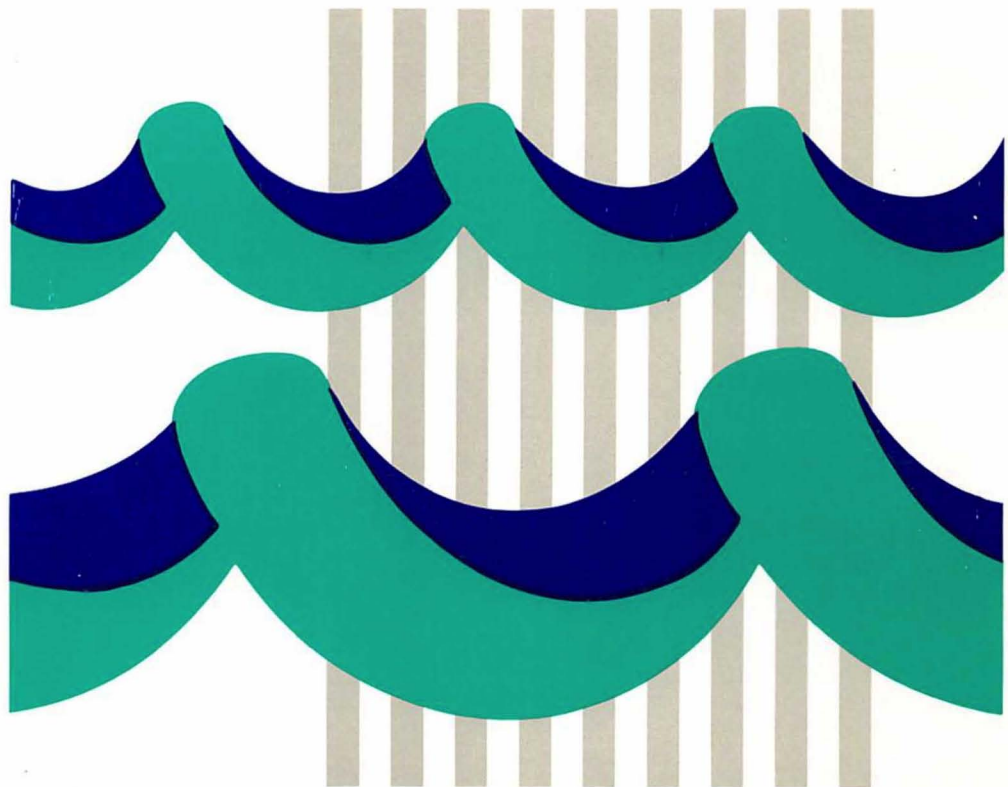




**Reference Summary
and Data Areas**





Network Control Program Emulation Program

LY30-5603-1

Reference Summary and Data Areas

**Advanced Communications Function
for Network Control Program
Version 5 (program number 5668-738)
Releases 1, 2, and 2.1**

**Emulation Program
for IBM Communication Controllers
(program number 5735-XXB)
Releases 5, 6, and 6.1**

Second Edition (December 1988)

This major revision replaces LY30-5603-0. This edition applies to the following IBM licensed programs:

- Advanced Communications Function for Network Control Program Version 5 (program number 5668-738) Releases 1, 2, and 2.1
- Emulation Program for IBM Communication Controllers (program number 5735-XXB) Releases 5, 6, and 6.1.

The previous edition still applies to the following licensed programs:

- Advanced Communications Function for the Network Control Program Version 5 (program number 5668-854) Release 2 and V4 Subset (program number 5668-738) Releases 1, 2, and 2.1.
- Emulation Program for IBM Communication Controllers (program number 5735-XXB) Releases 5, 6 and 6.1.

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About This Book

This section contains information about:

- Who should use this book
- How to use this book
- Where to find more information.

This book provides reference information about Version 5 Releases 1, 2, and 2.1. of the Advanced Communications Function for Network Control Program (NCP), Release 5, 6, and 6.1 of the Emulation Program for IBM Communication Controllers (EP), and the Partitioned Emulation Program (PEP) Extension.

Who Should Use This Book

This book is for system programmers and IBM program support representatives who are responsible for diagnosing and debugging problems.

