to this link's SJB	
	NRSIZ NRPSI	
	Max chars in a segment on this link SCJSYS's original PSI mask for NETUSER link	
	NRRID NRINA	
	Remotes node ID Inactivity timer for NETHOST link	

For field NRFLG(0-5):

NRCFG	0	Set if config msg has been sent
NRREL	1	This NRB is being released
NRUSR	2	0=Nethost link, 1=User netlink
NRTRN	3	This NRB is in transition
NRDEA	4	Deallocate TDB

MONITOR TABLES

NT

The NT structure defines the format of the data blocks that are used to store the characteristics, counters, and states associated with the network management entities; these entities are nodes, circuits, lines, and modules. The blocks are also passed between the various layers of DECnet for the purpose of setting and reading parameters, and reading counters.

Defined in: NTMAN

Format

NTTYP Data type	NTLEN Length	NTROU Index to routine to call	NTDEV	NTQUA Qualifier Parameter Number	*
NTAPL	NTINF	NTBSZ Buffer size needed (if needed)	NTSEQ Sequence or type of field	*	

For field NTTYP(0-4):

NT.FC	1	Coded format
NT.FCM	2	Coded multiple (this means special casing)
NT.FAI	3	ASCII image (8-bit)
NT.FDU	4	Decimal, unsigned. Cannot be zero.
NT.FDS	5	Decimal, signed
NT.FH	6	Hex integer
NT.FHI	7	Hex image
NT.FOC	8	Octal
NT.FDM	9	Internal data type only. Decimal, milliseconds.
NT.FVN	10	Internal data type only. Version number.
NT.FNE	11	Internal data type only. Node entity ID.
NT.FNN	12	Internal data type only. ASCII node name
NT.FCN	13	Internal data type only. ASCII circuit name

For field NTDEV(15-20):

NTD.R	15	DMR-11
NTD.N	16	Ethernet (KLNI)
NTD.C	17	Computer Interconnect (KLPI)
NTD.P	18	DDP
NTD.K	19	KDP
NTD.D	20	DTE-20 (UGH)

MONITOR TABLES
NT (Cont.)

For field NTAPL(0-3):

NTA.E	0	Executor
NTA.L	1	Loop nodes
NTA.R	2	Remote nodes
NTA.H	3	Home area nodes only

For field NTINF(4-9):

NTI.C	4	Characteristics (listed in spec as 'C')
NTI.S	5	Status (listed in spec as 'S')
NTI.%	6	Summary (listed in spec as '**')
NTI.K	7	Circuit State
NTI.Q	8	This parameter is qualified
NTI.N	9	None. noop bit, not necessary

Field NTSET (10-11) Settablity restrictions

NTS.	0	0 means read and write
NTS.R	1	Read only parameter
NTS.W	2	Write only parameter

Field NTBUF (12-12) Buffer Field

MONITOR TABLES

NTCTAB

Network topology change fork table. This is the table used to notify user processes of topology changes on the network.

Defined in: STG

Format

NTCTAB:	Fork number	Interrupt channel	/ \
	.		NTCMAX
	.		
	.		
	.		

MONITOR TABLES

NX

NX is block of "globals" used by DECnet NMX.

Defined in: D36PAR

Format

	NXFLG	NXPRM Parameter/counter identifier	*
NXNUM	Entity sequence number. (Node addr of line ID)		
NXVAL	Maximum string size (32 bytes)		/ \ 8 \ /
NXMBY	Maximum number of bytes		
NXADR	User virtual address of argument block		
NXUO	Saved calling UO (need for STOTAC)		
NXEID	String pointer to entity ID		/ \ BP.LE \ /
NXFNC	Function code		
NXSEL	Selection criteria for function		
NXDAT	String pointer field to data string		/ \ BP.LE \ /
NXERR	Error code		

For field NXFLG(0-6):

NXWRM	0	Writing monitor's data base. 1=writing
NXWUS	1	Writing user's data string. 1=writing
NXZMC	2	Zeroing or clearing monitor core
NXCXP	3	Counter=1 or parameter=0
NXNIL	4	Not in layer. (I didn't bit)
NXECV	5	Do entity conversion
NXMCX	6	Buffer is in monitor context

Field NXNTY (9-11) Node type, if node

XP NX.EXN	1	Executor node
XP NX.REN	2	Remote node
XP NX.LPN	3	Loopback node

MONITOR TABLES
NX (Cont.)

Field NXLTY (12-14) Line type

XP NX.TST	0	Test bed driver (obsolete)
XP NX.DTE	1	DTE
XP NX.KDP	2	KDP
XP NX.DDP	3	DDP
XP NX.CIP	4	CI PORT
XP NX.NI	5	ETHERNET
XP NX.DMR	6	DMR

Field NXENT (15-17) Entity type

MONITOR TABLES

OA

Argument block used by DECnet Session Control and NSP. The OPEN call's argument block.

Defined in: D36PAR

Format

	-----+-----
	OPEN Argument Block
OASCB	-----+----- SCB ID for new port
OANOD	-----+----- Destination node
OAFLO	-----+----- Flow control type
OAGOL	-----+----- Data request goal
OASIZ	-----+----- Max bytes allowed in a message segment
OASCV	-----+----- Session control's entry address
OACIR	-----+----- Loopback circuit
	-----+-----

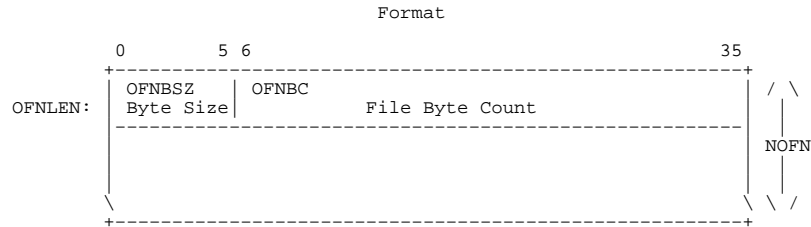
MONITOR TABLES

OFNLEN

Open File Length Table. This resident table contains the current file byte size and file byte count for each open file. It is parallel to the OFN areas of the SPT and SPTH tables.

Defined in: STG

Index: OFN number

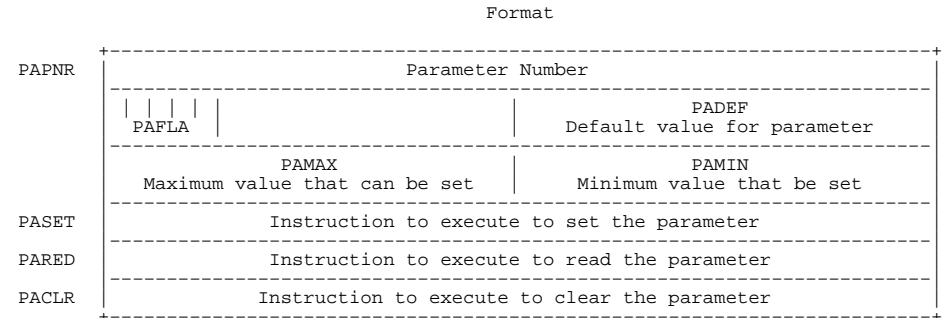


MONITOR TABLES

PA

The PA structure is used to keep the information for a DECnet network management parameter. It is pointed to by a table, generated with the PARAMETER macro. This structure is read by the routine NTPARM in D36COM.

Defined in: D36PAR



For field PAFLA(0-4):

- | | | |
|-------|---|--|
| PANST | 0 | Cannot set this parameter |
| PANCL | 1 | Cannot clear this parameter |
| PANRD | 2 | Cannot read this parameter (Write only memory) |
| PABEX | 3 | Buffer from NTMAN expected |
| PADRC | 4 | Don't range check "set" value |

MONITOR TABLES

PB-PHYKNI

This is the NI Port Block data structure. The port block is used by both the monitor and the NI microcode to transfer and store control and status information.

Defined in: PHYKNI

Format

PBCQI	Command queue interlock
PBCQF	Command queue flink
PBCQB	Command queue blink
PBS0	Reserved for software
PBRQI	Response queue interlock
PBRQF	Response queue flink
PBRQB	Response queue blink
PBS1	Reserved
PBUQI	Unknown protocol type queue interlock
PBUQF	Unknown protocol type queue flink
PBUQB	Unknown protocol type queue blink
PBUQL	Unknown protocol type queue length
PBS2	Reserved
PBPTT	Protocol type table starting address
PBMTT	Multicast address table starting address
PBS3	Reserved
PBER0	KLNI error logout 0
PBER1	KLNI error logout 1
PBLAD	Address of channel logout word 1
PBCLO	Contents of channel logout word 1

MONITOR TABLES
PB-PHYKNI (Cont.)

PBPBA	Port control block base address
PBPPIA	PI level assignment
PBPPIVA	Interrupt vector assignment
PBPCCW	Channel command word
PBPBCB	Pointer to read counters buffer

MONITOR TABLES

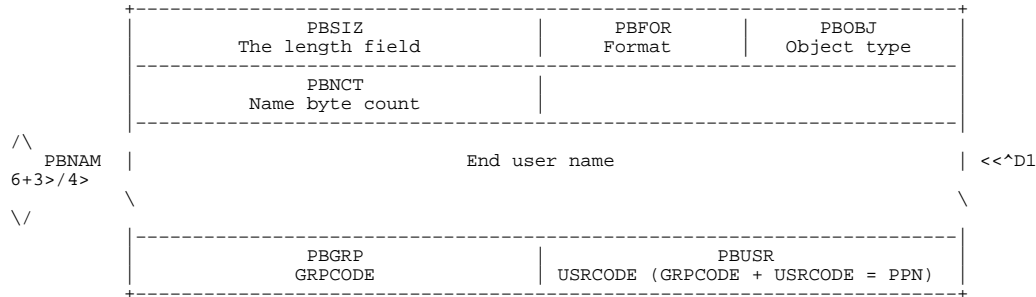
PB-SCPAR

DECnet-36 Process Descriptor Block. A "process block" is used to name local and remote processes. There are two of these contained in the Connect Block, one for the destination name and one for the source name.

Defined in: SCPAR

Format

Process Descriptor Block



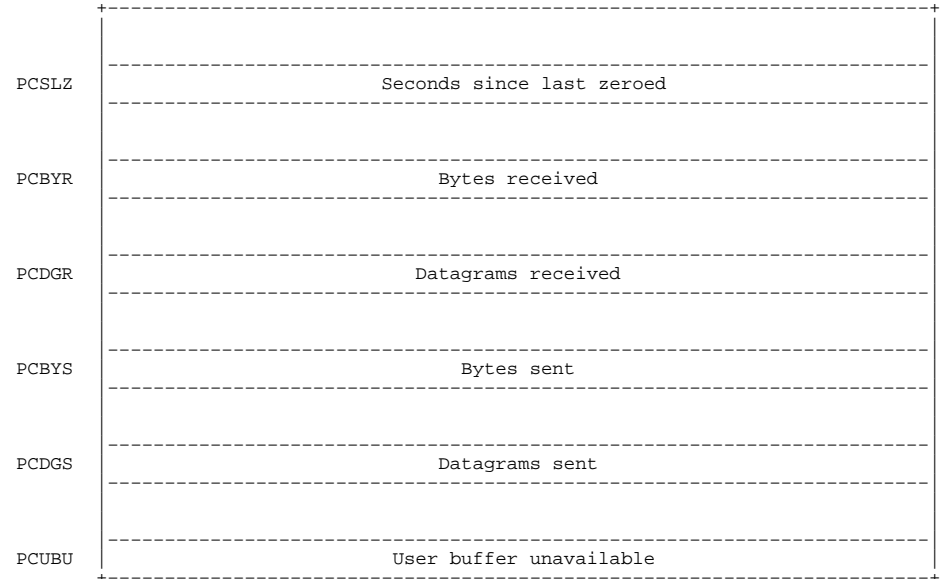
MONITOR TABLES

PC

PC is the read port counters block. There are two words in the table for each entry. PC is used by NTCTRS for the SHOW COUNTERS and SHOW and ZERO COUNTERS network management functions.

Defined in: NIPAR

Format



MONITOR TABLES

PCB (PORT CONTROL BLOCK)

The mechanism where the KL10 and the CI20 share the queue structures is controlled by the Port Control Block. The Port Control Block is a data structure that exists in the physical memory space of the KL10. Both the KL10 and the CI20 read and write the data in the PCB. The PCB contains the link words for the queues and other control information.

Defined in: SCAPAR

.PBBDT	Buffer Descriptor Table Starting Address
.PBMQE	Message Free Queue Entry Length
.PBQQE	Datagram Free Queue Entry Length
	Reserved
.PBQ3I	Command Queue 3 Interlock
.PBQ3F	Command Queue 3 FLINK
.PBQ3B	Command Queue 3 BLINK
.PBQ2I	Command Queue 2 Interlock
.PBQ2F	Command Queue 2 FLINK
.PBQ2B	Command Queue 2 BLINK
.PBQ1I	Command Queue 1 Interlock
.PBQ1F	Command Queue 1 FLINK
.PBQ1B	Command Queue 1 BLINK
.PBQ0I	Command Queue 0 Interlock
.PBQ0F	Command Queue 0 FLINK
.PBQ0B	Command Queue 0 BLINK
.PBRQI	Response Queue Interlock
.PBRQF	Response Queue FLINK
.PBRQB	Response Queue BLINK

MONITOR TABLES
PCB (PORT CONTROL BLOCK) (Cont.)

.PBMFI	Message Free Queue Interlock
.PBMFF	Message Free Queue FLINK
.PBMFB	Message Free Queue BLINK
.PBDFI	Datagram Free Queue Interlock
.PBDFB	Datagram Free Queue BLINK
	Reserved
	Reserved
	Reserved
	Reserved
.PBER0	Port Error Word 0
.PBER1	Port Error Word 1
.PBER2	Port Error Word 2
.PBER3	Port Error Word 3
.PBER4	Port Error Word 4
.PBPBA	PCB Base Address
.PBPIA	PI Level
	Reserved to Port
.PBCCW	Channel Command Word
	Reserved to Port

MONITOR TABLES

PHYCHT

PHYSIO Channel Dispatch Tables. This table contains the names of function dispatch tables for all supported channel types.

Defined in: STG

Format

PHYCHT:	.CTRH2	RH2DSP	/ \
	.CTCI	KLPDSP	
	.CTNI	KNIDSP	
	.	.	
	.	.	

-PHYCHL

MONITOR TABLES

PHYUNT

PHYSIO Unit Dispatch Tables. Table of known unit dispatch routines.

Defined in: STG

Format

PHYUNT:	Type (DSK)=.UTRP4	DSK Unit Dispatch Adr. = RP4DSP	/ \
	Type (MTA)=.UTTM2	MTA Unit Dispatch Adr. = TM2DSP	
	Type (DX20A)=.UTDXA	DX20 Dispatch Adr. = DXADSP	
	Type (DX20B)=.UTDXB	DX20 Dispatch Adr. = DXBDSP	
	Type (TU78) =.UTTM7	TU78 Dispatch Adr. = TM8DSP	

-PHYUNL

MONITOR TABLES

PR-NISRV

This is the NI Portal Table block.

Defined in: NISRV

Format

PRNXT	Pointer to next block (must be first)	
	PRFLG	PREXI External portal ID
		PRBSZ Receive buffer size
PRUID	What user wants on callback	
	PRPMD Packing mode	PRPRO Protocol type (bytes swapped)
PRCHN	Ethernet channel block address	
PRMUL	Bit vector of enabled multicasts	
PRPOS	Callback address	
PRCHK	Check word (address of this block)	
PRFQA	Free queue header address	
PROXM	Outstanding transmits	
PRORC	Outstanding receives	
PRTLZ	Time at which counters were zeroed	
PRBYR	Bytes received	
PRDGR	Datagrams received	
PRBYS	Bytes sent	
PRDGS	Datagrams sent	
PRUBU	User buffer unavailable	

For field PRFLG(0-8):

PRCLO	0	Portal is closing
PRPAD	1	Pad flag

MONITOR TABLES

PR-NIUSR

This is the NI Portal block. One exists for each Ethernet portal defined by the NI% JSYS.

Defined in: NIUSR

Format

PRNXT	Pointer to next portal		
	PRUPD User's portal ID	PRFLG Job wide fork #	PRFRK Fork number of owning fork
PRCHK	Check word		
	PRTCH Transmit completion interrupt channel	PRRCH Receive completion interrupt channel	PRSCH Status change interrupt channel
PRUNB	UN block pointer		
PRPID	Monitor's portal ID		
	\		
PRXQH	Transmitted queue header		\ XR.LE
N	\		\ \
	\		
PRRQH	Receive queue header		\ XR.LE
N	\		\ \
	\		
PRTRQ	Transmit quota		
PRRCQ	Receive quota		
PRTIP	Number of transmit buffers queued up to NISRV		
PRRIP	Number of receive buffers queued up to NISRV		

For field PRFLG(6-11):

PRCCP	6	Close complete
PRRPS	7	Receive PSI requested
PRTPS	8	Transmit PSI requested
PRSPS	9	Status change PSI requested

MONITOR TABLES

PRMP

This table contains pointers to the DNA parameter and counter data bases. The format for the data bases is described in the DNA Parameter and Counter Data Base table.

Defined in: NTMAN

Format

PRMP:	NODE pointer
	LINE pointer
	LOGGING pointer
	CIRCUIT pointer
	MODULE pointer
	EVENT pointer

Each pointer has the format:

COUNT	ADDRESS
-------	---------

The COUNT is the negative of the number of parameters in the data base, and ADDRESS is the address of the first block in the data base.

MONITOR TABLES

PROCESS STORAGE AREA

This area contains process specific information. It is the entire PSVAR psect. The PSBMAP in the PSB points to all of this area. For this area, the monitor has indirect pointers in its page table (MMAP) for its pages beginning at PSSPSA: (which is on a page boundary) for the length of the process storage area. All of these pointers are to a single location in the SPT (specifically SPT+NOFN+1). With this arrangement, the process storage area for the current process can be changed to the process storage area for another process by only changing the one location in the SPT.

Defined in: STG

Format

PSSPSA:	Start of process special pages	/ \
CXBPGA:	Swapper, Map temporary page	1 page
CPTPGA:	Swapper, Map temporary page	/ \
		1 page
CPYPGA:	Swapper, Map temporary page	/ \
	End of process special pages	1 page
PSSPEA:		/ \
FPG0A:	Fork utility page	1 page
FPG1A:	Fork utility page	/ \
		1 page
FPG2A:	Fork utility page	/ \
		1 page
FPG3A:	Fork utility page	/ \
		1 page
PSIPGA:	PSI in progress storage	/ \
		NPSIPG (2) pages

MONITOR TABLES
PROCESS STORAGE AREA (Cont.)

IDXPGA:	Index table is mapped here (zero length if sections)	\\ NIDXPG pages \\
DIRPGA:	Directory window (zero length if sections)	\\ DRMASZ pages \\
DDTPXA:	MDDT private segment	\\ NDDTPG pages \\
UPTPGA:	User section 0 page table (see USER-PG-MAP-TBL)	\\ 1 page \\
HWPTA:	Hardware variables (see UPT)	\\ 1 page \\
PSBPGA:	overlaid with First page of PSB (see PSB)	 \\ \\
PS2PGA:	Second page of PSB	\\ 1 page \\

MONITOR TABLES

PS-PHYKNI

PS is the NI Port Storage block (channel block). There is one channel block for each NI on the system. The first block is pointed to by CHNBAS. At this time, only one channel block is allocated, and it is allocated at location PRTSTG (CHNBAS points to PRTSTG).

Defined in: PHYKNI

	Format	
PSNXT	Pointer to next channel block	
PSPCB	Port control block base address (virtual)	
PSPBA	Port control block physical base address	
PSPTT	Virtual address of protocol type table	
PSMTT	Virtual address of multicast address table	
PSINT	Interrupt level control buffer	
PSNON	Non-interrupt level control buffer	
PSLPT	Load PTT table buffer address	
PSLMT	Load multicast address table buffer address	
PSWSI	Write station info buffer address	
PSRSI	Read station info buffer address	\\
PSUNK	Pseudo PTT for unknown protocol type queue	PT.LE
		\\
	PSFLG	
PSSTA	Line state	
PSHAD	Stored high order station address	
PSLAD	Stored low order station address	
PSSAD	Shadowed address	\\ 2 \\
PSHRA	Stored high order ROM address	
PSLRA	Stored low order ROM address	

MONITOR TABLES
PS-PHYKNI (Cont.)

PSVAR	PSSVA	PSVBT	PSRSP Maximum number of entries on the response que	PSCHN	
PSCHK	Check word, contains magic value				
PSTLR	Time of last response				
PSCNO	CONO KNI, T1				
PSCNI	CONI KNI, T1				
PSDNO	DATAO KNI, T1				
PSDTI	DATAI KNI, T1				
PSCQA	CONO KNI, CO.BTS+CO.CQA or NOP				
PSMXT	Number of multicasts transmitted				
	PSUMA Major version number		PSUMI Minor version number		
PSUED	Edit number				
PSTPC	UDT of port crash				
PSLAR	LAR at time of uCode crash				
PSCRL	Left hand CRAM bits at time of crash				
PSCRR	Right hand CRAM bits at time of crash				
PSTLZ	Time at which port counters were zeroed				
PSSHCH	Address of shadow counters block				

For field PSFLG(0-17):

PSLS	0	1=Line state needs reported
PSWUL	1	1=Waiting for uCode to be loaded
PSSTP	2	1=Waiting for port restart
PSBIG	3	1=KNISTP BUGINF reported
PSLSI	4	1=Need to write station information
PSLMC	5	1=Need to do load multicast table command
PSLPP	6	1=Need to do load protocol table command
PSVAD	7	1=PSHAD/LAD is valid

MONITOR TABLES
PS-PHYKNI (Cont.)