How to Use This Book

This book consists of 21 sections containing NCP reference information. Books containing reference information for previous levels of NCP are still valid for those levels.

In this book the abbreviation BER stands for "box event record." A box event record is sometimes referred to as a "box error record."

Where to Find More Information

The list on page xxii shows all of the books in the NCP V5 library, arranged according to related tasks.

The NCP V5 Library

Evaluation and Education

Network Program Products General Information, GC30-3350

Network Program Products Bibliography and Master Index, GC30-3353

Planning

Network Program Products Planning, SC30-3351

Network Program Products Storage Estimates, SC30-3403

Installation and Resource Definition

NCP, SSP, and EP Generation and Loading Guide, SC30-3348

NCP Migration Guide, SC30-3440 for V5

Network Program Products Samples, SC30-3352

NCP, SSP, and EP Resource Definition Guide, SC30-3447 for V5

NCP, SSP, and EP Resource Definition Reference, SC30-3448 for V5

Customization

NCP Customization Guide, LY30-5606 for V5

NCP Customization Reference, LY30-5607 for V5

SSP Customization, LY43-0021

*NCP, SSP, and Related Products Directory of Programming Interfaces
for Customers, GC31-6202*

Operation

NCP, SSP, and EP Messages and Codes, SC30-3169

Diagnosis

NCP, SSP, and EP Diagnosis Guide, LY30-5591

NCP and EP Reference, LY30-5605 for V5

NCP and EP Reference Summary and Data Areas, LY30-5603 for V5

Section 1. Data Area Relationships

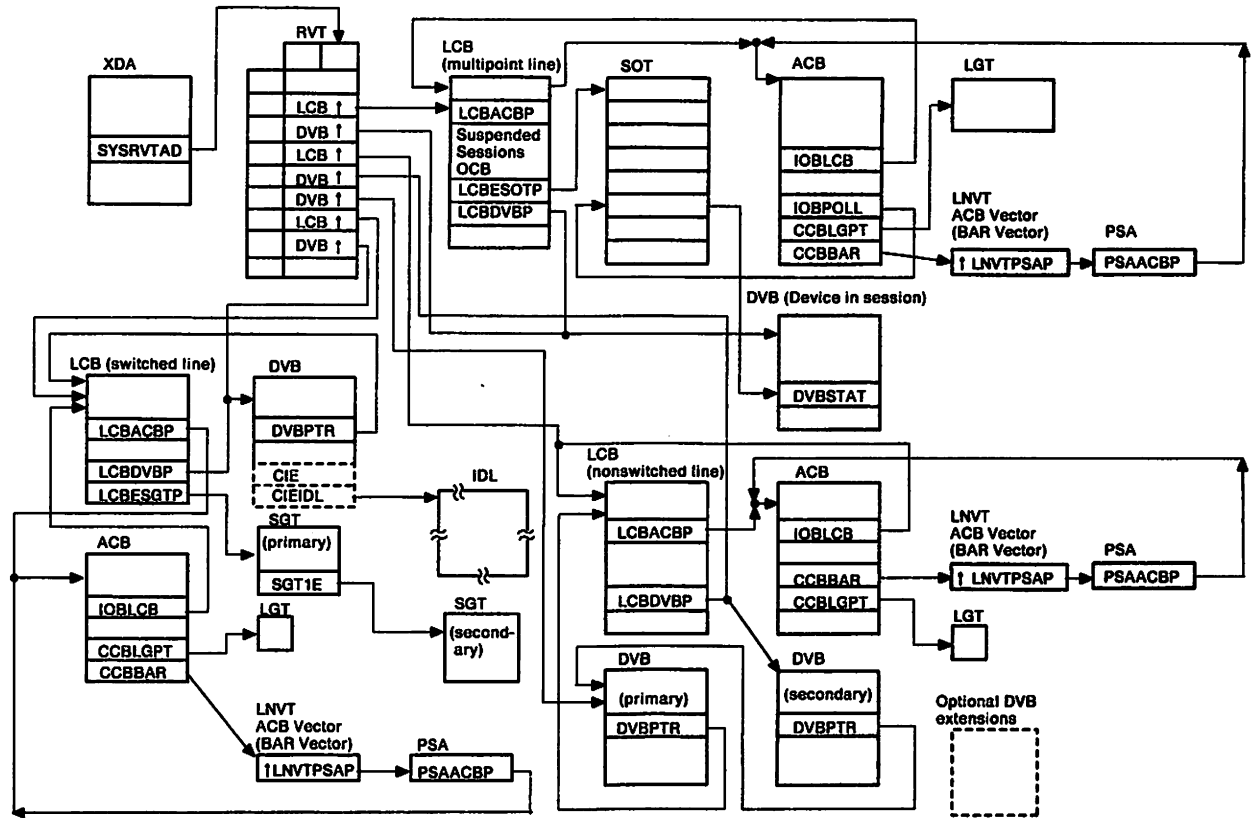


Figure 1-1. NCP Control Block Relationships for BSC/SS Lines (3720 only)

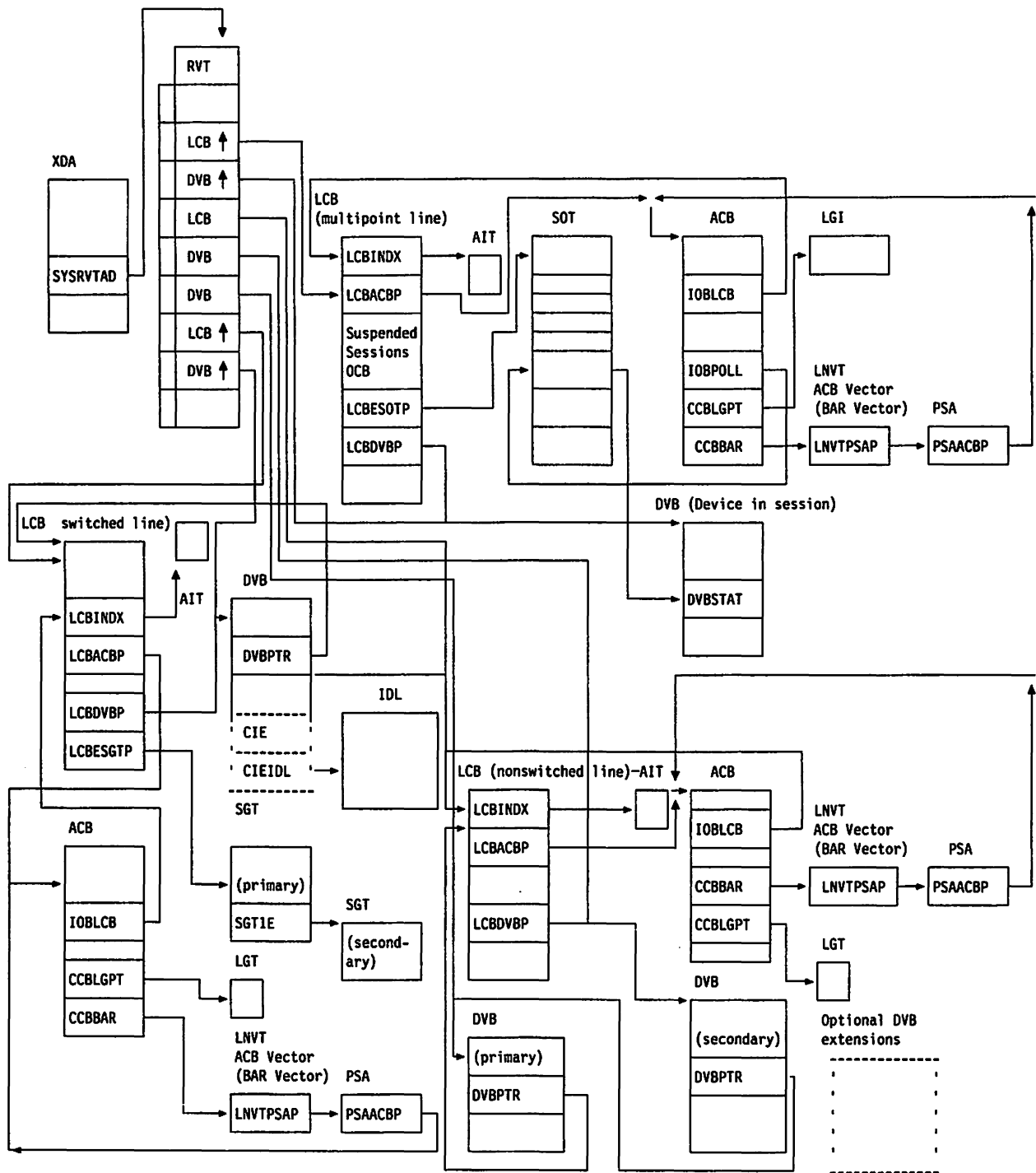


Figure 1-2. NCP Control Block Relationships for BSC/SS Lines (3745 only)