For field PSVAR(0-3):

PSCRC	0	Allow receipt of frames with CRC errors
PSPMC	1	Station is in Promiscuous multicast mode
PSH40	2	H4000 mode if 1
PSPRM	3	Promiscuous mode if 1

For field PSVBT(8-11):

PSVCR	8	PSCRC is valid
PSVPM	9	PSPMC is valid
PSVH4	10	PSH40 is valid
PSVPR	11	PSPRM is valid

Field PSCBA (24-26) CBUS address

	0	1		17	18		26	27		35
PSSTA										

Symbol Bits Meaning

PSRUN	1	Channel is running; should be 1b0
PSSST	18-26	Channel substate
PSEXS	27-35	Channel external state

MONITOR TABLES

PS-SCPAR

This is DECnet-36 PSI data passed back from SCLINK on a call to SCTPSQ, the "Read PSI Queue" routine. The data is passed in T1 and T2.

Defined in: SCPAR

Format

PSFLG	PSPSM The PSI mask for this link
PSSTS The status half-word	PSCHN The channel number

For field PSFLG(0-17):
PSMOR 0 Set if more PSIs queued

MONITOR TABLES

PSB

Process Storage Block. Each process has a PSB which holds information such as: the PC and ACs when not running; forks known to this process, and accounting, PSI, paging and directory information. It also holds trapping information and the hardware cells for the User Process Table (See UPT Table). Page 2 of the PSB houses the push down list used by the monitor when executing JSYSs (that is, in process context). The PSBMAP map in the PSB points to all of the per-process storage area (including the PSB itself). For further information, see also the Process Storage Area.

Defined in: STG

Format

UACB:	AC block 1 saved here when JSYS starts (ACBAS points at last block saved)	NUACB
JOBNO:	Job # to Which Fork Belongs	
JOBBIT:	SCHED Control Bits	
FNPMAX:	Maximum Number of Pages in Working Set for This Fork	
JOBCK0:	Variables for Scheduler Time Guarantee	
JOBCK1:	Variables for Scheduler Time Guarantee	
RUNT2:	Run Time Fractional Parts of a Millisecond	
FKTAB:	Local Fork Handle to Job Handle Table	NLFKS/2
FORKN:	Job Fork # at Top Fork This Fork	
FKRT:	Fork Run Time	
PRARGP:	Pointer to Process Arguments	
MPP:	Monitor Saved Stack Pointer at Last JSYS	
PRIMRY:	Primary I/O Indirection Pointers	
SLOWF:	Slow MON Routine Flag	
INTDF:	Defer Interrupts IF .GE. 0	

MONITOR TABLES
PSB (Cont.)

INTDFL:	SOS INTDF or JSYS PSISV1	
MJRSTF:	XJRSTF FFL or JSYS PSISV0	
ACBAS:	Current AC Stack Pointer	
ITFFL:	Flags on Interrupt to MEXEC (Must be contiguous with ITFPC)	
ITFPC:	PC on Interrupt to MEXEC	
TRPID:	IDENT of Page Causing Trap	
TRPPTR:	Storage Address or Pointer Causing Trap	
UAC:	User ACs (from AC block 1) Saved here when process not running	20
PAC:	Process ACs EXEC AC's are saved here when process not running	20
PFL:	Process Flags (Must be contiguous with PPC)	
PPC:	Process PC	
NSKED:	No-Schedule Word	
RSKED:	No-Schedule Trap JFCL/JSR RSKCHK	
TRAPSK:	Stack Used During Pager Traps	NTSK= 133
TRAPAP:	Page Trap Saved P	
TRAPC:	Pager Trap Recursion Count	
UTRSW:	Saved Page Fail Word for User	
UTRPCT:	Count of Pager Traps for This Process	
USWPCT:	Count of SWPINW Calls for This Process	
PTTIM:	Time Spent in Pager Traps	
LSTXGR:	Time (FKRT) of Last XGC	
FKTLST:	Lost Time While Clock Turned Off	

MONITOR TABLES
PSB (Cont.)

CRSKED:	In Critical Section if Non-0	
SKDFL:	Scheduler Temp (Return Flags)	
SKDPC:	Scheduler Temp (Return) Must Stay With SKDFL	
MONBK:	Interrupt to Monitor if non-zero	
LSTIPC:	PC of Last JSP T2, ITRAP1	
PSIPT:	PSI Storage List Pointer	
PIOLDS:	FKSTAT Prior To PSI if was Waiting	
LEVCHN:	Level Table Channel Table Addresses	
PSISYS:	Non-0 if PSI System Off	
MONCHN:	Channels Reserved by Monitor	
PSICHA:	Channel Assigned to TERM Code	NTERMI/6
PIMSK:	PSI Request Word Being Passed to PSI Service	
PSIBW:	Break Waiting Word	
FORCTC:	Channel Which Caused Forced Fork Termination	
PSICHM:	Channel Enabled Word	
SUPCHN:	Channels Reserved by Superior	
ENSKR:	Scheduler Temp (Return) XPCW block	4
UPTTPI= HWPTA+ 420	Hardware Storage (UPT cells) (see UPT Table Description)	
PIOLD2:	FKSTA2 prior to PSI if was waiting	
PSIBIP:	Break in Progress Word (Levels)	
ADRBRK:	Address Break Information	

MONITOR TABLES
PSB (Cont.)

ADREBK1:	Address of Instruction Causing Address Break	
ADRBAD:	Last Break Referenced this Address	
FRKNOP:	NOP or MDDT breakpoint	
PIFL:	Saved Flags (Must be with PIPC)	
PIPC:	Saved PC during Initial PI Service (called with XPCW)	/ \ 3 \ /
FKTOFF:	Time at Which CPU Clock Turned Off	
NWSCE:	Number of Entries in WS Cache	
LSTXGT:	Time (TODCLK) of Last XGC	
UMUOW:	Save MUO Word for User	/ \ 2 \ /
KIMUU1:	Last UO Word from User	/ \ 2 \ /
PSLEVT:	Address of User's Level Table	/ \ 2 \ /
PSCHNT:	Address of User's Channel Table	
PSBITS:	Miscellaneous Per Process Bits	
TRPDISP:	Dispatch for MON ILLEG MEM REF	
HPSWRN:	Time to flag excessive high priority scheduling	
DDPFRK:	1 => this is DDMP fork	
PSBSAB:	Address of DECnet SAB indirect table	
SCSTMQ:	Head pointer for SCS% message queue	
SCSBMQ:	Tail pointer for SCS% message queue	
SCSTDQ:	Head pointer for SCS% datagram queue	
SCSBDQ:	Tail pointer for SCS% datagram queue	
SCSTXQ:	Head pointer for SCS% DMA xfer queue	
SCSBXQ:	Tail pointer for SCS% DMA xfer queue	
SCSTEQ:	Head pointer for SCS% event queue	

MONITOR TABLES
PSB (Cont.)

SCSBEQ:	Tail pointer for SCS% event queue
SCSPS0:	PSI channels for msg avail,,dg available
SCSPS1:	PSI channels for DMA avail,,events
SCSTCQ:	Head pointer for CB queue
SCSBCQ:	Tail pointer for CB queue
SCSTXN:	Head pointer for list of DMA buffer names
SCSBXN:	Tail pointer for list of DMA buffer names
EVLNTH:	Entry Vector Length
EVADDR:	Entry Vector Address
PATLEV:	PA1050 Entry Vector Length
PATADR:	PA1050 Compatability Entry Vector Address
PATU40:	Where to Store C(40), Setup as UMOVEM 1,XX
PATUPC:	Where to Store PC, Setup as UMOVEM 1, XX
DMSLEV:	RMS Entry Vector Length
DMSADR:	RMS Entry Vector Address
DMSU40:	Where to Store C(40) on DMS Call
DMSUPC:	Where to Store PC of DMS Call
ENQWRD:	Used for Cluster ENQ/DEQ (0=Not doing Cluster ENQ)
CABMSK:	Capability Mask
CAPENB:	Capabilities Enabled
SNPPGS:	Count Page # of First Page Locked
SNPLST:	Flags Link to 1st BP for Fork
LSTERR:	Last Error Number
PDVS:	Pointer to PDV block

MONITOR TABLES
PSB (Cont.)

ERRSAV:	Block of Error Parameters	NERRSV
PSBMAP:	Map for Process Area	PSBMSZ
JTBLK:	FKJTB + forkn for this fork	
JTLCK:	Lock on JSYS Trap to Monitor (this) fork Lock Protects JTTRW and Allows Only one JSYS Trap Interrupt at a Time to This Monitor	
JTTRW:	JSYS Trap Word (Set by interrupting fork) Contains trapping instruction	
JTTFK:	JTFRK Forkn of Trapping Fork	
JTMNW:	12 JTMCN 17 JTNMI Monitor's Forkn of Mon Interrupted PSI Chan (PSI'd)	
PNSKDC:	NOSKED's Done by DIAG & other Resource Managers	
ARTHTR:	User-Specified Arithmetic Trap	
PDOVTR:	Address of user's block for PDL overflow	
CRTRGN:	Indicates Critical Region	
STRWRD:	STRFLG NOSTR Flag for STR Info # Mount Count Increments (for KSELF)	
FKXORA:	Fork IDXORA During Creation of Structure	
LOKH1:	Index of Highest Lock Held At This Time	
DRLOC:	Location in Directory During Searches	
DRINP:	Pointer to Input Name During Lookup	
DRINL:	Length of Input String	

MONITOR TABLES
PSB (Cont.)

DRMSK:	Mask of 0 Bits in Last Word of String	
DRSCN:	Pointer to FDB Link During Lookup	
DRREC:	Count of Recognized Characters (Partial File Recognition)	
DROFN:	0 17 18 19 35 DRLFDB DRROF DIROFN Last FDB Checked by Release OFN of Current Mapped FDBCHK OFN Directory	
DRMAP:	Adr of Map Page when SEC2	
DIRCAD:	Cache Address of Last MAPDIR	
IDXMAP:	Adr of IDX Tbl. Pg Map When Extended Addressing	
STRINF:	0 17 18 19 35 CURUC IDXFLG CURSTR Unique Code of XB File Str. No. of Cur. Currently Mapped Index Mapped Mapped Index File File	
UPLIST:	Pointer to Portal List for NI% JSYS	
WSCSH:	(Begins at Top of Second PSB Page) Working Set Cache	WSCHCW
PIPDB:	PSI Routines stack	NPIPDL
PIAC:	Saved user ACs during break start	20
UPDL:	User PDL for Monitor Calls UPDL is Defined as the End of this Page NUPDL	NUPDL

MONITOR TABLES

PT-SCPAR

This is the DECnet-36 Port Table. The port table contains information describing the state of a user's DECnet connection.

Defined in: SCPAR

Format

PTDEV	PTCON User's PSI channel for incoming CI or CC	PTINT User's PSI channel for interrupt messages	PTDAT User's PSI channel for Data/ Disconnect									*	
	PTJFN JFN associated with channel			PTFRK Fork number									
	PTSTS Link status												
	Storage for DEV during a block												

- Field PTTYP (18-18) Open type: 0=Passive 1=Active
- Field PTEMI (19-19) EOM has arrived
- Field PTPSI (20-20) User has been "PSI"ed for data available
- Field PTLWC (21-21) Link was connected indicator
- Field PTBLK (22-22) This link is blocked (blocking I/O)
- Field PTWAK (23-23) Wake the next process that tries to block
- Field PTNRR (24-24) Null record received

MONITOR TABLES

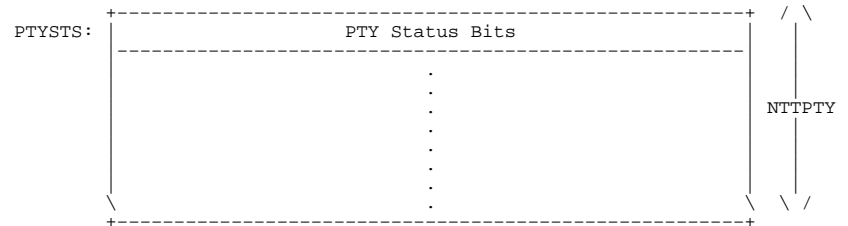
PTYSTS

Pseudo Terminal Status Table. This table contains the PTY's status word.

Defined in: STG

Index: PTY Number

Format

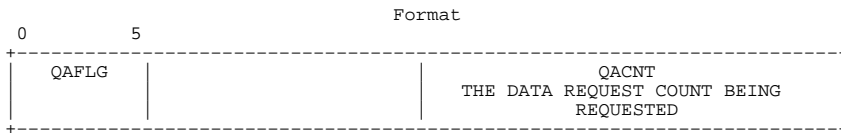


MONITOR TABLES

QA

This structure contains the data request count (in T2), an inter-layer parameter passed by Session Control to NSP.

Defined in: D36PAR



QAOFF -- Set if the sublink is to be turned off

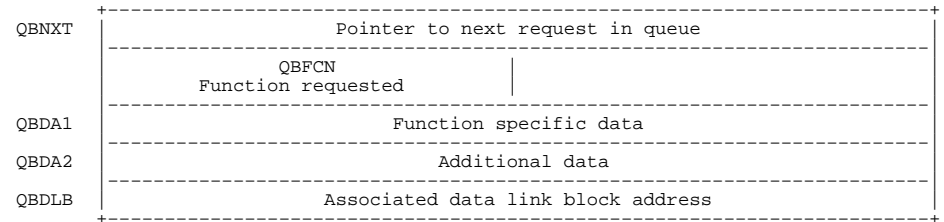
MONITOR TABLES

QB

This is the DECnet queue block.

Defined in: DNADLL

Format



MONITOR TABLES

Q-BLOCK

The information for each ENQ request is stored in a Q-BLOCK. Q-BLOCKS are doubly linked for each job; the list header is in ENQLST in the JSB. Also, Q-BLOCKS are doubly linked on a system wide list for each lock block; the list header is in the lock block.

Defined in: ENQPAR

Format

	0	17 18	35
0	ENQLJQ Back Pointer to Last Q-BLOCK for job		
1	ENQNJQ Forward Pointer to Next Q-BLOCK for job		
2	ENQLLQ Back Pointer to Last Q-BLOCK		
3	ENQNLQ Forward Pointer to Next Q-BLOCK		
4	ENQFLG Flags	ENQCHN: PSI Channel	ENQFRK: Fork to Interrupt When Request Is Locked
5	ENQNR Number of Resources Requested from Pool	ENQID: Request ID Code	
6	ENQLRQ Back Pointer to Last Q-BLOCK of Request		
7	ENQFQ Forward Pointer to Next Q-BLOCK of Request		
10	ENQLBP Pointer to LOCK-BLOCK		
11	Reserved	ENQGRP Group Number of Sharable Request	
12	ENQNST Nest Count	ENQJFN: JFN of Request or -1, -2, or -3	
13	ENQMSK Pointer to MASK BLOCK		

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MONITOR TABLES
Q-BLOCK (Cont.)

The flags word must occur in the same position in both the Lock-Block and the Q-Block. The flags word is used to distinguish a Lock-block from a Q-block.

Word 4	0	11 12	17 18	35
	ENQFLG Flags			
	ENQCHN		ENQFRK	

Symbol	Bits	Pointer	Contents
EN.SDO=400	3		Scheduling pass needed on Lock-Block
EN.CLL=200	4		Cluster-wide queue block or Cluster-wide lock-block
EN.NOV=100	5		No vote for this lock-block Set during caching and for -1 type locks
EN.LTL=40	6		Long Term Lock
EN.INV=20	7		This Q-Block is invisible
EN.LOK=10	8		The Q-Block has the Lock Locked.
EN.TXT=4	9		This Block has a Text String Identifier.
EN.EXC=2	10		Request is Exclusive
EN.LB=1	11		This is the Lock-Block
	12-17		Reserved
	18-35	ENQLVL	Level number of this lock.

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MONITOR TABLES

QE

QE describes the format of the header for all command, response, and unknown protocol queue entries. The NI uCode expects this format.

Defined in: PHYKNI

	Format
	Queue entry
QEFLI	Forward link
QEBLI	Backward link
QEVIR	Virtual address of entry
QEOPC	Queue entry operation code

MONITOR TABLES

QH-D36PAR

Structure QH, queue header, is used by the ENDQUE, DEQUE and RMVQUE macros for manipulation of DECnet queues.

Defined in: D36PAR

	Format		
	Queue Header		
QHBEG	Pointer to first entry in queue		
QHEND	Pointer to last entry in queue		
	<table border="1"> <tr> <td>QHMAX Max length queue ever got</td> <td>QHCNT Current length of queue</td> </tr> </table>	QHMAX Max length queue ever got	QHCNT Current length of queue
QHMAX Max length queue ever got	QHCNT Current length of queue		

MONITOR TABLES

QH-PHYKNI

QH defines the queue header format for the command, response, and unknown protocol queues. The NI uCode expects the queue header to have this format.

Defined in: PHYKNI

	Format
	Queue header definition
QHIWD	Interlock word
QHFLI	Forward link
QHBLI	Backward link
QHLEN	Length of queue entries

MONITOR TABLES

QL

QL is the Queue Link definition used by LAT. All LAT queue entries are linked together using this structure.

Defined in: LATSRV

	Format
	Halfword Queue Link Word
QLFWD	Next forward queue element
QLBWD	Previous backward queue element

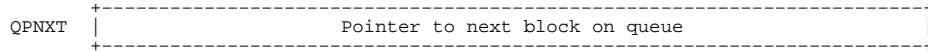
MONITOR TABLES

QP

Structure QP, queue pointer, is included to emphasize the fact that the ENDQUE and DEQUE macros used by DECnet expect the forward pointer in a block to be a full word - and to simplify the addition of backward pointers should that become desirable.

Defined in: D36PAR

Format



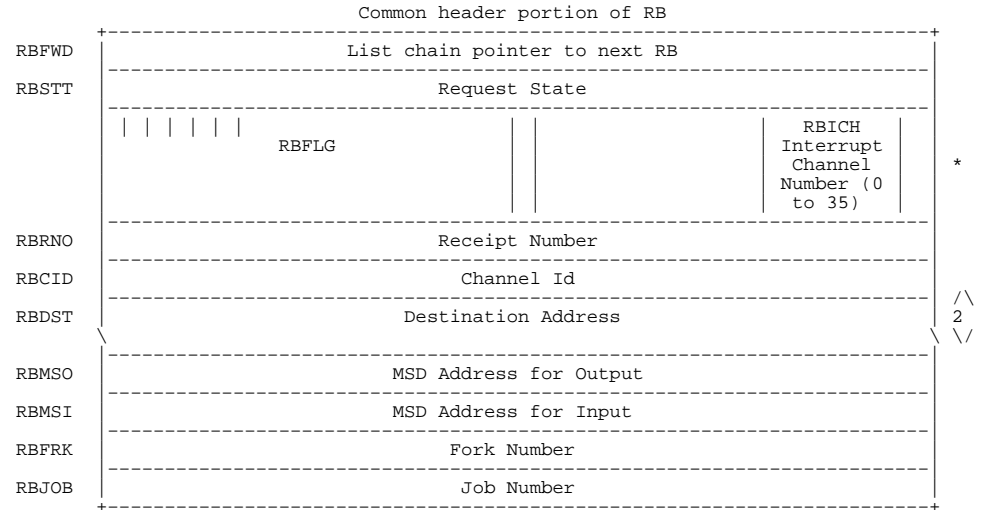
MONITOR TABLES

RB

This is the DECnet low level MOP request block.

Defined in: LLMOP

Format



For field RBFLG(0-17):

RBFTI	0	Transmit Request Initiated
RBFTC	1	Transmit Request Complete
RBFTF	2	Transmit Request Failed
RBFCR	3	Receive Response Complete
RBFRF	4	Receive Response Failed
RBABT	5	Abort this request

Field RBAIC (18-18) Assign Interrupt Channel

Field RBICH (29-34) Interrupt Channel

MONITOR TABLES

RC-PHYKNI

RC is the structure for the NI read counters block.

Defined in: PHYKNI

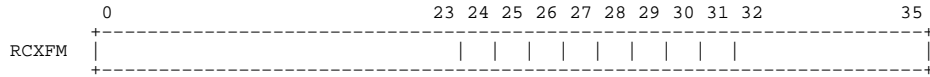
Format

RCBR	Bytes received
RCBX	Bytes transmitted
RCFR	Frames received
RCFX	Frames transmitted
RCMCB	Multicast bytes received
RCMCF	Multicast frames received
RCFXD	Frames xmitted, initially deferred
RCFXS	Frames xmitted, single collision
RCFXM	Frames xmitted, multiple collisions
RCXF	Transmit failures
RCXFM	Transmit failure bit mask
RCCDF	Carrier detect check failed
RCRF	Receive failures
RCRFM	Receive failure bit mask
RCDUN	Discarded unknown
RCD01	Discarded position 1
RCD02	Discarded position 2
RCD03	Discarded position 3
RCD04	Discarded position 4
RCD05	Discarded position 5
RCD06	Discarded position 6

MONITOR TABLES
RC-PHYKNI (Cont.)