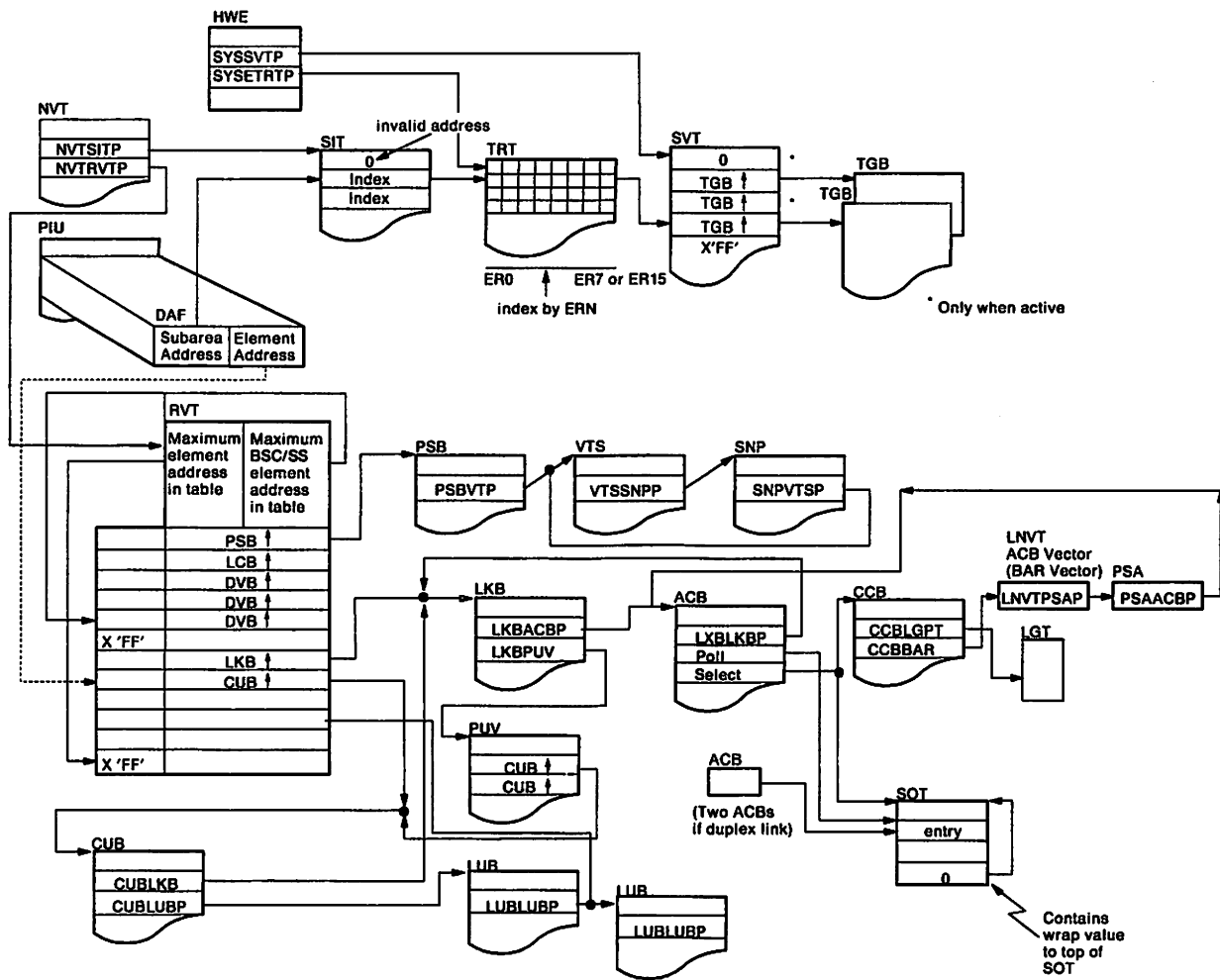


Figure 1-3. NCP Control Block Relationships for SDLC Links (3720 only)

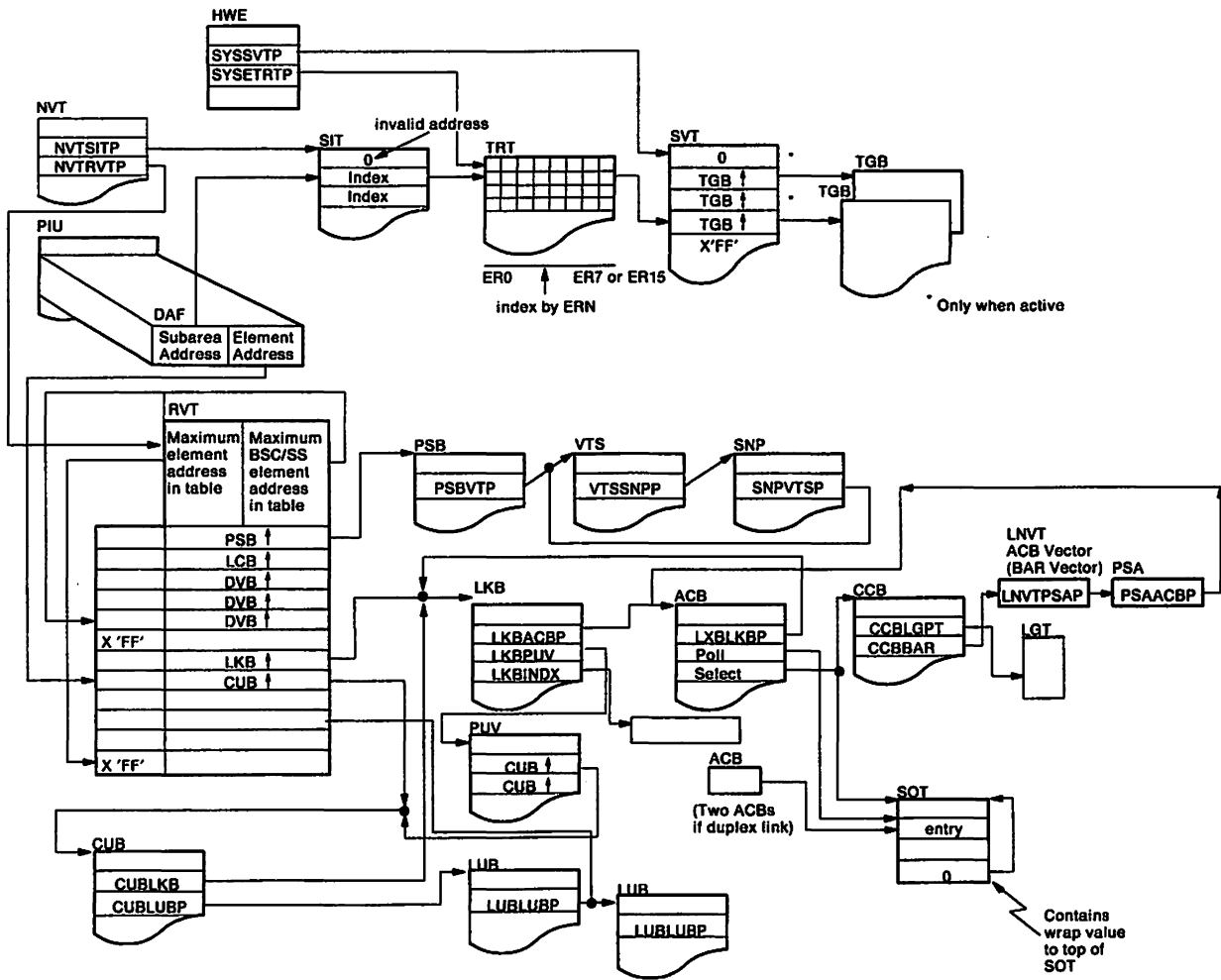


Figure 1-4. NCP Control Block Relationships for SDLC Links (3745 only)