RCD07	Discarded position 7
RCD08	Discarded position 8
RCD09	Discarded position 9
RCD10	Discarded position 10
RCD11	Discarded position 11
RCD12	Discarded position 12
RCD13	Discarded position 13
RCD14	Discarded position 14
RCD15	Discarded position 15
RCD16	Discarded position 16
RCUFD	Unrecognized frame destination
RCD0V	Data overrun
RCSBU	System buffer unavailable
RCUBU	User buffer unavailable
RCRS0	PLI reg rd par error,,PLI parity error
RCRS1	MOVER parity error,,CBUS parity error
RCRS2	EBUS parity error,,EBUS queue parity error
RCRS3	Channel error,,Spur channel error
RCRS4	Spur xmit attn error,,CBUS req timeout error
RCRS5	EBUS req timeout error,,CSR grnt timeout error
RCRS6	Used buff parity error,,xmit buff parity error
RCRS7	Reserved for uCode
RCRS8	Reserved for uCode

MONITOR TABLES
RC-PHYKNI (Cont.)



Symbol	Bits	Contents
RCLOC	24	Loss of carrier
RCXBP	25	Xmit buffer parity error
RCRFD	26	Remote failure to defer
RCXFL	27	Xmitted frame too long
RCOC	28	Open circuit
RCSC	29	Short circuit
RCCCF	30	Collision detect check failed
RCEXC	31	Excessive collisions



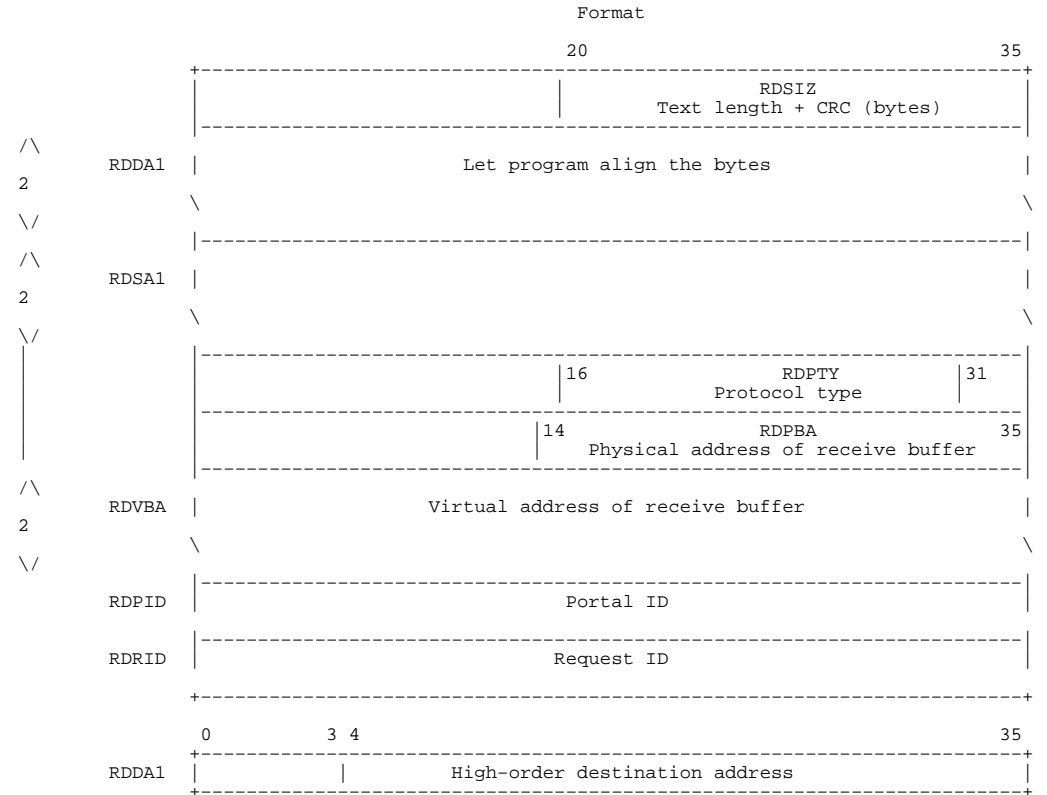
Symbol	Bits	Contents
RCFLE	27	Free list parity error
RCNFB	28	No free buffers
RCFTL	29	Frame too long
RCFER	30	Framing error
RCBCE	31	Block check error

MONITOR TABLES

RD

RD represents the format of the NI Receive Datagram command.

Defined in: PHYKNI



MONITOR TABLES
RD (Cont.)

	0	15 16	31 35
RDDA1+1	Low-order destination address		
	0	3 4	35
RDSA1	High-order source address		
	0	15 16	31 35
RDSA1+1	Low-order source address		

MONITOR TABLES

RES-FREE-SPACE

Resident Free Space Storage.

The resident free space pool is used by TOPS-20 for allocating free space for data structures such as UDBs, CDBs, KDBs, and SDBs; for terminal messages and line dynamic data blocks; and for the TIMER JSYS when it builds a job's run-time limit block. (See JOBRTL table).

Defined in: STG

There are 2 resident free spaces - one in section 0/1 and one in an extended section. The following data structure describes each of the free spaces. The locations RES0TB and RESNTB contain the addresses of the data structures for section 0/1 space and extended space, respectively.

.REBAS	Starting address of free space
.REEND	Address of last word of free space
.RETOT	Total size of free space in blocks
.REPR1	If space left is less than this, allocate P1 only
.REGRO	If space left is less than this, grow free space
.REBTB	Address of start of bit table
.REBTL	Length of bit table (words)
.RETFR	Total remaining unallocated blocks
.REFFB	Number of block just past end of free space
.REPMX	Number pools
.REQTA	Address of block containing quota for each pool
.REPFR	Address of block containing count of unallocated blocks

Offset .REBTB points to a bit table, each bit representing a 4-word block of free space - bit on means block in use.

MONITOR TABLES
SA (Cont.)

For field SAFLG(0-5):

Symbol	Bit	Contents
SAWAI	0	Wait if user wants (check NS.WAI)
SAEOM	1	End of message flag
SABOM	2	Beginning of message flag
SAKCB	3	Keep connect block for life of link
SABLK	4	HIBER routine has blocked. Room for future MONUSR flags

For field SAMFG(6-11):

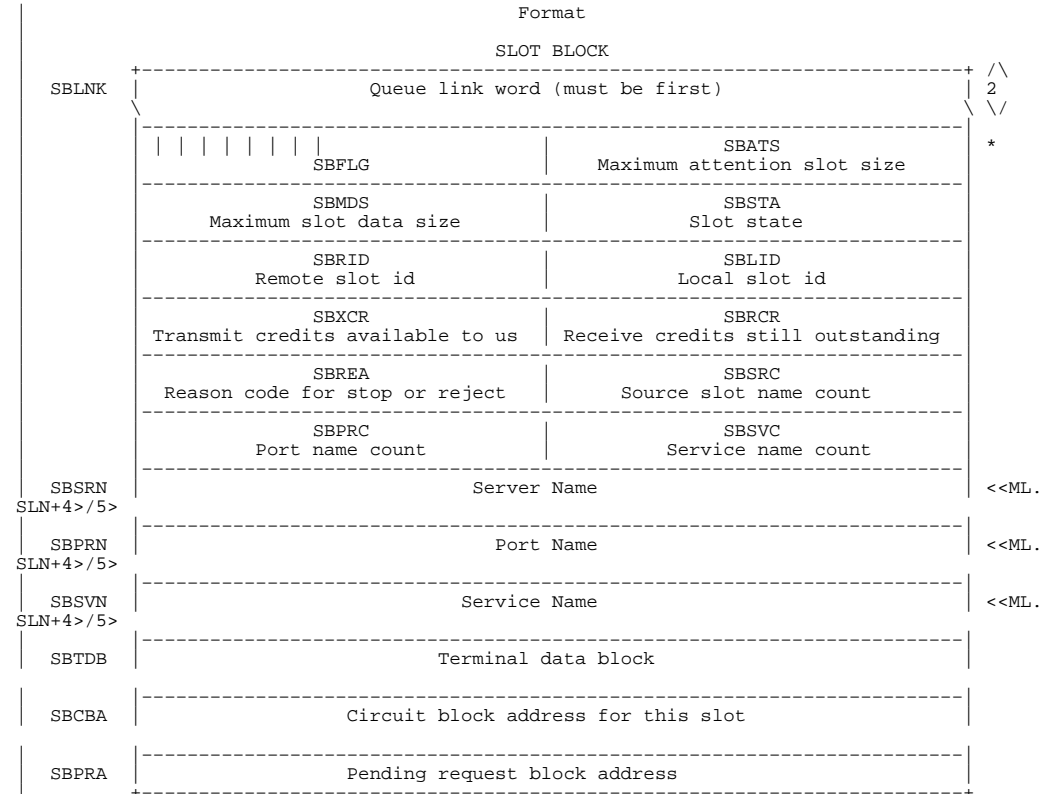
Symbol	Bit	Contents
SAEVA	6	User buffer in exec virtual addr space
SASAT	7	Data read satisfied Room for future monitor flags

MONITOR TABLES

SB-LATSRV

This is the LAT slot block data structure. There is one slot block for each active slot (terminal) session. Slot blocks are created when a slot session is started and released when the slot session is terminated. Slot blocks are pointed to by the Connect Block queue pointer CBSBQ.

Defined in: LATSRV



MONITOR TABLES
SB-LATSRV (Cont.)

For field SBFLG(0-17):

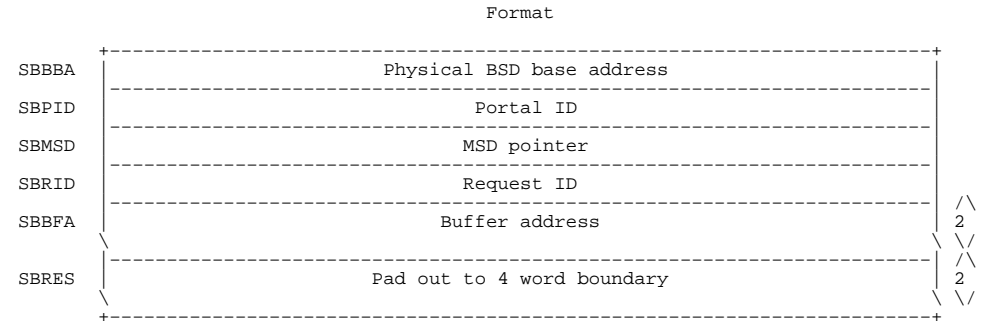
Symbol	Bit	Contents
SBSDP	0	Slot data present (must be sign bit)
SBREJ	1	Send REJECT Slot
SBSTR	2	Send START Slot
SBFOU	3	Flush output
SBOUT	4	Output data available
SBFCC	5	Flow control change
SBSTO	6	Send STOP Slot(Must be last)
SBDLP	7	This slot is a dialup line

MONITOR TABLES

SB-PHYKNI

This block exists in all NI Send Datagram commands; it starts after the SN block. If the datagram is BSD style, SBBBA contains the physical address of the first BSD. The other fields in this block may be used by both BSD and non-BSD style sends.

Defined in: PHYKNI



MONITOR TABLES

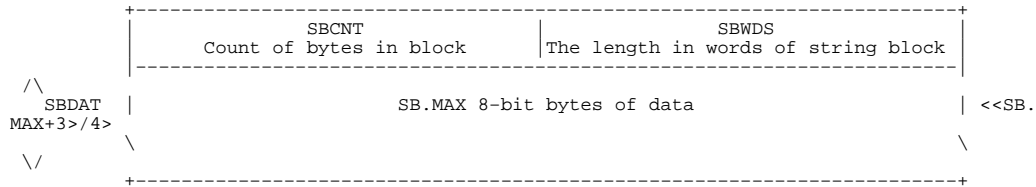
SB-SCPAR

The String Block is used by DECnet-36 to store the user's string-block argument.

Defined in: SCPAR

Format

The Internal String Block

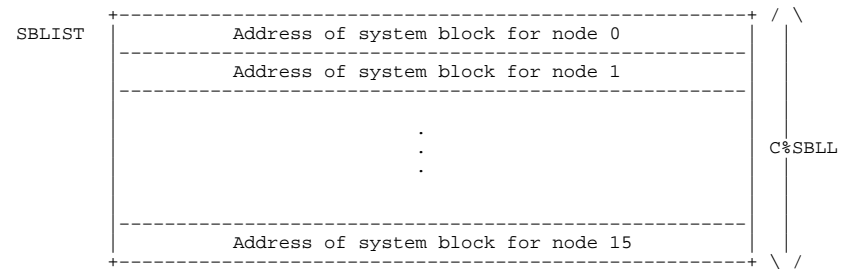


MONITOR TABLES

SBLIST (SYSTEM BLOCK LIST)

The system block list, indexed by CI node number, contains the addresses of the system blocks for nodes on the CI. These addresses point to the device-dependent portion of the KDB for that CI node.

Defined in: SCAMPI



MONITOR TABLES

SCA CONNECTION BLOCK

This is the format of the connection block used by SCA to keep the state of each connection which it is maintaining.

Defined in: SCAPAR

.CBANB=0	Address of next connect block		/\
.CBAPB=1	Address of previous connect block		
.CBSBA=2	System block address		
.CBSBI=3	CBDNOD Destination node number	CBEXPR Expected response	*
.CBSTS=4	CBBKST Connect block state	CBCNST Connection state	*
.CBFLG=5	Flags		*
.CBSCI=6	CBSCID	Source connect ID	
.CBDCI=7	CBDCID	Destination connect ID	
.CBADR=10	SYSAP callback address		
.CBBUF=11	CBIMB Message buffers to queue	CBIDB Datagram buffers to queue	
.CBWQ=12	Next entry on work queue		
.CBSPN=13	Source process name		
.CBDPN=17	Destination process name		
.CBDTA=23	User supplied connect data		
.CBREA=27	CBDRE Dest. disconnect reason	CBSRE Source disconnect reason	

MONITOR TABLES
SCA CONNECTION BLOCK (Cont.)

.CBMCD=30	CBMNSC Minimum send credit	CBMNR Minimum receive credit
.CBSCD=31	Send credit	
.CBRC=32	Receive credit	
.CBPRC=33	Pending receive credit	
.CBRQC=34	Requeue credit	
.CBRTC=35	Return credit	
.CBNPO=36	CBNPO Packets on port command Q	CBCNT Reaping postponed count
.CBDGR=37	Number of datagram buffers on hardware queue	
.CBCDD=40	CBCDD Number of dropped datagrams	
.CBLCK=41	Interlock word for connect state	
.CBPND=42	Interlock word for credit_request in progress	
.CBJNB=43	CPJNB Address of next connection block for this fork	
.CBJPB=44	CPJPB Address of previous connection block for this fork	
.CBMGJ=45	CBMGJ Number of SCS% message receive buffers queued	
.CBDGJ=46	CBDGJ Number of SCS% DG buffers queued	
.CBFRK=47	CBFORK Job number of owner job	CBJOB Fork number of owner fork
.CBTMQ=50	Pointer to top of message available queue (for SCS%)	
.CBBMQ=51	CBBMQ Pointer to bot of message available queue (for SCS%)	
.CBTDQ=52	CBTDQ Pointer to top of datagram available queue (for SCS%)	

MONITOR TABLES
SCA CONNECTION BLOCK (Cont.)

.CBBDQ=53	CBBDQ Pointer to bot of datagram available queue (for SCS%)	
.CBTXQ=54	CBTXQ Pointer to top of the DMA xfer complete queue	
.CBBXQ=55	CBBXQ Pointer to bot of the DMA xfer complete queue	
.CBTEQ=56	CBTEQ Pointer to top of the event queue	
.CBBEQ=57	CBBEQ Pointer to bot of the event queue	
.CBTBQ=60	CBTBQ Pointer to first buffer descriptor block	
.CBBBQ=61	CBBBQ Pointer to last buffer descriptor block	
.CBPS0=62	CBPMG PSI channel for messages	CBPDG PSI channel for datagrams
.CBPS1=63	CBPDA PSI channel for DMA	CBPEV PSI channel for events
+-----+-----+		
.CBSBI=3	CBDNOD Destination node number	CBEXPR Expected response
+-----+-----+		

Contents of field CBEXPR

Symbol	Value	Meaning
.STORS	1	Connect response
.STARS	3	Accept response
.STRRS	5	Reject response
.STDORS	7	Disconnect response
.STCRS	11	Credit response

MONITOR TABLES
SCA CONNECTION BLOCK (Cont.)

.CBSTS=4	CBBKST Connect block state	CBCNST Connection state
+-----+-----+		

Contents of field CBBKST

Symbol	Value	Meaning
.BSFRE	1	Free
.BSALL	2	Allocate
.BSCNP	3	Connect pending
.BSACP	4	Accept pending
.BSRPN	5	Reject pending
.BSCRPN	6	Credit pending
.BSDPN	7	Disconnect pending

Contents of field CBCNST

Symbol	Value	Meaning
.CSCLO	1	Closed (CLOSED)
.CSLIS	2	Listening (LISTENING)
.CSCSE	3	Connect request was sent (CONNECTSENT)
.CSCRE	4	Connect request was received (CONNECTREC)
.CSCAK	5	Connect response was received (CONNECTACK)
.CSACS	6	Accept request was sent (ACCEPTSENT)
.CSRJS	7	Reject request was sent (REJECTSENT)
.CSOPN	10	Connection is open (OPEN)
.CSDSE	11	Disconnect request was sent (DISCONNECTSENT)
.CSDRE	12	Disconnect request received (DISCONNECTREC)
.CSDAK	13	Disconnect response received (DISCONNECTACK)
.CSDMC	14	Waiting for disconnect response (DISCONNECTMATCH)

MONITOR TABLES
SCA BUFFER RETURNED TO CLUDGR (Cont.)

CLDFLG Flags (Word 1)		
Symbol	Bits	Description
CL%REQ	0	1=local CLUDGR to perform requested function 0=remote request
CL%PRV	1	1=remote user has WHEEL or OPERATOR privileges enabled
CL%GAL	2	1=remote process is a GALAXY component
CL%ERR	3	1=remote system error for the given function
	4-17	Unused

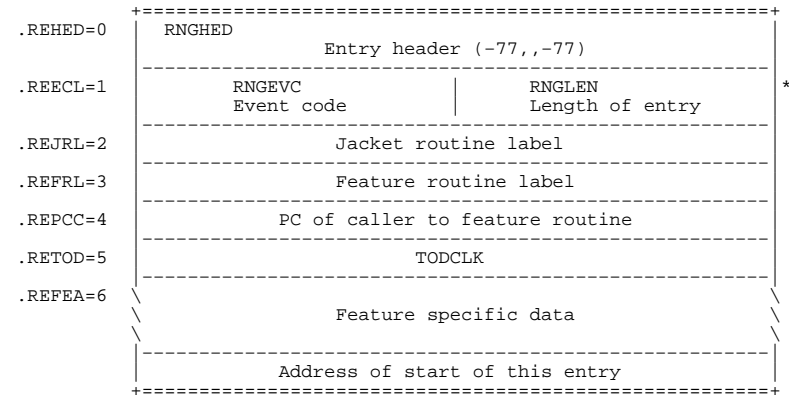
MONITOR TABLES

SCA RING BUFFER ENTRY

The SCA ring buffer is present in the monitor only if the monitor has been built with the flags DEBUG and SCARNG non-zero. These flags are found in PROLOG.MAC. Also, the bits that are set in the location RNSW ultimately controls which events get recorded in the ring buffer.

The following is the format of an SCA ring buffer entry. The symbols given are not offsets into the entire ring buffer. They are offsets into a particular ring buffer entry. The pointer to the current ring buffer position is stored in RNGADR and the address of the most recent ring buffer entry is stored in RNGCUR. The top of the ring buffer is stored in RNGTOP and the bottom address is in RNGBOT. The total number of entries written is in RNGNUM and the total size of the ring buffer is in RNSIZ.

Defined in: SCAPAR



MONITOR TABLES
SCA RING BUFFER ENTRY (Cont.)

.REECL=1	RNGEVC Event code	RNGLEN Length of entry
----------	----------------------	---------------------------

Contents of field RNGEVC

Symbol	Value	Meaning
SYSSCA	1	SYSAP to SCA events
SCASYS	2	SCA to SYSAP
BUFMAN	3	Buffer manipulation
PKTEVT	4	Packet transaction
PITRAN	5	PI transition
PORTQU	6	Port queue manipulation
INTLOK	7	Interlocks

Contents of RNGSW - the flag word which controls event recording

Symbol	Bit	Meaning
RSYSCA	0	Record SYSAP to SCA events
RSCASY	1	Record SCA to SYSAP events (callbacks)
RBUFMG	2	Record buffer management events
RPACKT	3	Record packet events (outgoing and incoming)
RPITRN	4	Record PI transitions
RPRTQU	5	Record port queue events
RINTLK	6	Record interlocks

SCA ring buffer entry--Feature data (SYSSCA)

Below is the format of the feature specific data for the SYSAP to SCA ring buffer entry.

.RESNN=6	Node number
.RESCB=7	Connect block address
.RESST=10	.CBSTS (Block state, Connect state)
.RESFL=11	.CBFLG
.RESSI=12	.CBSCI (Source connect ID)
.RESDI=13	.CBDICI (Destination connect ID)

MONITOR TABLES
SCA RING BUFFER ENTRY (Cont.)

SCA ring buffer entry--Feature data (SCASYS)

Below is the format of the feature specific data for the SCA to SYSAP (callback) ring buffer entry.

.RECNN=6	Node number
.RECCB=7	Connect block address
.RECCR=10	Callback reason code

SCA ring buffer entry--Feature data (BUFMAN)

Below is the format of the feature specific data for the buffer manipulation ring buffer entry. The .REBCT word can contain one of three values. If the buffer is being returned, .REBCT contains a -1. If the buffer is being created or allocated and it has been obtained successfully, .REBCT contains the number of buffers. If the allocation was not successful, .REBCT contains the number of refused requests (RMRCNT for messages, RDCNT for datagrams). Also, on an unsuccessful allocation attempt, the .REBAD word contains -1 since no buffer was allocated. Otherwise, this word always contains a buffer address, which is either the address of a newly created/allocated buffer chain or the address of a buffer just returned.

.REBCT=6	# of Buffers, or refused count, or -1 if returned
.REBAD=7	Address of 1st buffer or -1 if can't allocate
.REBMC=10	FQCNT (number of buffers on message free queue)
.REBMT=11	TOPFQ (pointer to top of message free queue)
.REBMB=12	BOTFQ (pointer to bottom of message free queue)
.REBDC=13	DFQCNT (number of buffers on datagram free queue)
.REBDT=14	TOPDFQ (pointer to top of datagram free queue)
.REBDB=15	BOTDFQ (pointer to bottom of datagram free queue)

MONITOR TABLES
SCA RING BUFFER ENTRY (Cont.)

SCA ring buffer entry--Feature data (PKTEVT)

Below is the format of the feature-specific data for the packet transaction ring buffer entry. The flags word contains the PPD flag bits (F.RTB, F.SPM, F.RSP). F.RSP tells you whether the packet was locally or remotely generated (F.RSP) and indicates which connect ID is the one from the local system. The mode of the packet is indicated by F.SPM.

The message priority is the priority of the packet and ranges from a high priority of 0 to a low of 3.

.REPNN=6	Node number	
.REPCB=7	Connect block address	
.REPAD=10	Packet address	
.REPFL=11	Flags	
.REMP=12	Message priority	Packet length
.REPTY=13	MH\$TYP (credit,,message type)	
.REPSI=14	MH\$SCI (Source connect ID)	
.REPDI=15	MH\$DCI (Destination connect ID)	

SCA ring buffer entry--Feature data (PITRAN)

Below is the format of the feature specific data for the PI transition ring buffer entry.

.REPIC=6	CHNCTL
.REPIF=7	PIFLAG

MONITOR TABLES
SCA RING BUFFER ENTRY (Cont.)

SCA ring buffer entry--Feature data (PORTQU)

Below is the format of the feature specific data for the port queue manipulation ring buffer entry.

.REPQN=6	Node number	
.REPQF=7	Flags	Buffer count
.REPQB=10	Buffer address	

.REPQF=7	Flags	Buffer count
----------	-------	--------------

Contents of flags field

Symbol	Bit	Meaning
RPQFLK	0	Link to port queue
RPQFMG	1	Message free queue used

SCA ring buffer entry--Feature data (INTLOK)

Below is the format of the feature specific data for the interlock ring buffer entry.

.REICB=6	Connect block address
.REICL=7	Connect block lock value (.CBLCK)
.REIFL=10	Connect block flags (.CBFLG)
.REISL=11	Count of locked connect blocks on system block

MONITOR TABLES

SCHED-VARIABLES

This storage contains the variables used in the SCHED module. It contains pointers to the GOLST and to the wait lists. Clock and other parameters needed are also contained.

Defined in: STG, SCHED, APRSRV

	Format	
SKDPPDL:	Scheduler local PDL	/ \ NSKDP =700 / \
SCKATM:	Alarm time - min. of all SCHED clocks	
OLDTCK:	Alarm time - old time - used to calculate interval	
PISC7R:		/ \ 4 / \
PI7AC1:	Temps at PISC7	/ \ 2 / \
ALARMT:	Min. time of forks on clk1st	
SKDTHS:	Time in SCHED so far this pass	
SKDLST:	Last reading of HP clock	
SKDLRT:	Runtime of last trip thru scheduling cycle	
NULJBF:	Non-zero if running null job	
SNPSV1:	Place to save AC while ck'ing PC for SNOOP break pt.	
LSTPFK:	Last Fork Scheduled	
LFORKX:	Last Fork Before Background Tasks	
FORKX:	Index of currently running fork	
FREJOB:	Pointer to list of free jobs	
WTLST:	Pointer to waiting fork list	

MONITOR TABLES
SCHED-VARIABLES (Cont.)

WT2LST:	Pointer to waiting forks to be waked by UNBLK1	
TTILST:	Pointer to list of forks waiting for TTY input	
TTOLST:	Pointer to list of TTY output events	
FRZLST:	Pointer to list waiting for unfreezing	
TRMLST:	Pointer to list waiting for inferior fork termination	
CLKLST:	Pointer to list waiting for Clock	
JTLST:	JSYS traps queue	
JTLSTL:	Linked list of forks wait on JTLCK to PSI some mon fork	
GOLST:	Pointer to runnable fork list	
JB0FLG:	Run JOB 0 request	
FRECB:	Free core number bits	
FREFK:	List of free forks	
SYSIFG:	System has been initialized if not 0	
PWRDWN:	Power failure detected if .g. 0, done if .l. 0	
SPWFFL:	Spurious power fail if -1, restart if 0	
RLODPC:	PCs for keep alive reload	/ \ 4 / \
FPTABL:	PAGEM dispatch for section numbers	/ \ HGHSEC +1 / \
NBPROC:	Number of processes in balance set	
NBWT:	Number waiting processes in balance set	
NBSWP:	Number of forks in swap wait	
NHOLDF:	Number of forks in balance set mold	
MAXBP:	Max number of jobs in balance set	

MONITOR TABLES
 SCHED-VARIABLES (Cont.)

BSQNT0:	Value of BSQNT at start of last running
SUMNR:	Sum of reserve pages, all processes in memory
SUMBNR:	Sum of working sets in balance set
NWSEPG:	Number pages WSETs entering memory
BALSHC:	Count of pages in balance set because of sharing
NXTCNF:	Next fork to check - GCNO
RELCB:	Mask of core numbers released but not cleared
MAXNR:	Max value of SUMNR
MAXHNR:	Max NR of balance set holding forks
BSLST:	Pointer to list of balance set holding forks
NBSL:	Number of balance set holding forks
NEBAL:	Number of processes now entering balance set
REMFSG:	Flags set on REMBSJ/REMBSF
NPMAX:	Max number of pages in core for one proces
SNPMAX:	Small NPMAX for loaded conditions
IRJAV:	Nearest integer to RJAV
WSMTIM:	Time for next WSMGT
RWSOKF:	Flag - OK to do REMWS
NWSMEM:	Number WS in mem
NHQFK:	Number forks on non-maxq
NLQFK:	Number forks on maxq
SCHFLG:	Permanent scheduling flags
SKEDF1:	Start process by way of CH7 break in 1
SKEDF3:	Process clock counted to 0
SKEDFC:	Force clear of balance set and memory

MONITOR TABLES
 SCHED-VARIABLES (Cont.)

INSKED:	In scheduler if non-zero
SSKED:	Last job running was NOSKED
SETPAG:	Temp for setting pager at SCDR
RSKCHK:	XPCW destination
PSKED:	Page transfer completed and dismiss job
QSKED:	Blocked fork now unblocked if .g. 0
TSKED:	TTU output event if non-zero
BSKED:	Fork voluntarily left balance set if .g. 0
NGOJOB:	Number of runnable jobs
RJTTIM:	Time at last update to RJTSUM
RJATIM:	Time of next RJAV update
RJAVS1:	RJTSUM at last RJAV update
SKDFST:	Minimize processing for fork scheduling
BKIDLF:	Flags in Background, Charging IDLE
IDLFUG:	IDLE time (ms) for Any Overflow of SKDIDL
GOLPWC:	Number of wait credit boosts after BSWT
SKDSHS:	Number of BKGND1 cycles
SKDSHQ:	Number of bad background decisions
SKDBRM:	Number of DISMT removals
SKDBSK:	Number of DISMT successes
MXQNB0:	Number of forks on MAXQ after NEWST3
MXQGB0:	Subset of MXQNB0 that got special boost

MONITOR TABLES
 SCHED-VARIABLES (Cont.)

SKDSHN:	Count of times routine in SKDSHK changes NGOJOB	/ \ NSHAKL \
RJAVS2:	HQFSUM at last RJAV update	
RJAVS3:	LQFSUM at last RJAV update	
BSQNT:	Running job remaining quantum	
TIM1:	SCHED fast clock	
TIM2:	Second clock	
FKT0:	Clock at start of running	
FKT1:	Time used since SETRT	
TIMO:	TODCLK atlast C1STAT	
TODCLK:	Millisecond clock, monotonically increasing	
TODPWL:	Time of day (in seconds) by power line clock	
CHKTIM:	Time at which JOB 0 considered overdue	
CHKDUE:	Count of consecutive overdues for JOB 0	
DDPTIM:	Time at which DDMP considered overdue	
DDPDUE:	Count of consecutive overdues for DDMP	
SCDRN1:	Run only job N if n .g. -1	

MONITOR TABLES

SCOUNT

Subsystem Counts. Each entry contains a count of times each subsystem is invoked. This table is parallel to SNames.

Defined in: STG

	Format	
SCOUNT:	Count	/ \ NNAMES \

MONITOR TABLES

SDB

Structure Data Block. This block, one per structure, contains information about the structure's units, master directory (that is, Root-Directory), bit map for disk page allocation/deallocation, and assigned swapping area. It also contains mount and open-file information. SDBBLO is the name of the storage area reserved for handling the SDB for the Public Structure (PS). Individual Structure Data Blocks are pointed to by slots in STRTAB.

Defined in: STG

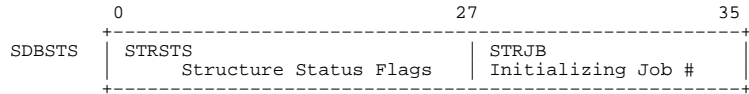
Format

SDBNAM=0	STRNAM	Structure Name (in SIXBIT)
SDBNUM=1	STRNUM	Number of Units in Structure
SDBSIZ	STRSIZ	Size (in sectors) of Each Unit in Structure
SDBSTS	STRSTS	Status Flags
	STRJB	Initing Fork Number
SDBRXB	STRRXB	Address of Root Directory Index Block
SDBBXB	STRBXB	Address of Backup Copy of Root Directory Index Block
SDBNSS	STRNSS	Number of Swapping Sectors per Unit
SDBFSS	STRFSS	First Swapping Sector per Unit
SDBBTB	STRBTB	OFN of Bit Table
SDBFRC	STRFC	Count of Free Pages on Structure
SDBIDX	STRRDO	OFN of Root Directory
	STRIDX	Handle of Index Table
SDBLDN	STRLDN	Last Directory Number on This Structure

MONITOR TABLES
SDB (Cont.)

SDBLCA	STRLCA	Last Cylinder Assigned by DSKASN
SDBCYL	STRCYL	Total Cylinders in Structure
SDBBT0	STRB0	Length of Top Half of Bit Table
SDBBT1	STRB1	Length of Bottom Half of Bit Table
SDBTYP	STRTYP	Address of DSKSIZ Table for This Type of Disk
SDBFLK	STRUC	Unique Code in SDB
	STRUS	Str #
	STRLK	File Lock Count
SDBCNT	STRMC	Mount Count
	STROF	Open File Count
SDBPUC	STRMI	Pack Unique Code for Media Identification
SDBOMF		Original Minimum Free Page Limit
SDBMXF		Boundary Above Which SDBMFP=SDBOMF
SDBMFP		Min. Free Pgs. below which DSKASA Changes Assignment Algorithm
SDBALS		Alias name
SDBTMR	STRTMR	Structure Offline Timer
SDBUDB	STRUDB	Flags
		Pointer to UDB
		MXSTRU

MONITOR TABLES
SDB (Cont.)



Symbol	Bits	Pointer	Content
MS%PS	0	STPS	Structure is login structure
MS%DIS	1	STDIS	Structure is being dismantled
MS%DOM	2	STDOM	Structure is domestic
MS%PPS	3		Protected Permanent Structure
MS%INI	4		Structure is being initialized
MS%LIM	5		Structure is limited
MS%NRS	6	STNRS	Structure is not regulated
MS%RWS	7		Read after write for swapping
MS%RWD	8		Read after write for data
MS%ASG	9		Disk assignments are prohibited (Bit table is bad)
MS%MXB	10		Bit table too large for monitor address space
MS%CRY	11		Enable password encryption
MS%IDT	12		Enable password invalidation by date
MS%IUS	13		Enable password invalidation by use
MS%DMP	14		Structure is dumpable
MS%EXC	15	STEXL	Exclude structure from multi-system access
MS%IDX	16	STIDX	Index table file OFN has been set up
MS%CRD	17	STCRD	Creating Root Directory on this Structure
MS%OFS	18	STOFS	Structure is offline
MS%BS	19	STBS	Structure is boot structure
	20-26		Reserved for future expansion
	27-35	STRJB	Initializing job (only legal user while structure is being initialized)

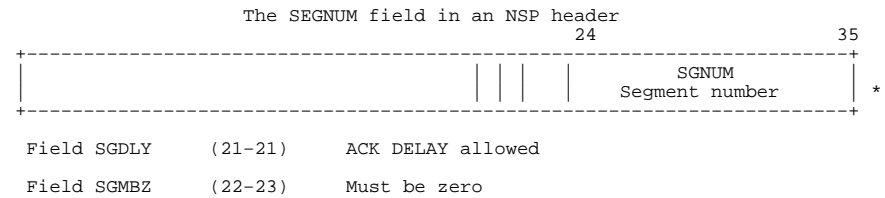
MONITOR TABLES

SG-LLINKS

The SG structure is used by DECnet for extracting the SEGNUM field from an NSP header.

Defined in: LLINKS

Format



MONITOR TABLES

SJ

SJ is the DECnet Session Control Job Block -- SJ. There is one Session Control Job Block for every job with an open logical link on the system.

Defined in: D36PAR

Format

Session Control Job Block

SJNXT	Next job block in system														
SJCHT	Ptr to SLB table (indexed by channel)														
SJCHC	Count of spaces allocated in SLB table														
SJPSJ	Pointer to system's pointer to the SJB														
	<table border="1"> <tr> <td>SJFLG</td> <td>(T20)Fork number</td> <td>SJFRK</td> <td>Number of CI timers active for job</td> <td>SJCTA</td> <td>*</td> </tr> </table>	SJFLG	(T20)Fork number	SJFRK	Number of CI timers active for job	SJCTA	*		∧						
SJFLG	(T20)Fork number	SJFRK	Number of CI timers active for job	SJCTA	*										
SJSLT	Initial SLB table	SLT.L	∧												
			∧												
SJTXQ	Transaction queue of LLINKS calls	QH.LE	∧												
			∧												
SJPSQ	Queue of SLBs with PSIs outstanding	QH.LE	∧												
			∧												
	<table border="1"> <tr> <td>SJGOL</td> <td>Input data request goal</td> <td>SJINQ</td> <td>Job input quota</td> </tr> <tr> <td>SJOTQ</td> <td>Job output quota</td> <td>SJINU</td> <td>Buffers used toward input quota by job</td> </tr> <tr> <td>SJOTU</td> <td>Buffers used toward output quota by job</td> <td></td> <td></td> </tr> </table>	SJGOL	Input data request goal	SJINQ	Job input quota	SJOTQ	Job output quota	SJINU	Buffers used toward input quota by job	SJOTU	Buffers used toward output quota by job				
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SJOTQ	Job output quota	SJINU	Buffers used toward input quota by job												
SJOTU	Buffers used toward output quota by job														
SJSAB	SA block pointer														
SJPRT	(T20)Pointer to the port indirect table														
SJMXP	(T20)Number of slots in port table														

For field SJFLG(0-8):

SJBLK 0 (T20)This fork is blocked
 SJRST 1 Reset in progress

MONITOR TABLES

SL

This is the DECnet Session Control Link Block. It contains all the per-logical link data.

Defined in: D36PAR

Format

Session control link block

SLASQ	Next SLB on all SLBs queue																		
SLNXP	Next SLB with active PSI																		
SLJFQ	Next SLB with active jiffy request																		
SLSLB	Check pointer to this SLB																		
SLSJB	Pointer to job block (SJB)																		
SLCHN	Channel number (starts at 1)																		
	<table border="1"> <tr> <td>SLDOB</td> <td>Destination object type</td> <td>SLSOB</td> <td>Source object type</td> </tr> <tr> <td>SLFLG</td> <td></td> <td>SLSTA</td> <td>Session control state</td> </tr> <tr> <td>SLXFL</td> <td></td> <td>SLRFL</td> <td></td> </tr> </table>	SLDOB	Destination object type	SLSOB	Source object type	SLFLG		SLSTA	Session control state	SLXFL		SLRFL			*				
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SLXFL		SLRFL																	
	<table border="1"> <tr> <td>SLGOL</td> <td>Receive data request goal</td> <td>SLINQ</td> <td>Input quota for link</td> </tr> <tr> <td>SLOTQ</td> <td>Output quota for link</td> <td>SLINU</td> <td>Input buffers in use</td> </tr> <tr> <td>SLOTU</td> <td>Output buffers in use</td> <td>SLSST</td> <td>Link status word</td> </tr> <tr> <td>SLPSM</td> <td>The PSI mask</td> <td></td> <td></td> </tr> </table>	SLGOL	Receive data request goal	SLINQ	Input quota for link	SLOTQ	Output quota for link	SLINU	Input buffers in use	SLOTU	Output buffers in use	SLSST	Link status word	SLPSM	The PSI mask				∧
SLGOL	Receive data request goal	SLINQ	Input quota for link																
SLOTQ	Output quota for link	SLINU	Input buffers in use																
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SLPSM	The PSI mask																		
SLNSL	"Normal" sublink	SS.LE	∧																
			∧																
SLOSL	"Other" sublink	SS.LE	∧																
			∧																

MONITOR TABLES
SL (Cont.)

SLPID	SLDRR Normal data requests to resend at clock level	SLRSN Reason code of disconnect or reject (16 bits)
	NSPpid of port	
SLCTM	SLDNA Destination node address	SLSIZ Segment size in bytes
	Connect initiate timer	
SLWKA	Address of wakeup routine	
SLCDM	Ptr to connect/disconnect message	
SLCBP	Pointer to connect block for passive task	
SLOTM	Ptr to partially filled output message	
SLUID	Serial number - for stale detection	
	SLBYS User bytes sent	SLBYR User bytes received
	SLPKS Packets sent out	SLPKR Packets received

For field SLFLG(0-17):

SLCCB	0	Check connect block
SLKCB	1	Keep connect block for life of link
SLPSI	2	PSI pending flag
SLPH2	3	Phase II has no resend capability
SLABO	4	Trying to close after abort & release
SLFSL	5	Free the SLB when done with all processing
SLBSY	6	SLB is busy (cannot be freed)
SLLBC	7	Link is being closed by NSP
SLJFR	8	Jiffy request outstanding
SLEOM	9	Last segment output was end of message
SLPAS	10	Set if this SLB belongs to a passive task

Field SLXFL (24-26) Transmit flow control option

Field SLRFL (27-29) Receive flow control option

MONITOR TABLES

SN

SN is the common portion of the NI Send Datagram command block for both BSD and non-BSD style sends.

Defined in: PHYKNI

Format

SNFRQ	20	SNTXL Text Length (bytes)	35
SNHAD	16	SNPTY Protocol Type	31
SNLAD	Free queue header address		
	High order address		
	Low order		

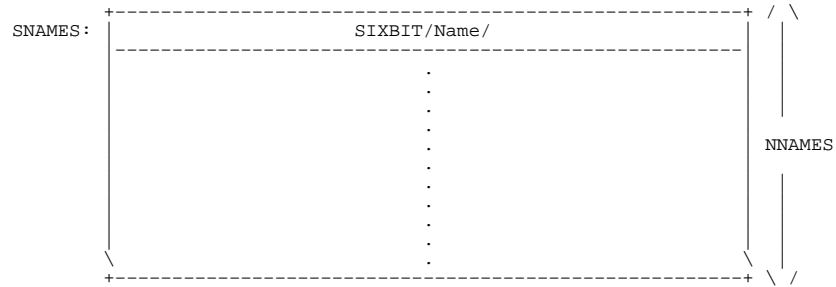
MONITOR TABLES

SNAMES

Subsystem Names. Each entry contains a subsystem program name.

Defined in: STG

Format



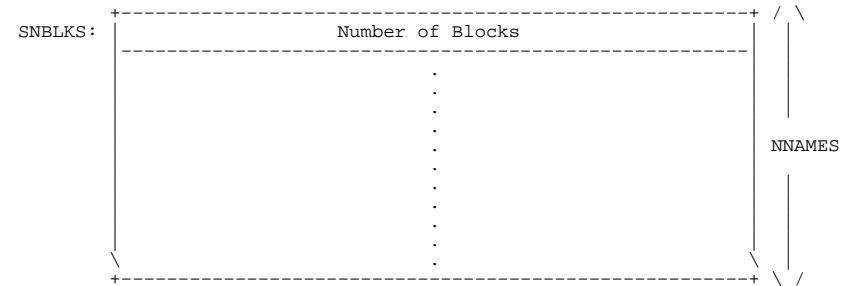
MONITOR TABLES

SNBLKS

Subsystem Blocks. Each entry contains the number of blocks for a subsystem program. This table is parallel to SNAMES.

Defined in: STG

Format



MONITOR TABLES
SPT (Cont.)

Storage Address

Symbol	Bits	Pointer	Contents
	12-35	STGADR	Storage address (Interpretation follows)
NCORTM	12-17		Non-Core Test Mask yielding type of storage. Bits <12-17>=0 => Bits <18-35>=Memory Pg Adr. Bits <12-17> 0 => Bits <18-35>=Drum/DSK Adr.
DSKAB	14		Storage address is a disk address
DSKNB	15		Temporary bit used with DSKAB to say that disk address is newly assigned.
DRMAB	16-17		Storage address is a drum address
DRMOB	17		Used with DRMAB to indicate that the swapping area has overflowed to the disk file system. (Since TOPS-20 cur- rently uses only the disk file system for swapping, a drum storage address always has bits 16 17 set.)
UAABC	17&35		Temporary bit used by the monitor's page trap handler when a copy-on-write page trap has occurred. If the page to be copied is a drum address, it is faulted in before these bits are used, avoiding conflict over bit 17. These bits signify to a lower level routine, SWPIN, that the page just gotten from the free list has no backup address and that it is to get a copy of another page.

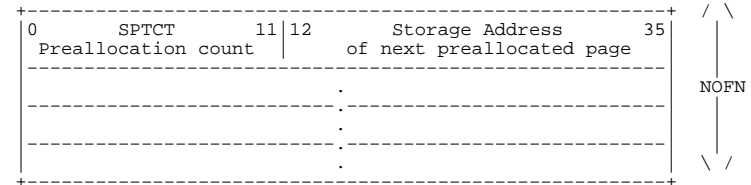
MONITOR TABLES

SPTD

This table is parallel to the OFN area of the SPT table and contains the count and address of preallocated pages for an OFN. The system may preallocate pages for an OFN to reduce assignment overhead.

Defined in: STG, PROLOG

Index: OFN Number



MONITOR TABLES

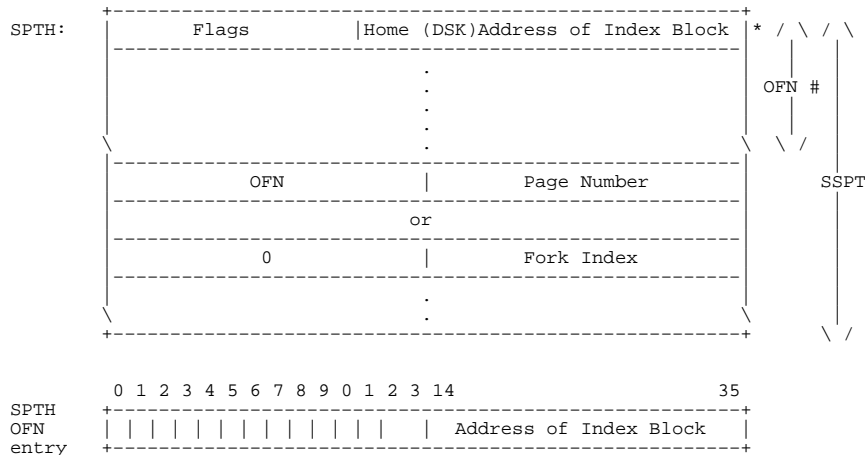
SPTH

Special Pages Table Home Information. This table, parallel to the SPT table is referenced only by the software and is divided into two parts. The first part, indexed by OFN, is used to point to the home address of each open file (that is, to its index block) and to hold status information about each OFN.

The second part is used mainly to show the page's origin. For a shared file, this is indicated by OFN ,, Page Number , where page number is within open file, OFN. For PSBs, JSBs, and UPTs, the SPTH word contains 0 ,, Fork Index. The free slots in this part are on a list chained through the SPT where the free list pointer resides in PRESPT.

Defined in: STG, PROLOG

Format



MONITOR TABLES
SPTH (Cont.)

Symbol	Bits	Content
FILUB	0	Unrestricted bit
FILWB	1	File write bit in SPTH and ASOFN argument
THAWB	2	Thawed bit
FILNB	3	"File new" bit
SPTLKB	4	OFN is locked against modification
OFNWRB	5	OFN has been modified
OFNBAT	6	Index block contains a bad block
OFNERR	7	Error in file (that is, MPE)
OFNDMO	8	OFN is on a dismounted structure
OFNDUD	9	Suppress DDMP
OFN2XB	10	Second level XB
OFNLAC	11	Lost access to this cached OFN

If a file is OPENed with thawed access (OF&THW), then both FILWB and THAWB is set to 1. If OPENed with restricted access, then the THAWB bit is on and the FILWB is off.

NOTE

A file is opened by searching the OFN part of SPTH for the index block address. If the address is found and the write and thawed bits are legal, it is a shared opening and the same index is used. If the address is not found, a new entry is made from one of the free (-1) slots in SPTH.

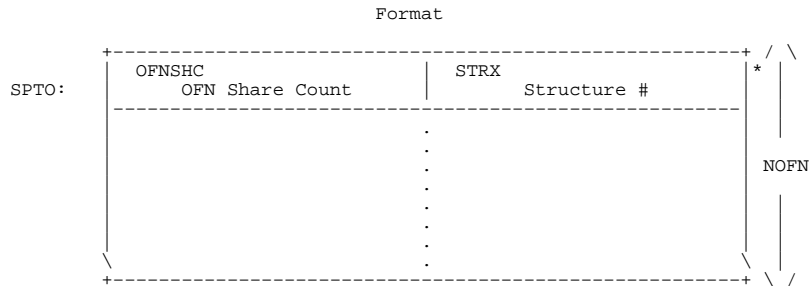
MONITOR TABLES

SPTO

Special Pages Table 0. This table is parallel to the OFN area of the SPT table and contains the structure number and open file share count for each open file. The OFN share count is indexed for each opening of the file and for each shared page within the open file.

Defined in: STG, PROLOG

Index: OFN Number



Symbol	Bits	Pointer	Content
OFNSCH	0-17		Share count for an OFN
	17	OFSHR	One unit of OFN share entry
STRX	18-35	STX	Structure index (number)

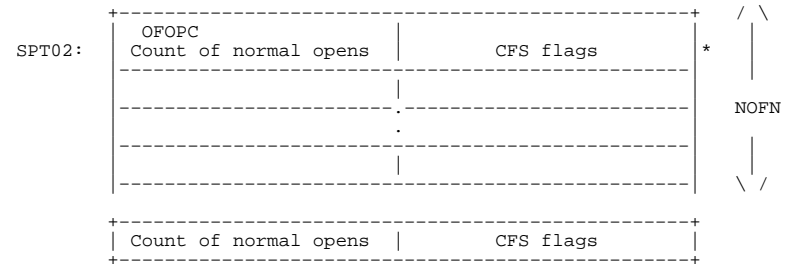
MONITOR TABLES

SPTO2

Special Pages Table 02. This table is parallel to the OFN area of the SPT table and contains various state information about the OFN. It is used by CFS to maintain the page state.

Defined in: STG, PROLOG

Index: OFN number



Contents of CFS flags

Symbol	Bits	Meaning
SPTFO	18	Force out in progress
SPTCDO	19	XB checksum already verified
SPTSFD	20	XB needs checksum done on next swap in
SPTDSF	21	Need DDMP to verify the XB
SPTFR	22-23	Signal from CFS to do force-out
SPTSR	22	Sub-field of above (set = memory flush)
SPTNA	24	If set, don't preallocate pages for OFN
SPTMR	25	Preallocation meter bit
OFNCSH	26	OFN is cached
OFNMGB	27	Garbage collection pass 1 done
SPTST	34-35	OFN state (for CFS)

.SPSRD==:1 ;Read-only
.SPSWR==:2 ;Read/write

MONITOR TABLES

SPTO3

Special Pages Table 3. This table is parallel to the OFN area of the SPT table and is available only under the DEBUG conditional. It contains the number and the PC the system fork who last locked the OFN.

Defined in: STG

Index: OFN number

Format

SPTO3:		System Fork #	PC of fork
		.	
		.	
		.	
		.	

MONITOR TABLES

SPTO4

This table contains information about OFNs. It is primarily used to speed access to long files.

Defined in: STG

SPTO4:		OFN which "own" this OFN, file section number (for a second level OFN) or 0 (for a short file or "super" OFN of a long file) or -1 (if the OFN is unassigned)
		.
		.
		.
		.

MONITOR TABLES

SS

This is the DECnet Session Control sublink block. There are two of these in the SL block, one for the normal sublink and one for the other sublink.

Defined in: D36PAR

Format

N	SSINQ	SSXDO		*
		SSFLG	SSRDO	
		Sublink transmit DRQS outstanding	Sublink receive DRQS outstanding	/\
		Sublink input queue		QH.LE
				\/

For field SSFLG(0-17):
 SSOTH 0 Indicates this is the "other" sub-link

MONITOR TABLES

SSIZE

Subsystem Working Set Size. Each entry contains the working set size integral for a subsystem program. This is a parallel table to SNAMEs.

Defined in: STG

Format

SSIZE:	Working Set Size Integral		/ \
	.	.	NAMES
.	.		
.	.		
.	.		
.	.		
.	.		
.	.		
.	.		

MONITOR TABLES

SV-LLMOP

This is the DECnet LLMOP generic server variable block. The definition, structure and use of this block are shared between the Loopback Protocol Server and the Remote Console Server.

Defined in: LLMOP

	Format																														
	Server Variable Block																														
SVIFG	Initialization Flag																														
SVDLS	Data Link State																														
SVSTT	Server State																														
SVAST	Server Assistant State																														
	<table border="1"> <tr> <td>S</td> <td>13</td> <td>17</td> <td>19</td> <td>SVN XR</td> <td>35</td> </tr> <tr> <td>V</td> <td colspan="3">SVICH</td> <td>Next Receipt Number</td> <td>*</td> </tr> <tr> <td>A</td> <td colspan="3">Interrupt Channel</td> <td></td> <td></td> </tr> <tr> <td>I</td> <td colspan="3">Number (0 to 35)</td> <td></td> <td></td> </tr> <tr> <td>C</td> <td colspan="3"></td> <td></td> <td></td> </tr> </table>	S	13	17	19	SVN XR	35	V	SVICH			Next Receipt Number	*	A	Interrupt Channel					I	Number (0 to 35)					C					
S	13	17	19	SVN XR	35																										
V	SVICH			Next Receipt Number	*																										
A	Interrupt Channel																														
I	Number (0 to 35)																														
C																															
SVQLK	Queue Lock																														
SVRQH	Request Queue Head																														
SVRQT	Request Queue Tail																														
SVRCT	Total Receive Count																														
SVTIC	Total Invalid Receive Count																														
SVUSF	Total of unsupported functions received																														
SVSRC	Server Receive Count																														
SVSIC	Server Invalid Receive Count																														
SVRRC	Requestor Receive Count																														
SVRIC	Requestor Invalid Receive Count																														
SVTTI	Total Transmit Initiated Count																														
SVTCT	Total Transmit Complete Count																														

MONITOR TABLES
SV-LLMOP (Cont.)

SVTTF	Total Transmit Failure Count	
SVSTC	Server Transmit Count	
SVRTC	Requestor Transmit Count	
SVBPC	Buffer Post Count	
SVLBC	Lost Buffer Count	
SVIBN	Initial Buffer Number	
SVMCA	Multicast Address	/\ 2 /
SVCJN	Configurator Job Number	
SVCFN	Configurator Fork Number	/\
N SVIXB	DLL Interface Block	UN.LE
		/\
N SVCCB	Start of Channel Counters Block	CC.LE
		/\
	Field SVAIC (0-0) Assign Interrupt Channel	
	Field SVICH (13-17) Interrupt Channel Number	
	Field SVN XR (19-35) Next Receipt Number	

MONITOR TABLES

SWAP-FREE-SPACE (NON-EXTENDED)

Swappable Free Space Pool Format. This table describes the header area that is used in the assignment and deassignment of swappable free space (by ASGFRE) and the usage of this space when assigned.

Defined in: STG

Format

SWPFRE:	Adr of 1st Free Block Unused	/ \
	Lock on Free Space	
	Space Counter	
	Most Common Block Size	7
	Max Top of Free Area Bottom of Free Area	
	Temporary Work Space	
	Temporary Work Space	\ /
SWFREE:	Free Space Pool	/ \
	Space for the Assignment of: System Wide Logical Name List and Definitions Blocks USAGE JSYS Blocks Checkpoint Records	SWFREL

MONITOR TABLES

SYNMTB

System Logical Name Table: This table contains pointers to the initial ASCII strings for the system logical names.

Defined in: STG

Format

SYNMTB:	XWD[ASCII/SYS/],[ASCII/ <SUBSYS>/]
	XWD[ASCII/HLP/],[ASCII/SYS:/]
	XWD[ASCII/SYSTEM/],[ASCII/ <NEW-SYSTEM, <SYSTEM>/]
	XWD[ASCII/EDITOR/],[ASCII/SYS:EDIT.EXE/]
	XWD[ASCII/ACCOUNT],[ASCII/ /ACCOUNTS/]
	XWD[ASCII/DEFAULT-EXEC/],[ASCII/SYSTEM:EXEC.EXE/]
	XWD[ASCII/PS/],[ASCII/ :/]
	XWD[ASCII/POBOX/],[ASCII/ :/]
	XWD[ASCII/BS/],[ASCII/ :/]
	XWD[ASCII/SPOOL/],[ASCII/ :<SPOOL>/]
	XWD[ASCII/SERR/],[ASCII/ :<SYSTEM-ERROR>/]
	XWD[ASCII/TGHA-DATA/],[ASCII/ :<SYSTEM>/]

When six spaces precede the colon, SLNINI inserts the name of the primary structure into that location.

MONITOR TABLES

SYS-STARTUP-VECTORS

System Startup Transfer Vectors. This table, in resident locations 140-147, contains the startup vectors for the monitor as well as vectors to enter EDDT.

Defined in: STG

	Format	
SVECT=140		
EVDDT:	JRST DDTZ	(EDDT)
	JRST SYSDDT	(Reset and go to EDDT)
EVDDT2:	JRST DDTZ	(Copy of EDDT in case other clobbered)
EVSLOD:	JRST SYSLOD	(Initialize disk file system)
EVVSM:	JRST SYSVSM	(Verify swappable monitor on startup)
EVRST:	JRST SYSRST	(Restart)
EVLDO:	JRST SYSGO	(Reload and start)
EVGO:	JRST SYSGO1	(Start)

MONITOR TABLES

SYSERR-STORAGE-AREA

SYSERR STORAGE AREA. In and out pointers into the buffer area are maintained for JOB0 as well as pointers to the free and released SYSERR blocks.

Defined in: STG, SERCOD

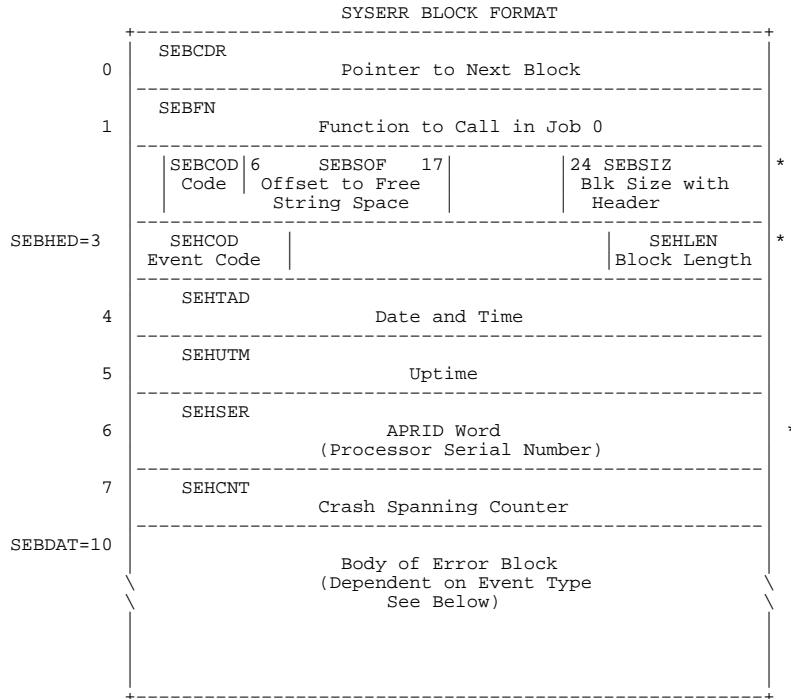
SEBQIN:	Job 0 queue In-pointer
SEBJFN:	JFN for SYSERR.LOG File
SECHKF:	Flag to wake Job 0 SYSERR FORK
SEIETM:	Time after which failing to OPEN SYSERR LOG File can try again
SERCNT:	Count of queued SYSERR blocks
SPRFLG:	-1 if SERCNT needs initializing

Although the In-pointer is in this storage area the corresponding Out-pointer in SEBQUO is in a fixed place in lower core (that is, location 24), so JOB 0 can queue up a BUGHLT block after a crash. One can examine the last SYSERR block by adding to the right half of the contents of SEBQUO, SEBDAT plus offset into SYSERR block.

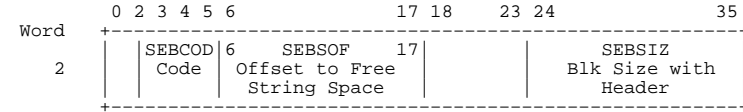
ALCLST:	Count of lost section 0 all locations
BUGLST:	Count of lost bug entries
SYELST:	Count of lost syserr entries

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

SYSERR BUFFER BLOCKS



MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)



Bits	Pointer	Meaning
3-5	SEBCOD	State Code SBCFRE=0 on Free List SBCREL=1 Released SBCACT=2 Active
6-17 24-35	SEBSOF SEBSIZ	Offset to Free String Space Block Size Including Header

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

Word	0	8	27	35
2	SEHCOD Event Code		SEHLEN Block Length	
	Bits	Pointer	Meaning	
	0-8	SEHCOD	Event Code (that is, Block Type) SEC%RL=101 System Reload SEC%BG=102 BUGHLT/BUGCHK/BUGINF SEC%MB=111 Massbus Device Error SEC%CS=115 Configuration Status Change (MTCO) SEC%FE=130 Front End Error SEC%11=131 F.E. Reload Entry (Gives -11 Reboot Info.) SEC%HS=133 Halt for KS10 SEC%PT=160 Processor Parity Trap SEC%PI=161 Processor Parity Intrap. SEC%Pl=162 Parity for Extensible Controllers SB%BLK=163 Status Block SEC%6S=232 DN64 event SEC%KS=241 KLIPA Statistics Event SEC%CI=242 CI Disk/Tape Endpacket SEC%EL=243 MSCP Error Log Event SEC%KP=244 KLIPA Error Event SEC%KE=246 KLIPA Error-Log Packet	
	27-35	SEHLEN	Block Length (Including Header) RL%LEN - System Reload Block Length BG%LEN - BUGHLT/CHK/INF Block Length MB%LEN - Massbus Dev. Err Blk Length CS%SIZ - Change Blk Length FE%LEN - F.E. Errors Blk Length R1%LEN - F.E. Reload Entry Blk Length HS%LEN - KS10 Block Length PT%LEN - Proc. Parity Trap Blk Length PI%LEN - Proc. Parity Interrupt Blk Lgh PI%LN2 - Extensible Controllers Blk Lgh SB%MAX - Maximum Status Block Length CI%LEN - CI Endpacket Blk Length EL%LEN - MSCP Error Log Block Length KP%LEN - KLIPA Error Block Length KS%LEN - KLIPA Statistics Block Length KE%LEN - KLIPA Error Log Block Length	
Word 6 to End (Body of Error Block - Dependent on Event Type)				

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

Event Type 101
System Reloaded Error Block Data

RL%SVN=0	ASCII Byte Pointer to System Name	
RL%STD=1	Time of System Build (Univ. Format)	
RL%VER=2	System Version Number	
RL%SER=3	APR Serial Number	
RL%OPR=4	ASCII Byte Pointer to "Why Reload"	
RL%HLT=5	BUGHLT Address (if Auto-Reloaded)	
RL%FLG=6	Flags	
RL%SIZ=7	Monitor Name (Text)	/ \
		NSVNT=
		26.
		/ \
	"Why Reload" Answer String (Text)	RLBSZ=
		16.
		/ \
RL%LEN=61		

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

Event type 102
BUGHLT/CHK/INF Error Block Data

BG%SVN=0	System Name (ASCIZ)
BG%SER=1	APR Serial Number
BG%VER=2	Monitor Version
BG%SDT=3	TAD of Monitor Build
BG%FLG=4	Type (1,2 or 3) of BUG Call: (BG%CHK=1;BG%INF=2;BG%HLT=3)
BG%ADR=5	Address of HLT/CHK
BG%JOB=6	FORKX Job Number
BG%USR=7	User Number
BG%PNM=10	Program Name (SIXBIT)
BG%MSG=11	Message (ASCIZ)
BG%ACS=12	ACS
BG%PIS=32	PI Status
BG%RCT=33	Register Count
BG%REG=34	Registers (Maximum of 4)
BG%NAM=40	SIXBIT Name of Check
BG%DAT=41	Time and Date of BUGHLT/BUGCHK
BG%CNT=42	Number of BUG Checks Since Startup
BG%APS=43	APR Flags (CONI APR,)
BG%PGS=44	Pager Flags (CONI PAG,)
BG%PGD=45	Pager Data (DATAI PAG,)

/ \
|
16.
/ \

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

BG%ERG=46	Error Register
BG%SIZ=47	String Area
BG%LEN=111	

Event Type 111
MASS BUS DEV Error Data Block

/ \
|
34.
/ \

MB%NAM=0	Device Name (if available)
MB%VID=1	Volume ID (SIXBIT)
MB%TYP=2	Channel,,Device Type - See PHYPAR
MB%LOC=3	Location of Error - Sector or File,,Record
MB%FES=4	Final Error State - Device Dependant
MB%CNI=5	CONI Initial
MB%CIF=6	CONI Final
MB%SEK=7	Number of Seeks
MB%RED=10	Number of Blocks/Frames Read
MB%WRT=11	Number of Blocks/Frames Written
MB%FIL=12	Filename (Pointer)
MB%USR=13	User Making Request (directory number)
MB%PGM=14	Program Running
MB%D1I=15	DATAI PTCR Initial
MB%D1F=16	DATAI PTCR Final
MB%D2I=17	DATAI PBAR Initial
MB%D2F=20	DATAI PBAR Final
MB%UDB=21	Unit Data Block for JOB 0 BAT Blocks

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

MB%IRS=22	IORB Status Word, IS.ERR if Hard (See PHYPAR)
MB%SRE=23	Soft Read Errors
MB%SWE=24	Soft Write Errors
MB%HRE=25	Hard Read Errors
MB%HWE=26	Hard Write Errors
MB%PS1=27	Position, CYL if Disk, File if Tape
MB%PS2=30	SURF/SEC or Record
MB%CS0=31	Channel Logout 0
MB%CS1=32	Channel Logout 1
MB%CS2=33	Channel Logout 2
MB%CC1=34	First CCW
MB%CC2=35	Second CCW
MB%MPE=36	Count of MPE
MB%NXM=37	Count of NXM
MB%FEC=40	Final Error Count
MB%CAD=41	Channel Address
MB%UAD=42	Unit Address
MB%SPE=43	Soft Positioning Errors
MB%HPE=44	Hard Positioning Errors
MB%OVR=45	Overruns
MB%ICR=46	Initial TCR
MB%REG=47	Units Massbus Registers in order with their: Final Contents,, Initial Error Contents
MB%LEN=124	

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

Event Type 115
Configuration Status Change (logged by MTCN)

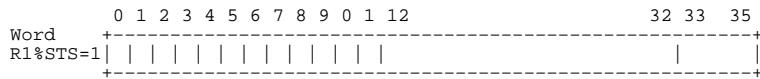
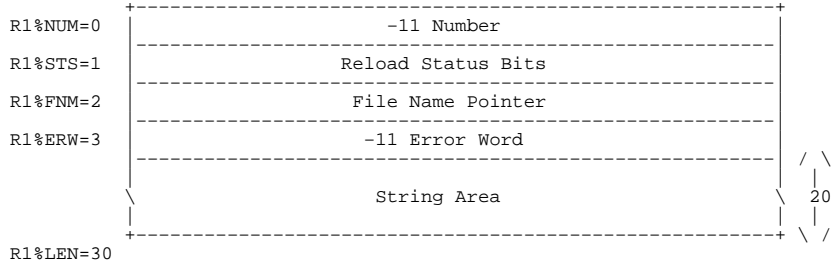
CS%OPW=0	Operation Code Codefield is CS%OPR=77B17 Codes are: CS%ADV=0; Attach Device CS%DDV=1; Detach Device
CS%HTP=1	Hardware Type Channel Type Unit Type
CS%DNM=2	Logical Device Name (SIXBIT)
CS%APS=3	Device Address and Serial Number
CS%RSW=4	Offset to Reason String

Event Type 130
Front End Errors Data Block

FE%FJB=0	Fork Number,,Job Number
FE%DIR=1	Directory Numbers
FE%ID=2	Front End Software Version
FE%NAM=3	SIXBIT Name of Program
FE%DEV=4	Protocol Device Code (1B0=Unknown)
FE%PTR=5	-Length of Data,,Start of Data
FE%DTE=6	DTE Number
FE%BYT=7	Number of -11 Bytes in the Message
FE%LEN=10	

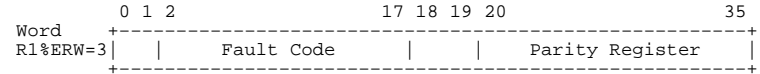
MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

Event Type 131
Front End Reload ERROR BLOCK DATA

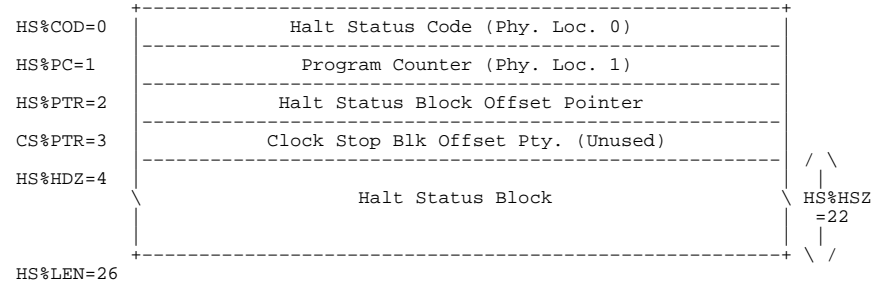


Symbol	Bits	Contents
.R1GTF	0	GTJFN failed for Dump File
.R1OPF	1	OPENF failed for Dump File
.R1DPF	2	Dump failed
.R110E	3	To -10 Error on Dump
.R111E	4	To -11 Error on Dump
.R1ASF	5	ASGPAG failed on Dump
.R1RLF	6	Reload failed
.R1PDF	7	-11 didn't Power Down
.R1PUF	8	-11 didn't Power Up
.R1RMF	9	ROM did not ACKnowledge the -10
.R1BSF	10	-11 Boot Program didn't make it to the -11
.R1NRL	11	-11 took more than 1 Min. to Reload.
.R1RTC	33-35	Retry Count

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)



Bits Contents
2-17 Fault code as 3 RAD50 characters
20-35 Parity Register Valid Only if it is Nonzero
Event Type 133
Halt for KS10



MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

Halt Status Block

HS%NUL=0	Magnitude	
HS%PC=1	PC	
HS%HR=2	Current Instruction	
HS%AR=3	AR	
HS%ARX=4	ARX	
HS%BR=5	Base Register	
HS%BRX=6	Base Register Extension	
HS%ONE=7	Constant One	
HS%EBR=10	Exec Base Register	
HS%UBR=11	User Base Register	
HS%MASK=12	Mask	
HS%FLG=13	Microcode Status Flags	
HS%PI=14	PI Status	
HS%X1=15	1	1
HS%T0=16	T0	
HS%T1=17	T1	
HS%VMA=20	VMA Flags	VMA
HS%FE=21	FE	SC

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

Event Type 160
Processor Parity Trap Error Block Data

PT%PFW=0	Page Fail Word	
PT%BDW=1	Bad Data Word	
PT%GDW=2	Good Data Word	
PT%USR=3	User Number	
PT%JOB=4	FORKX	JOBN
PT%PGM=5	Program Name (SIXBIT)	
PT%PMA=6	Physical Memory Address	
PT%TRY=7	Flags	Retry Count
PT%EPA=10	EPT Offset Physical Address	
PT%EPD=11	EPT Offset Data	
PT%UPA=12	UPT Offset Physical Address	
PT%UPD=13	UPT Offset Data	
PT%LEN=14		
Word	0 1 2 3 4	17 18 35
PT%TRY=7		Retry Count

Symbol	Bits	Contents
PT%HRO	1	Hard Error
PT%CCP	2	Cache Failure
PT%CCH	3	Cache in Use
PT%ESW	4	Error on Sweep to Core
	18-35	Retry Count

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

Event Type 161
Processor Parity Interrupt Error Data Block

PI%CNI=0	CONI APR	
PI%ERA=1	ERA	
PI%FPC=2	PC	
PI%SWP=3	Number of Errors This Sweep	
PI%AAD=4	Logical "AND" of Bad Addresses	
PI%OAD=5	Logical "OR" of Bad Addresses	
PI%ADA=6	Logical "AND" of Bad Data	
PI%ODA=7	Logical "OR" of Bad Data	
PI%SBD=10	SBUS DIAG Function Data	/ \
PI%ADD=22	First 10. Bad Addresses	\ 10.
PI%DAT=34	First 10. Bad Data Words	\ \ 10.
PI%CDA=46	Core Ref of First 10. Bad Addresses	\ \ 10.
PI%FFL=60	Flags	\ \ 10.
PI%LEN=61		\ \

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

Event Type 162
Parity Format for Extensible Controllers

PI%CN2=0	CONI APR	
PI%ER2=1	ERA	
PI%FL2=2	flags	
PI%PC2=3	PC	
PI%ERC=4	Error count	
PI%AA2=5	logical "AND" of bad addresses	
PI%OR2=6	logical "OR" of bad addresses	
PI%AD2=7	Logical "AND" of bad data	
PI%OD2=10	Logical "OR" of bad data	
PI%SB2=11	-Count of controllers first offset	
PI%BAD=12	First ten bad addresses	/ \ 10.
PI%DA2=24	First ten bad words	/ \ 10.
PI%MDA=36	Memory references of first ten words	/ \ 10.
PI%SBA=50	SBDIAG data	/ \ PI%MXS =100

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

Event Type 163
Status Block Entry

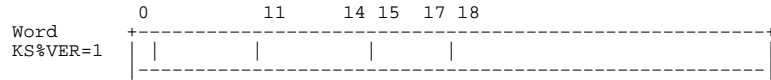
SB%API=0	APRID	
SB%APR=1	CONI APR	
SB%PIC=2	CONI PI	
SB%PGD=3	DATAI PAG	
SB%PGC=4	CONI PAG	
SB%UP0=5	UPT locations 424-427	4
SB%ERA=11	RDERA	
SB%RHC=12	CONI RH20 -- for all 8 possible	SB%RHL =8
SB%DTC=22	CONI DTEN -- for all 4 possible	SB%DTL =4
SB%EP0=26	EPT locations 0-37	40
SB%EP1=66	EPT locations 140-177	40
SB%UP1=126	UPT locations 500-503	4
SB%6=132	AC block 6 REGS 0-3 and 12	5
SB%7=137	AC block 7 REGS 0-2	3
SB%SBD=142	SBDIAG data	SB%SBL =50
SB%MAX=213		

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

Event Type 241
KLIPA Statistics Entry

KS%OFF=0	Offset to Counters	
KS%VER=1	Microcode Version Word	
KS%AAK=2	Path A Acks	
KS%ANK=3	Path A Nacks	
KS%ANR=4	Path A No-Responses	
KS%BAK=5	Path B Acks	
KS%BNK=6	Path B Nacks	
KS%BNR=7	Path B No-Responses	
KS%DGD=10	Datagrams Discarded	
KS%PXM=11	Packets Transmitted	
KS%PRC=12	Packets Received	
KS%DPT=13	Designated Port Word	28 KS%PRT Designated Port
KS%CRC=14	Packets Received With Crc Errors	
KS%EW1=15	KS%MPE Mover PAR Pre Errors	KS%CPE CBUS Parity Errors
KS%EW2=16	KS%RPE Register PLIPE Errors	KS%DPE Data PLIPE Errors
KS%EW3=17	KS%CHE Channels Errors	KS%EPE EBUS Parity Errors
KS%EW4=20	KS%SCE Spurious Channel Errors	KS%CAT CBUS Available Timeouts
KS%EW5=21	KS%SRA Spurious Receive Atten.	KS%STA Spurious Transmit Atten.
KS%EW6=22	KS%TBP Xmit Buffer Parity Errors	KS%TTM Transmitter Timeouts
KS%LEN=23		

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)



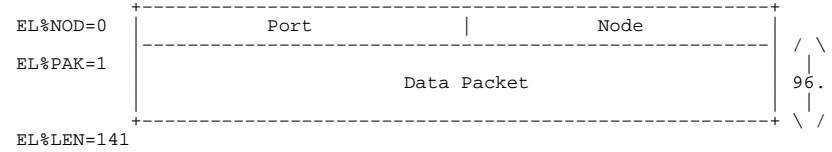
Symbol	Bits	Contents
KS%NI	0	O=CI, 1=NI
KS%RSN	11-14	Reason for Doing Read-Counters 0, Illegal KS%CPE=1, CRAM Parity Error KS%AGB=2, Wire A Went From Good to Bad KS%ABG=3, Wire A Went From Bad to Good KS%BGB=4, Wire B Went From Good to Bad KS%BEG=5, Wire B Went From Bad to Good KS%PER=6, Periodic Reading of Counters KS%GUC=7, Get Microcode Version KS%DIA=10, DIAG% Did It
KS%CHN	15-17	KLIPA Channel Number
KS%VSN	18-35	Microcode Version

Event Type 242
CI Disk/Tape Endpacket

CI%NOD=0	Port Number	Node Number
CI%VID=1	Volume ID	
CI%RED=2	Blocks/Frames Read	
CI%WRT=3	Blocks/Frames Written	
CI%PS1=4	Position 1	
CI%PS2=5	Position 2	
CI%UDB=6	Required For Bat Block Logic	
CI%LOC=7	Linear Address From Error Block	
CI%PAK=10	Packet With Error Bit On	
CI%LEN=21		

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)

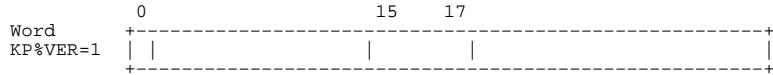
Event Type 243
MSCP Error Log



Event Type 244
KLIPA Error Event

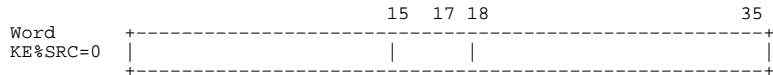
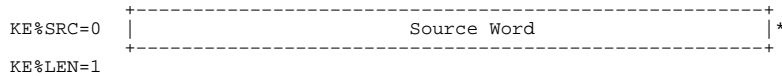
KP%CSR=0	CONI Status
KP%VER=1	Microcode Version
KP%DSP=2	Error Disposition
KP%CRA=3	CRAM Address
KP%CRD=4	CRAM Data (2 Words)
KP%LG0=6	Logout Word 0
KP%LG1=7	Logout Word 1
KP%LG2=10	Logout Word 2
KP%ECW=11	Port's Error Word
KP%PE0=12	Port's Error Logout Word 0
KP%PE1=13	Port's Error Logout Word 1
KP%LEN=14	

MONITOR TABLES
SYSERR-STORAGE-AREA (Cont.)



Symbol	Bits	Contents
KP%NI	0	Set if this is a KLNI
KP%CHN	15-17	Port's RH20 Channel 202

Event Type 246
KLIPA Error-Log Packet



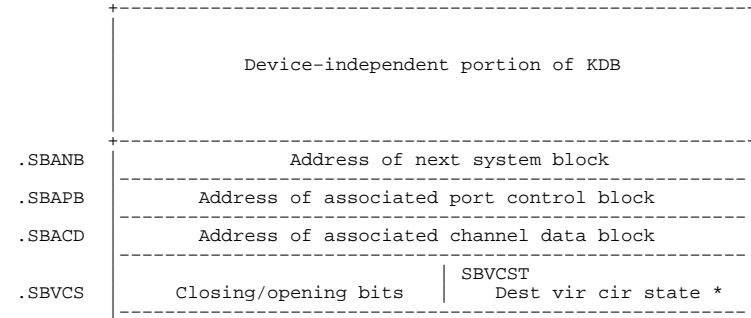
Symbol	Bits	Contents
KE%CHN	15-17	KLIPA Channel Number
KE%NOD	18-35	HSC50 Node Number

MONITOR TABLES

SYSTEM BLOCK

There is a system block for each node on the CI that TOPS-20 has detected. System block addresses are found in the table SBLIST. The system block is the device-dependent portion of the KDB representing the CI node.

Defined in: SCAPAR



Symbol	Bit	Contents	Symbol	Value	Meaning
SBNTC	0	Need to close VC	VC.CLO	0	Closed
SBOKO	1	OK to open VC	VC.STS	1	Start sent
SBWFI	2	Waiting for new IDREC	VC.STR	2	Start received
			VC.OPN	3	Open

MONITOR TABLES
SYSTEM BLOCK (Cont.)

.SBDSP	SBCHN Channel number	SBDPA Destination port
.SBDRQ	SBDRQH Datagram return queue header	
.SBLMB	SBLMBH Local message buffer header	
.SBFCB	Pointer to first connection block	
.SBLCB	Pointer to last connection block	
.SBTWQ	FLINK for SCA work queue	
.SQBWQ	BLINK for SCA work queue	
.SBCLC	Count of locked connections	
.SBQOR	Pointer to queue of outstanding requests	
.SBDSS	Destination system	
.SBMMS	SBMXMG Max mess size (bytes)	SBMXDG Max DG size (Bytes)
.SBDST	SBDTSW Destination software type	
.SBDVSW	SBDVSW Destination software version	
.SBDSE	Destination software edit level	
.SBDHT	SBDTHW Destination hardware type	
.SBDHV	SBDVHW Destination hardware version	
.SBNNM	Destination port name	
.SBDPC	Destination port characteristics	
.SBDRC	Destination Port Code Revision Level	

MONITOR TABLES
SYSTEM BLOCK (Cont.)

.SBDPF	Destination Port Functionality	
.SBDPS	Destination Port State	
.SBTIM	TODCLK at last message from this remote	
.SBFLG	Flags	
	Symbol	Bit Contents
	SBFTMG	0 Timed message
	SBFOVC	1 VC needs open
	SBFOFL	3 Node offline
.SBSST	SBSST Start Sequence Timer	
.SBOBB	SBOBB Out bound buffer for system block	

MONITOR TABLES

TR

DECnet Router test message data block.

Defined in: D36PAR

Format

TRTND	Node to test with
TRTSN	Serial number of message
TRTAF	Time when message reaches RTRFWD
TRTIC	Time at input complete
TRTOC	Time when output complete is received
TRTTD	Time given to DLL
TRTTA	Total time to turn around (TIC-TAF)
TRTED	Time to get from FWD to DLL (TTD-TAF)
TRTFD	Time from forward to output done (TTF-TOC)

MONITOR TABLES

TT-LINE-DYN-DATA-BLK

Teletype Line Dynamic Data Block. This block pointed to by the line's entry in TTACTL, holds line specific data and is built when the line becomes active. It is deallocated when the line becomes inactive.

There are two shortened forms of the dynamic data block, one used for a SENDALL type of message and the other for sending a "ding" when any character but CTRL/C is typed on an inactive line.

Defined in: TTYDEF

Format

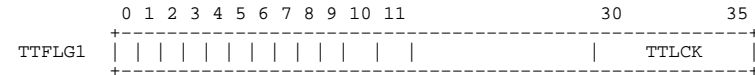
TTFLG1=0	Flags					*				
TTDAT1=1	Buffer Info & Term. Type			TINTL Internal Line Number		*				
TTSAL1=2	TLTYP Line Type	TSALT Send All Timeout Count	TSALC Send All Character Count			*				
TTSAL2=3	Send All Byte Pointer									
TTDEV=4	Device dependent word (See Device modules for definitions)									
TTBFRC=5	0	7	8	11	12	15	16	25	26	35
	TOWNR	TTNIN	TTNOU	TIMAX	TOMAX					
	Wake Up Count	# of Input Bufs	# of Output Bufs	Max bytes In Input Buf	Max bytes In Output Buf					
TTOCT=6	Number of Characters in Output Buffer									
TTOOUT=7	Pointer for Removing Char from Output Buffer									
TTOIN=10	Pointer for Entering Char into Output Buffer									
TTDAT2=11	Input Info. & Page Width									
TTICT=12	Number Characters in Input Buffer									
TTIOUT=13	Pointer for Removing Char from Input Buffer									
TTIIN=14	Pointer for Entering Char into Input Buffer									

MONITOR TABLES
TT-LINE-DYN-DATA-BLK (Cont.)

FCMOD1=15	Control Character Output Control Words		
FCMOD2=16	Possible Values for each Char. (2 Bits/Char) CCNONE = 0 Send nothing CCIND = 1 Indicate via ^ CCSEND = 2 Send Actual Code CCSIM = 3 Simulate Format Action		
TTDPSI=17	Bit for Terminal Code Set if Deferred Interrupt		
TTPSI=20	Bit for Terminal Code Set if Interrupt		
TTLINK=21	Lines linked to (9 bits per line)		
TTLPOS=22	TPGPS Cur Line Position in Page	TLNPS Current Charcter Position within Line	
TTFLGS=23	0 TOFLG ^O was typed	10 TPLEN page length	17 32 35 TTDUM duplex mode
TTFORK=24	TCJOB Controlling Job Number	TWFRK Fork Number in Input Wait on this Line	
TTFRK1=25	TTPSFK PSI Fork # for Non-controlling TTY	TTPFK Fork which is Top Fork of a SCTTY Tree (-1 if None)	
TTCHR1=26	Wake Up Character Mask (ASCII Codes 0-31.)		
TTCHR2=27	Wake Up Character Mask (ASCII Codes 32.-63.)		
TTCHR3=30	Wake Up Character Mask (ASCII Codes 64.-95.)		
TTCHR4=31	Wake Up Character Mask (ASCII Codes 96.-127.)		

MONITOR TABLES
TT-LINE-DYN-DATA-BLK (Cont.)

TTFWTH=32	PSI Level Info		TTFcnt Byte Count	
TTLINE=33	Line Counter			
TTLMAX=34	Maximum of TTLINE			
TTFLG2=35	0 TTFLA First char seen flag	1 TTETP Type	4 5 11 TTCH1 First char	12 18 TTCH2 Second char
TTSVPD=36	Saved Line Speed			
TTDDLN=37				



Symbol	Bits	Pointer	Contents
TT%SAL	0	TTSAL	Sendall being done to this line
TT%SHT	1	TTSHT	This is a short block
TT%MES	2	TTMES	This is a system message block
TT%OTP	3	TTOTP	Output is enrout to the line
TT%FWK	4	TTFWK	Forced wakeup
TT%SFG	5	TTSFG	CTRL/S was typed
TT%RFG	6	TTRFG	Repeat last character (BKJFN)
TT%WFG	7	TTWFG	Blocked on input
TT%PRM	8	TTPRM	Don't deallocate dynamic data
TT%BAC	9	TTBAC	Permanent and becoming active
TT%NXO	10	TTNXO	Is 0, no page output stop
TT%BKO	11	TTBKO	Fork blocked for output event
TT%NUS	12	TTNUS	Net user state
TT%DD1	13	TTDD1	Device dependent bit
TT%NPM	14	TTNPM	MCB NVT old page mode
TT%RXF	15	TTRXF	Received XDN on line
TT%FLO	16	TTFLO	Flushing output at TTSND

MONITOR TABLES
TT-LINE-DYN-DATA-BLK (Cont.)

TT%HPO	17	TTHPO	High priority output queued
TT%DAL	18	TTDAL	Deallocate of block requested
TT%XFF	19	TTXFF	Force XOFF/XON status to front-end
TT%SEC	20	TTSEC	Server should echo
TT%WKC	21	TTWKC	Wake-up set has changed
TT%SPG	22	TTSPG	Page stop is turned on in the server
TT%BIN	23	TTBIN	Current data mode is binary (0=ASCII)
TT%NUL	24	TTNUL	ASCII mode nul pass through
TT%LCK	30-35	TTLCK	Count of locks on this block

TTDAT1	0	4 5	7 8 9	17 18	35
	TTINTL				

Bit	Pointer	Contents
4-5	TYLMD	Terminal data mode for last input character
5-7	TTOCN	Count of extra buffers
8	TTOMX	Extra buffers in use
9-17	TTTYP	Terminal type
18-35	TINTL	Internal line number (index into static data)

TTTYP	0	17	23	35
	TTINTL			
	TLTYP	TSALT	TSALC	

Bit	Pointer	Contents
0-17	TLTYP	Line type
18-23	TSALT	Sendall timeout count
24-35	TSALC	Sendall character count

MONITOR TABLES
TT-LINE-DYN-DATA-BLK (Cont.)

TTDAT2	0	6 7 8 9	17 18	26 27	35
	TTINTL				
		TYLCH	TPWID		

Bit	Pointer	Contents
0-8	TTUPC	Unpause on page character
9-17	TYLCH	Last char removed from input buffer
18-26	TPWID	Page width
27-35	TTPPC	Pause/unpause on page character

TTFWTH	0	5 6	11 12	17 18	35
	TTINTL				
		TTIPSI	TTOPSI	TTFCNT	

Bit	Pointer	Contents
6-11	TTIPSI	Input PSI level
12-17	TTOPSI	Output PSI level
18-35	TTFCNT	Byte count for wakeup (0=> disabled for wakeup)

MONITOR TABLES
TTSTAT (Cont.)

TT&NUM	12	TTNUM	Line does not want nonprivileged TTMSG's
	14-17	TTYSTY	Line type which yields the offset into the TTLINV table
	18-19	TTNOI	Count of noise characters on inactive line
	20-27	TSFMC	Max count for front-end buffer
	28-35	TTFBB	Entry count in Big Buf

MONITOR TABLES

TTY-STORAGE-AREA

Teletype Storage Area. This resident area contains hung and special line information, the Big Buffer, and information about the Big Buffer. (See TT-LINE-DYN-DATA-BLK, TTRACTL, TTBUFS, TTCSAD, TTCSTM, TTLINV, TTSPWD, TTSTAT, and TTXXT Tables).

Defined in: STG

Format

CTYINT:	Unit No. on the .FEDLS Device by which the Front End Knows the CTY	
TCOERR:	TCOUT Sets this if Fails in Scheduler Context	
JORLDF:	Interlock FE Reload Because CTY Hung	
SALLCK:	SENDALL lock	
SALCNT:	Count of Lines Doing SENDALL	
SALBFR:	SENDALL Buffer Address	
TTFREC:	Count of Free Buffers	
TTFREB:	List of Free Buffers	
TTSOQ:	Start Output Queue One Bit Per Line	/ \ NTSQWD
CHSOQ:	CTERM Start Output Queue 1 bit per line	/ \ CHSQWD
PTYSTM:	PTY Start Time	/ \
TNETRQ:	Bit Mask for Active Net User Lines	/ \ NTSQWD
TQLNQ:	Bit Matrix for Line Function Queue	/ \ NTSQWD

MONITOR TABLES
TTY-STORAGE-AREA (Cont.)

SBBITS:	SBVECT Bit Mask 1 bit per line	\\ /\\ SBBWDS \\ /
TTBIGI:	Input Index into Big Buffer	
TTBIGO:	Output Index into Big Buffer	
TTBIGC:	Char Count in Big Buffer	
TTBBUF:	Big Buffer Storage for all TTY Input Chars. Before Being Placed Into Individual Input Line Buffers in TTBUFS Area	/ \\ TTBSIZ = 200 / \\
TTQCNT:	Count of Special Line Items	
TTCQLN:	Control of Current Line Number	
TTHNGL:	Line Being Examined for Hung	
TTHNGT:	Time at Which Line Will be Defined as Hung	
TTHNGN:	Last Hung Line No. of Unhangs Done	
LINKF:	Linked Output Character if not 0	
IMECHF:	Immediate Echo Output Char if not 0	
TTCHIC:	Input Character in TTCHI	

MONITOR TABLES

UD

This is structure UD, the user data area of a DECnet message.

Defined in: D36PAR

Format

	+-----+ / \
UDMSD	Space for MSD MD.LE
N \	\ \
/ \	
UDDAT	Room for 16 bytes always available <<UDH
.LN+3>/4> \	\
/ \	+-----+

MONITOR TABLES

UDB

Unit Data Block. This block, one per unit, contains information about the current activity on the unit.

Defined in: PHYPAR

Format

UDBSTS	Status and Configuration Information	*
UDBST1	Secondary Status Word	*
UDBMBW	Memory Bandwidth Scheduling Information	
UDBODT	Overdue Timer for Seeks and the Like	
UDBERR	Error Recovery Status Word	
UDBERP	Error Reporting Work Area if Nonzero	
UDBDSP	Unit Routine Main Entry Dispatch	
UDBCDB	Secondary CDB Primary CDB	
UDBADR	Secondary Unit Address Primary Unit Address	
UDBAKA	Current CDB Current Chain Address	
UDBVID	Volume ID	
UDBSTR	Unit Within Structure Structure Number	
UDBKDB	Pointer to KDB, if any	
UDBDSH	High Order Drive Serial Number	
UDBDSN	Drive Serial Number	
UDBSEK	Seeks	
UDBRED	Reads (Sectors if Disk, Frames if Tape)	
UDBWRT	Writes (Sectors if Disk, Frames if Tape)	
UDBRCT	Actual read count	
UDBWCT	Actual write count	
UDBRVC	Actual Skip Read (Read Verify) Count	

MONITOR TABLES
UDB (Cont.)

UDBSRE	Soft Read Errors
UDBSWE	Soft Write Errors
UDBHRE	Hard Read Errors
UDBHWE	Hard Write Errors
UDBPS1	Current Cylinder (if Disk), File (if Tape)
UDBSP2	Current Sector (if Disk), Record (if Tape)
UDBPWQ	Position Wait Queue Tail Position Wait Queue Head
UDBTWQ	Transfer Wait Queue Tail Transfer Wait Queue Head
UDBONR	Fork Which Owns This Unit (Maint. Mode)
UDBERC	Current Retry Count
UDBSPE	Soft Positioning Error
UDBHPE	Hard Positioning Error
UDBPNM	Program Name to Log on Error
UDBUDR	User Directory Number to Log on Error
UDBSIZ	Unit Size (Number of Cylinders)
UDBFCT	Seek Fairness Count
UDBCHB	IORB Used by Home Block Check
UDBFCR	Fairness Cnt. for Read Seek Preference
UDBSLV	Slave number if tape
UDBCHR	Characteristics word
UDB2ND	Pointer to UDB for Dynamic Alternate Port
UDBALT	Pointer to UDB for Static Alternate Port
UDBDDP	Device Dependent Parts for MTA or for DSK

MONITOR TABLES
 UDB (Cont.)

Device Dependent Parts for disks:

UDBDDP= UDBNAM	HOMNAM	SIXBIT/HOM/
UDBHID:	HOMID	SIXBIT/Unit ID/
UDBHM2:	Unused	
UDBSNM:	HOMSNM	SIXBIT/Structure Name/
UDBLUN:	# of Parks in STR	Logical Park # in STR
UDBMID:	HOMMID	Pack Unique Code
UDBDCF:	Don't care Flags word	
UDBCOD:	HOMCOD 0	CODHOM (707070)
UDBPDB= UDBSER	Two-word Serial Number	
UDBNPR:	Non-CI Processor Info	
UDBP00:	Node 0 Info	
UDBP01:	Node 1 Info	
.	.	.
.	.	.
.	.	.
UDBP15:	Node 15 Info	
UDBDDD= RP.CNI	CONI of RH	
RP.CRC	DATAI of RH Control Register	
RP.DBF	DATAI of RH Data Register	
RP.CYL	Number of Cylinders per unit	
RP.SCL	Number of Sectors per Cylinder	
RP.SSF	Number of Sectors per Surface	
RP.USU	Number of USEC per LA REG Unit	

MONITOR TABLES
 UDB (Cont.)

RP.USF	SSF * 64 (LA REG Unit)
RP.LST	Start of Last Page on a Cylinder
RP.REG	Drive Registers

L.RP4 = Length of RP04/5/6/7 UDB

Words UDBP00 through UDBP15 have the following format:

0	33 34 35
Node Server Number,,	

Symbol	Bit	Meaning
UDB%MA	33	Node in maintenance mode
UDB%WA	34	Wire A is good
UDB%WB	35	Wire B is good

MONITOR TABLES
 UDB (Cont.)

Device Dependent Parts for Tapes:

UDBDDP= UDBRNR	Frames Read in NRZJ (Magtape)
UDBRPE	Frames Read in PE
UDBRGC	Frames Read in GCR
UDBRNR	Frames Written in NRZI
UDBWPE	Frames Written in PE
UDBWGC	Frames Written in GCR
UDBDDM= TU6HDN	Hardware-Determined Density
TU6EPS	Error Position
TU6EBP	Error Byte Pointer
TU6EBC	Error Byte Counter
TU6ECL	Tape Cleaner Flag

LU.TM2 = Length of TM02 UDB

UDBPDB through UDBP15 is a copy of the PDB (processor data block) which resides on sector 3 of a disk. It has the same format.

MONITOR TABLES
 UDB (Cont.)

Symbol	Bits	Pointer	Content
US.OFS	0	USOFL	Offline or unsafe
US.CHB	1		Check home blocks before any normal I/O
US.POS	2		Positioning in progress
US.ACT	3		Active
US.BAT	4		Off if bad BAT blocks on this unit
US.BLK	5		Lock bit for this units BAT blocks
US.PGM	6		Dual port switch in (A or B) (RP04,5,6)
US.MAI	7		Unit is in MAINT mode
US.MRQ	8		MAINT mode is requested on this unit
US.BOT	9		Unit is at BOT
US.REW	10		Unit is rewinding
US.WLK	11		Unit is write locked
US.CIP	12		Unit is on a CI port
US.OIR	13		Operator intervention required. Set at interrupt level, checked at SCHED.
US.OMS	14		Once a minute message to operator. Used in conjunction with US.OIR
US.PRO	15		Positioning required on this unit
US.TAP	16		Tape type device
US.PSI	17		PSI online/offline/rewind done transition occurred
US.DSK	18		Disk type device
US.OR1	19		1st overdue rewind timer bit
US.OR2	20		2nd overdue rewind timer bit
US.2PT	21		Drive may be dual-ported between systems
US.TPD	22		Disk is offline to prevent three ports
US.BDK	23		CI broadcast needed
US.RTY	24-26		Retry count field
US.CIA	27		CI available
US.UNA	28		Device unavailable (like 16 bit disk)
	31-35	USTYP	Unit Type

MONITOR TABLES

UDS

Unit Dispatch Service Routine Table. This table, one per unit type, contains vectored addresses to unit dependent functions, and is given in its generalized form. The specific unit dispatch tables are RP4DSP (in PHYP4) for the disk device, and TM2DSP (in PHYM2) for the magtape device. See PHYPAR for definitions of arguments given and returned on calls to these unit routines.

Defined in: PHYPAR

Format

UDSINI=0	Initialize
UDSSIO=1	Start I/O on an IORB, skips if O.K.
UDSINT=2	Interrupt Routine (called on interrupts for XFER done)
UDSERR=3	Initiate Error Retry (skips if no more retrys)
UDSHNG=4	Hung Reset (called from TIMER to reset hung devices)
UDSCNV=5	Convert Unit Linear Address to CYL, SURF, SEC
UDSLTM=6	Return Latency or Best Request
UDSPOS=7	Start Positioning on IORB (skips if O.K.)
UDSATN=10	Attention Interrupt
UDSPRQ=11	Skip if Positioning Required
UDSSTK=12	Stack Second Command, Skip if OK
UDSEXT=13	Check Legality of Unit, Skip if Existant
UDSCCK=14	Check for Halted Microcode in Controllers
UDSPRL=15	Release Port

MONITOR TABLES

UE

This is an NI% user argument block (UN) extension, used for linking message buffers on and off the LAT message queues.

Defined in: LATSRV

Format

UELW0	Queue Link Word for linking buffers to CB Qs
UELW1	Queue Link Word for linking buffers to NI Qs

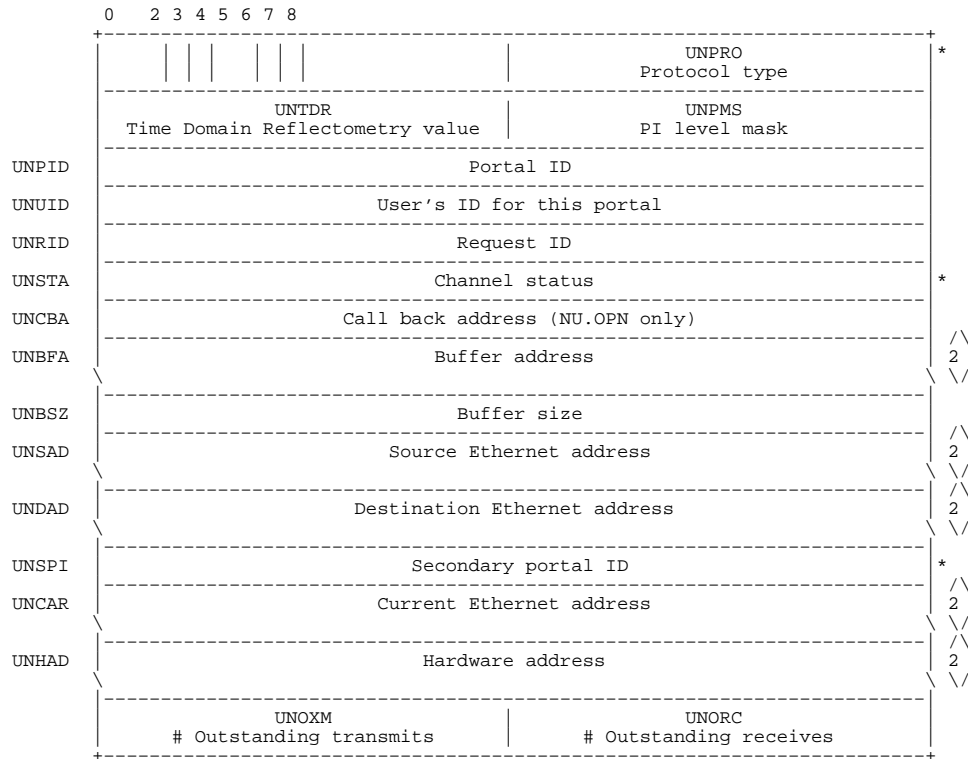
MONITOR TABLES

UN

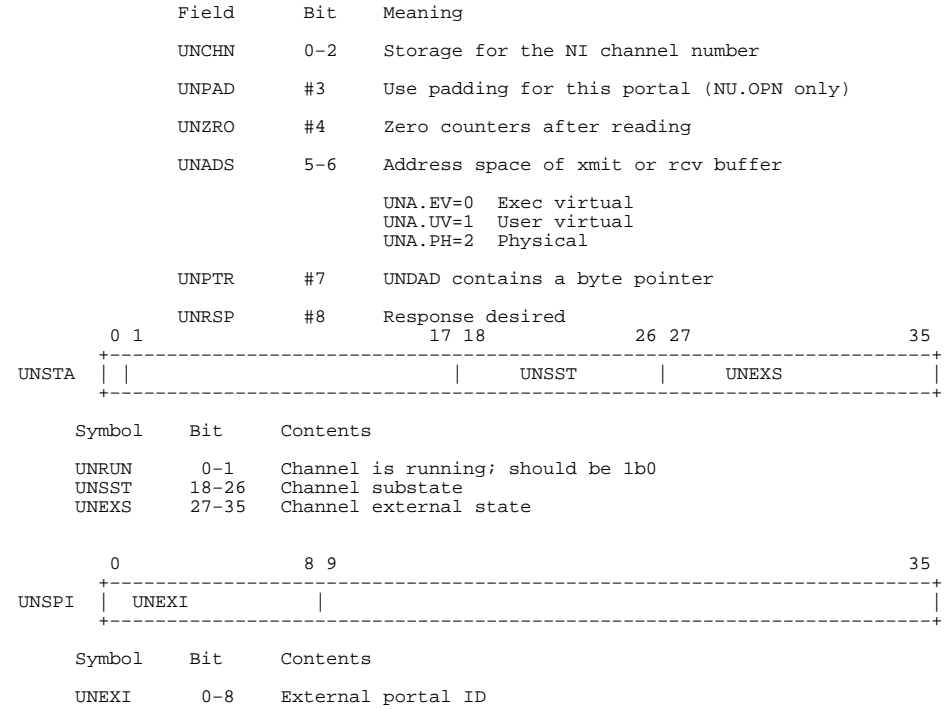
UN is the common argument block passed by all users of NISRV, the Network Interconnect Server.

Defined in: NIPAR

Format



MONITOR TABLES
UN (Cont.)



MONITOR TABLES

UPT

User Process Table. A one page User Process Table is associated with the process controller and with each fork in the system. (Those associated with forks may be swapped out with the fork.) However, there is only one UPT known to the hardware/firmware at any one time. The UPT known is the one whose address is pointed to by the hardware User Base Register (UBR), which is set-up when a process is chosen to run. UPT contains the dispatch address for process events (i.e., traps) and the user's section map table.

Defined in: STG

Format

HWPTA:	-----		
	Available to Software		
UPTPPM= HWPTA+400	Reserved	20	\/
UPTTPI= KLLUO=HWPTA+420	Address of LUUO Block		\/
UPTOVI= HWPTA+421	User Arith. Overflow Trap Instruction		
	User Stack Overflow Trap Instruction		
	User Trap 3 Trap Instruction		
FFL= KIMUFL= HWPTA+424	MUO flags	MUO OP-AC	
FPC= KIMUPC= HWPTA+425	MUO Old PC		
KIMUEF= HWPTA+426	E of MUO		
KIMPCW= UPTPCW=HWPTA+427	MUO Process Context		

MONITOR TABLES
UPT (Cont.)

UPTDSP= HWPTA+430	Kernel No Trap MUO New PC (word)
	Kernel Trap MUO New PC (word)
	Supervisor No Trap MUO New PC (word)
	Supervisor Trap MUO New PC (word)
	Concealed No Trap MUO New PC (word)
	Concealed Trap MUO New PC (word)
	Public No Trap MUO New PC (word)
	Public Trap MUO New PC (word)
HWPTA+440	Reserved for software
UPTPFW= TRAPS0=HWPTA+500	Page Fail Word
UPTPFL= TRAPFL=HWPTA+501	Page Fail Flags
UPTPFO= TRAPPC=HWPTA+502	Page Fail Old PC
UPTPFN= HWPTA+503	Page Fail New PC
HWPTA+504 HWPTA+505	User Process Execution Time
HWPTA+506 HWPTA+507	User Memory Reference Count
HWPTA+510	

MONITOR TABLES
UPT (Cont.)

USSPTB= HWPTA+520	User Super Section Table
USECTB= HWPTA+540	User Section 0 Pointer User Section 1 Pointer : :
HWPTA+577	User Section 37 Pointer
HWPTA+600	Available to software
HWPTA+777	

Note: Approximately 1/4 of the UPT is used for hardware cells, leaving the rest available to software. The monitor currently uses this area to house the first page of the PSB table. (See PSB table description.)

MONITOR TABLES

USER-PG-MAP-TBL

User Page Map Table. This 512-word swappable table, holds or points to other tables that hold all of the mapping information needed by the firmware to translate user mode virtual addresses in a given section into physical memory addresses. It is pointed to by an entry in the forks' section table in its User Process Table (UPT). (See UPT table description.)

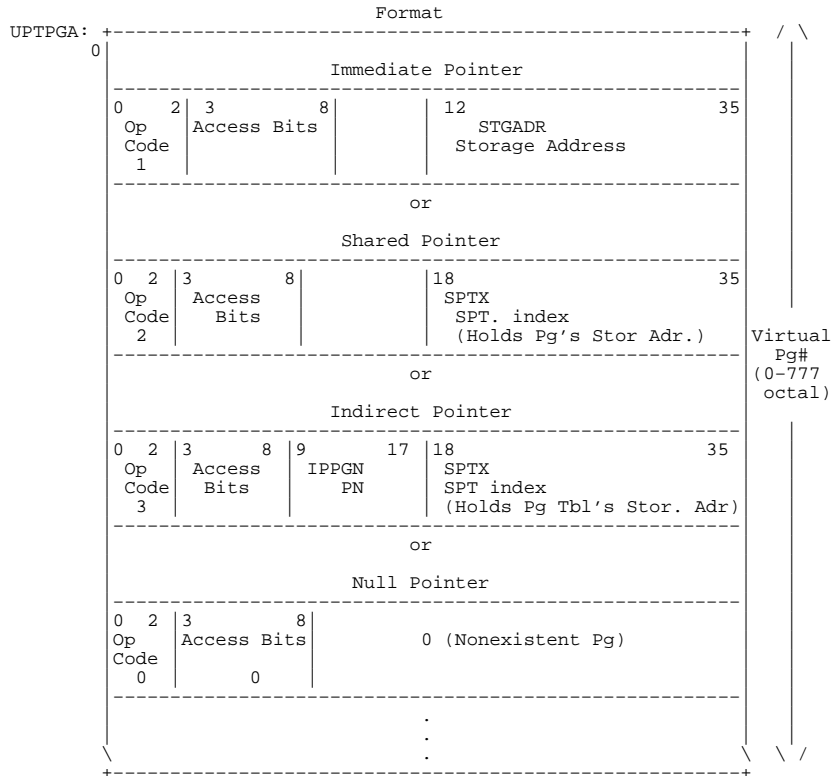
The User Page Map, indexed by a 9 bit virtual page number (1), contains either the storage address for the virtual page if the page exists (immediate pointer) or a pointer to where the storage address resides in another table (shared or indirect pointer). The storage address can be a memory, swapping area, or disk page address.

If the Storage address for the virtual page referenced by the process contains a memory page address (i.e., Storage Address Bits <12-17>=0), then the microcode, after copying this translation information along with the page's access bits into the CPU's Hardware Page Table (2), concatenates this memory page number with the index into the page to compose the complete physical address.

If the storage address for the virtual page referenced does not contain a memory address (i.e., Storage Address Bits <12-17> not equal to 0), or the page is non-existent (i.e., Null Pointer word) or the page is being illegally accessed, the microcode will cause a page trap to the User Process Table (UPT). The monitor is then invoked to perform the analysis and resolution of the trap condition.

Defined in: PROLOG

MONITOR TABLES
USER-PG-MAP-TBL (Cont.)

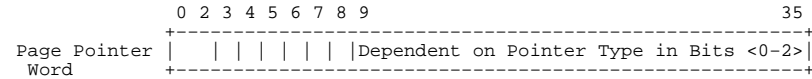


* UPTPGA is the monitor's symbol used when it wishes to reference the current user's page map table for section 0.

(1) A fork's virtual 18-bit address within a section is viewed as an address within a 512-word page, (i.e., virtual page number - 9 bits), Index into page 9-bits.

MONITOR TABLES
USER-PG-MAP-TBL (Cont.)

(2) This 512-word table is examined first by the microcode for the virtual page translation information. If not there, it then goes to the fork's UPTA in memory.



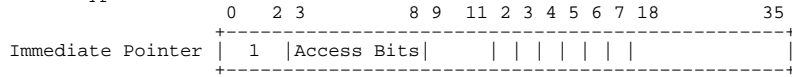
Symbol	Bits	Meaning
PTRCOD	0-2	Operation Code for the page pointer type IMMCOD = 1 Immediate Pointer SHRCOD = 2 Share Pointer INDCOD = 3 Indirect
PTPUB	3	Public Bit
PTWR	4	Write Access
PTKEEP	5	'Keep' Bit*
PTCACH	6	Cache Bit
PTCPY	7	Copy-on-Write (Software Only)
PTSECM	8	Section is mapped
PTLOK	9	Page is Locked (Immediate Pointer only)

* Once the Keep bit is set in the hardware page table, the entry is kept until one of the following conditions occurs:

1. DATAO PAG is executed with bit 3 reset in E
2. CONO PAG is executed
3. A reference to another section causes a refill that overwrites the entry.

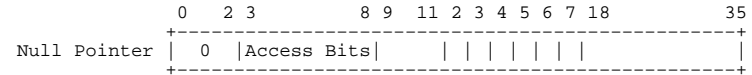
MONITOR TABLES
USER-PG-MAP-TBL (Cont.)

Pointer Types:



Symbol	Bits	Pointer	Meaning
	0-8	See above	
	STORAGE ADDRESS		
	12-35	STGADR	Storage address
NCORTM	12-17		(Interpretation follows) Non-Core Test Mask yielding type of storage. Bits <12-17>=0 => Bits <18-35>=Memory Pg Adr. Bits <12-17> not equal 0 => Bits <18-35>=Drum/DSK Adr.
DSKAB	14		Storage address is a disk address
DSKNB	15		Temporary bit used with DSKAB to say that disk address is newly assigned.
DRMAB	16		Storage address is a drum address
DRMOB	17		Used with DRMAB to indicate that the swapping area has overflowed to the disk file system. (Since TOPS-20 currently uses only the disk file system for swapping, a drum storage address will always have bits 16 17 set.)
UAABC	17&35		Temporary bit used by the monitor's page trap handler when a copy-on-write page trap has occurred. If the page to be copied is a drum address, it will be faulted in before these bits are used, avoiding conflict over bit 17. These bits will signify to a lower level routine, SWPIN, that the page just gotten from the free list has no backup address and that it is to get a copy of another page.

MONITOR TABLES
USER-PG-MAP-TBL (Cont.)



Symbol	Bits	Meaning
	0-8	These bits will have a value of 0 for the Null Pointer case.
UAAB	17	Temporary bit used by the monitor's page trap handler to say that the page has no assigned backup address on disk/drum.



Bits	Pointer	Meaning
0-8		See Above
18-35	SPTX	The SPT index is used to obtain from the SPT, the page's storage address.

MONITOR TABLES
USER-PG-MAP-TBL (Cont.)

	0	1	2	3	8	9	17	18	35
Indirect Pointer	3			Access Bits	IPPGN Page #		SPTX SPT index		

Bits	Pointer	Meaning
0-8		See Above
9-17	IPPGN	Page # whose value is used as an offset into the Page Table (pointed to by the SPT table address plus the SPT index in bits <18-35>) to obtain the page's translation information.
18-35	SPTX	The SPT index is used to obtain from the SPT the page table's storage address. The table's address plus the offset specified in bits <9-17> holds the virtual page's translation information.

MONITOR TABLES

VANA

Vote Answer Area. The VANA is used by routines which compose the reply to an incoming vote (Request Message Set). VANA has the same format as VRQA with the exception that "Assorted Reserved Locations" is not used.

Defined in: ENQSRV

VANA:	Header Area (Not Used)		
.MHUDA	EBDOFF .MHUDA offset to data start	EBPKTN Total # msg	EBPNUM This msg #
.EBFFW	EBFLAG Flags	EBCFSC Function	EBUNIQ Unique code for message set
.EBEOH	EBNODE CI node number	EBFTYP Opcode	EBTOTT User words for this packet
.EBSOD	EBQFLG ENQFLG	Reserved	EBTYPE OFN or -2 or -3
.EBFL1	EBSTRN Structure name in Sixbit		
.EBFL2	EBADDR Storage Address (from SPTH)		
.EBGHV	EBGRP Group number	EBHASH Hash value for Lock-Block	
.EBWCT	EBMBWS # of words in Mask Block	EBTSWS # of words in Text String	
.EBSMB	Mask Block		
	ASCIZ String or 500000,,0 + User Code		

15
Words
50
Words

MONITOR TABLES
VANA (Cont.)

-----	/ \
Additional Data Area	3
-----	Words
	\/\
+	+

MONITOR TABLES

VN

VN contains the DECnet NSP and Routing Version number words.

Defined in: D36PAR

Format

0	7 8	15 16	23
VNVER	VNECO	VNUCO	
Version number	ECO number	User ECO number	

MONITOR TABLES

VRB

Vote Request Buffer. VRB is used to send the reply back to the node which issued the vote request. All replies only require a single SCA message buffer.

Defined in: ENQSRV

Port Header and SCA Header			
.MHUDA	EBDOFF .MHUDA offset to data start	EBPKTN Total # msg	EBPNUM This msg #
.EBFFW	EBFLAG Flags	EBCFSC Function	EBUNIQ Unique code for message set
.EBEOH	EBNODE CI node number	EBFTYP Opcode	EBTOTT User words for this packet
.EBSOD	EBQFLG ENQFLG	Reserved	EBTYPE OFN or -2 or -3
.EBFL1	EBSTRN Structure name in Sixbit		
.EBFL2	EBADDR Storage Address (from SPTH)		
.EBGHV	EBGRP Group number	EBHASH Hash value for Lock-Block	
.EBWCT	EBMBWS # of words in Mask Block	EBTSWS # of words in Text String	
.EBAD1	Additional Data word 1		
.EBAD2	Additional Data word 2		
.EBAD3	Additional Data word 3		

MONITOR TABLES

VRPA

Vote Reply Area. VRPA is used to collect the replies to the vote request.

Defined in: ENQSRV

VRPA:			
.VPWD0	VPFLAG Flags	Reserved	VPUNIQ Unique code for message set
.VPAD1	Additional Data word 1		
.VPAD2	Additional Data word 2		
.VPAD3	Additional Data word 3		
.VPWD0	VPFLAG Flags	Reserved	VPUNIQ Unique code for message set

Contents of VPFLAG:

Symbol	Bits	Meaning
VPNOV	0	No vote required for this lock
VPNO	1	A "NO" reply was received from another node
VPRTY	2	A cluster state change occurred

MONITOR TABLES

VRQA

Vote Request Area. VRQA is used by Interface Routines to compose the Request Message Set. The ten words of header exist so that the offsets exactly match the SCA message buffer in the Request Message Set.

Defined in: ENQSRV

VRQA:	Assorted Reserved Locations		
.MHUDA	EBDOFF .MHUDA offset to data start	EBPKTN Total # msg	EBPNUM This msg #
.EBFFW	EBFLAG Flags	EBCFSC Function	EBUNIQ Unique code for message set
.EBEOH	EBNODE CI node number	EBFTYP Opcode	EBTOTT User words for this packet
.EBSOD	EBQFLG ENQFLG	Reserved	EBTYPE OFN or -2 or -3
.EBFL1	EBSTRN Structure name in Sixbit		
.EBFL2	EBADDR Storage Address (from SPTH)		
.EBGHV	EBGRP Group number	EBHASH Hash value for Lock-Block	
.EBWCT	EBMBWS # of words in Mask Block	EBTSWS # of words in Text String	
.EBSMB	Mask Block		
	ASCIZ String or 500000,,0 + User Code		

MONITOR TABLES
VRQA (Cont.)

Additional Data Area		3 Words
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.EBFFW	EBFLAG Flags	EBCFSC Function	EBUNIQ Unique code for message set
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Contents of EBFLAG:

Symbol	Bits	Meaning
EQNOV	0	No vote required for this lock
EQNO	1	A "NO" reply was received from another node
EQANS	2	This is a reply to a vote request
EQBLN	3	Ignore level numbers for this vote
EQTXT	4	The lock is described by a text string

Assorted Reserved Locations	
-----------------------------	--

Contents of Port and SCA Header Section of VRQA:

Symbol	Location	Meaning
VOTUNI	VRQA+0	Vote Unique Code
VOTVCT	VRQA+1	The count of outstanding replies
VRBADR	VRQA+2	The address of the vote reply buffer
ASMPTR	VRQA+3	Offset into VRQA used by EQMSG
RPLYND	VRQA+4	CFS host index to send reply to
EQLBLT	VRQA+5	Lock-Block Action List
EQLBCT	VRQA+6	Count of blocks on action list
EQCSTF	VRQA+7	Cluster state change flag

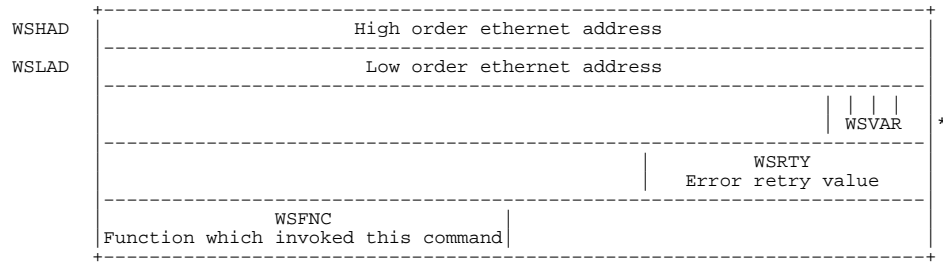
MONITOR TABLES

WS

WS defines the format for the NI Write Station Info command.

Defined in: PHYKNI

Format



For field WSVAR(32-35):

WSCRC	32	Allow receipt of frames with CRC errors
WSPMC	33	Promiscious multicast mode
WSH40	34	H4000 mode
WSPRM	35	Promiscious mode

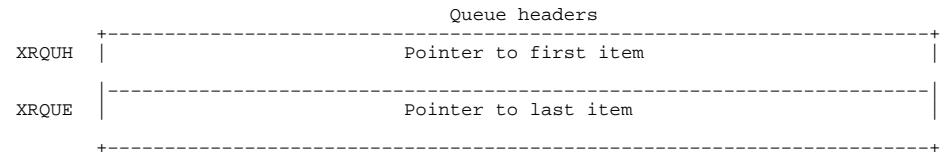
MONITOR TABLES

XR

The XR structure defines the format of the queue header for NI portal block transmit and receive queues (see NI Portal Block -- PR).

Defined in: NIUSR

Format



APPENDIX A
LISTING BY MONITOR MODULES

This appendix lists the TOPS-20 modules and the monitor tables defined in each.

Defined in	Table Title
APRSRV	SCHED-Variables
CFSPAR	CFS Resource Block
CFSSRV	CFS Voter Message Buffer
CLULSN	CLUHST CLUSTS
CLUPAR	CLUDGR Message Buffer
CSTnX	CSTnX
CTERMD	CA CH-CTERMD
D36COM	CH-D36COM FB
D36PAR	AA AJ BP CT DL EC EL

LISTING BY MONITOR MODULES

	ES
	ET
	FA
	IA
	IB
	KB
	LI
	MB
	MD-D36PAR
	NE
	NF
	NM
	NX
	OA
	PA
	QA
	QH-D36PAR
	QP
	RC-D36PAR
	RM
	SA
	SJ
	SL
	SS
	TR
	UD
	VN
DNADLL	LT QB
DSKALC	HOM
ENQPAR	ENQ/DEQ-LOCK-BLOCK Q-BLOCK
ENQSRV	VANA VRB VRPA VRQA
FREE	FREESPACE BLOCK HEADER/TRAILER FREESPACE DESCRIPTOR FREESPACE-DESCRIPTOR INDEX TABLE FREESPACE HISTORY RECORD
IPCF	IPCF-MESSAGE-HEADER IPCF-PID-HEADER
IPCIDV	PT-IPCIDV

LISTING BY MONITOR MODULES

LATSRV	AC CB-LATSRV CC-LATSRV GB HC HN QL SB-LATSRV UE
LLINKS	AK LK LS NN RT SG-LLINKS SV-LLINKS
LLMOP	CB-LLMOP CD CH-LLMOP IM LB LD LH RB RI SV-LLMOP
LOGNAM	LOGICAL-NAME-DEFINITION
MONSYM	DEVCH1 FDB INIDVT
NIPAR	CC-NIPAR MD-NIPAR PC UN
NISRV	PR-NISRV
NIUSR	BR PI PL PR-NIUSR XR
NRTSRV	NR

LISTING BY MONITOR MODULES

NTMAN	DNA Parameter and Counter Data Base NT PRMP
PHYKLP	RIDSTS (Request-ID Status)
PHYKNI	BD C1 CM FL MT PB-PHYKNI PS-PHYKNI PT-PHYKNI QE QH-PHYKNI RC-PHYKNI RD RS SB-PHYKNI SN WS
PHYM2	KDB
PHYMSC	CICMST CIDATA MSCCID MSCINT MSCOLD MSCTMO
PHYMVR	MSCP Server Command Header MSCP SERVER STORAGE SCDB
PHYP2	KDB
PHYPAR	CDB CDBCAD CDS IORB KDB UDB UDS
PHYSIO	DSKSIZ DSKUTP NAMUTP

LISTING BY MONITOR MODULES

PROLOG	BAT DEV\DTB DIRECTORY DIRECTORY CACHE DST FDB FKCNO FKSWP IDXFIL JOBRTL SPT SPTD SPTH SPTO SPTO2 USER-PG-MAP-TBL
SCAMPI	CI Related Variables SBLIST (System Block List)
SCAPAR	Connect ID Format KDB PCB (Port Control Block) SCA Connection Block SCA Ring Buffer Entry System Block
SCHED	SCHED-VARIABLES
SCLINK	BU CF LN NO-SCLINK
SCPAR	CB-SCPAR MN NO-SCPAR PB-SCPAR PS-SCPAR PT-SCPAR SB-SCPAR ST
SERCOD	SYSERR-STORAGE-AREA
STG	ALOC1 ALOC2 BTB BUG-HLT/CHK/INF-STORAGE-AREA CDBCAD

LISTING BY MONITOR MODULES

CDR-STORAGE-AREA CFHSHT CFHSTS CFNNAM CFSHNM CFSHST CFSOFN CFS Resource Block CFSSTR CHNTAB CLASS-SCHEDULER-STORAGE CST0 CST1 CST2 CST3 CST5 DEVCH1 DEVCH2 DEVCHR DEVDSP DEVNAM DEVUNT DIRECTORY CACHE DRMBBT DRMCNT DSKSZ`n DST DTE-STORAGE-AREA DTEDTV ENQ/DEQ - STORAGE AREA EPT EXEC-PG-MAP-TBL FE-STORAGE-AREA FKBSPW FKCNO FKINT FKINTB FKJOB FKJTQ FKNBW FKNR FKPGS FKPGST FKPT FKQ1 FKQ2 FKSTA2 FKSTAT FKSWP FKTIME
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LISTING BY MONITOR MODULES

FKWSP
 GTOKPR
 HOME
 HOMTAB
 INIDEV
 INIDV1
 INIDVT
 IPCF-STORAGE-AREA
 JOB AREA
 JOBDIR
 JOBNAM
 JOBPNM
 JOBPT
 JOBRT
 JOBRTL
 JSB
 LOGICAL-NAMES-LIST
 LPT-STORAGE-AREA
 MONITOR-STATISTICS
 MSCP SERVER STORAGE
 MTA-STORAGE-AREA
 MTCUTB
 NTCTAB
 OFNLEN
 PHYUNT
 PIDCNT
 PIDTBL
 PROCESS STORAGE AREA
 PSB
 PTYSTS
 RES-FREE-SPACE
 SCDETB
 SCHED-VARIABLES
 SCOUNT
 SDB
 SNAMEs
 SNBLKS
 SPFLTS
 SPT
 SPTD
 SPTH
 SPTO
 SPTO2
 SPTO3
 SPTO4
 SSIZE
 STIMES
 STRTAB
 SWAP-FREE-SPACE (NON-EXTENDED)
 SYNMTB

LISTING BY MONITOR MODULES

SYS-STARTUP-VECTORS
 SYSERR-STORAGE-AREA
 TTACTL
 TTBUFS
 TTCSAD
 TTCSTM
 TTSPWD
 TTSTAT
 TTY-STORAGE-AREA
 UDIORB
 UPT
 TTYDEF
 TT-LINE-DYN-DATA-BLK