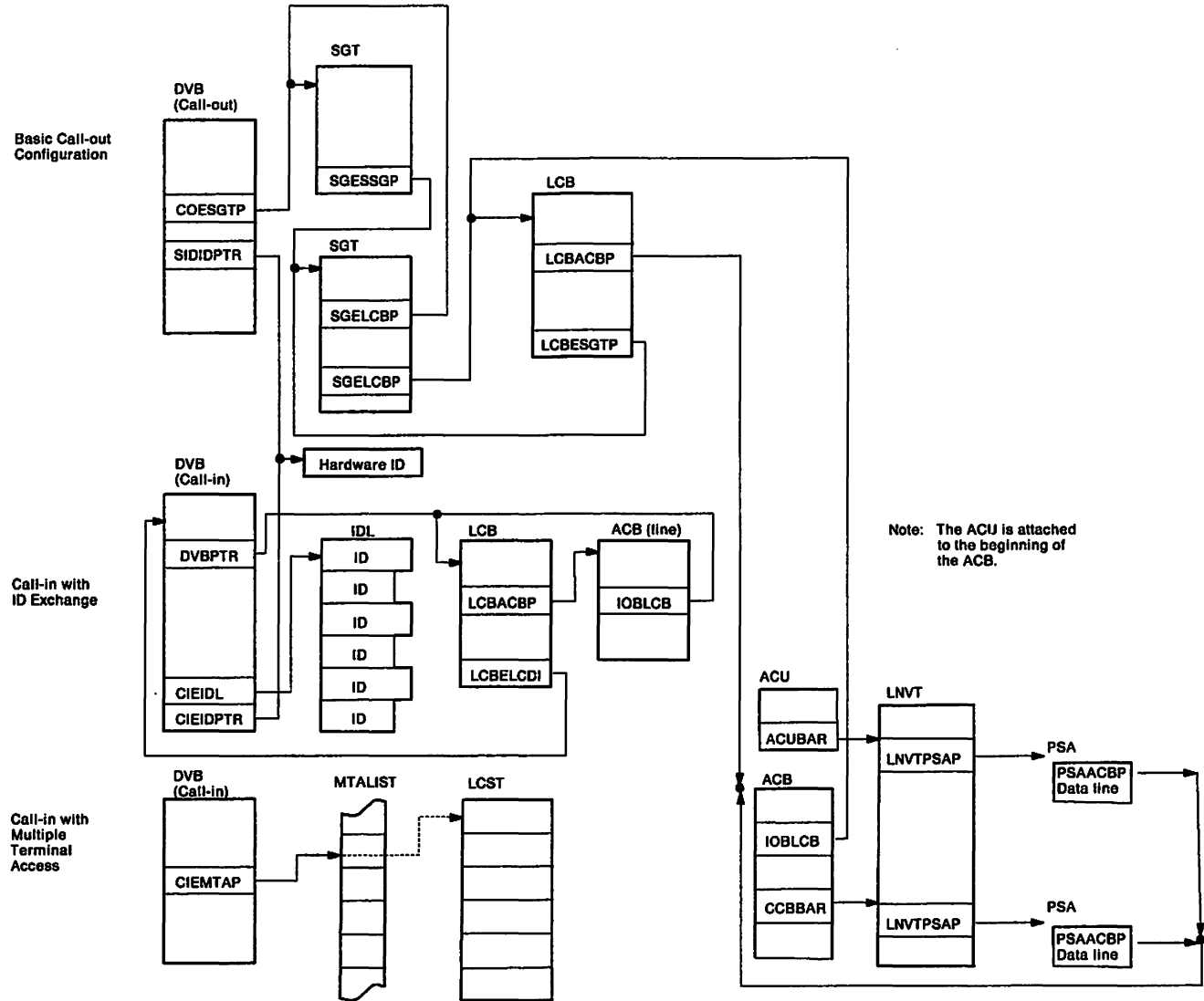


Figure 1-5. NCP Control Block Relationships for Switched BSC/SS Lines (3720 only)

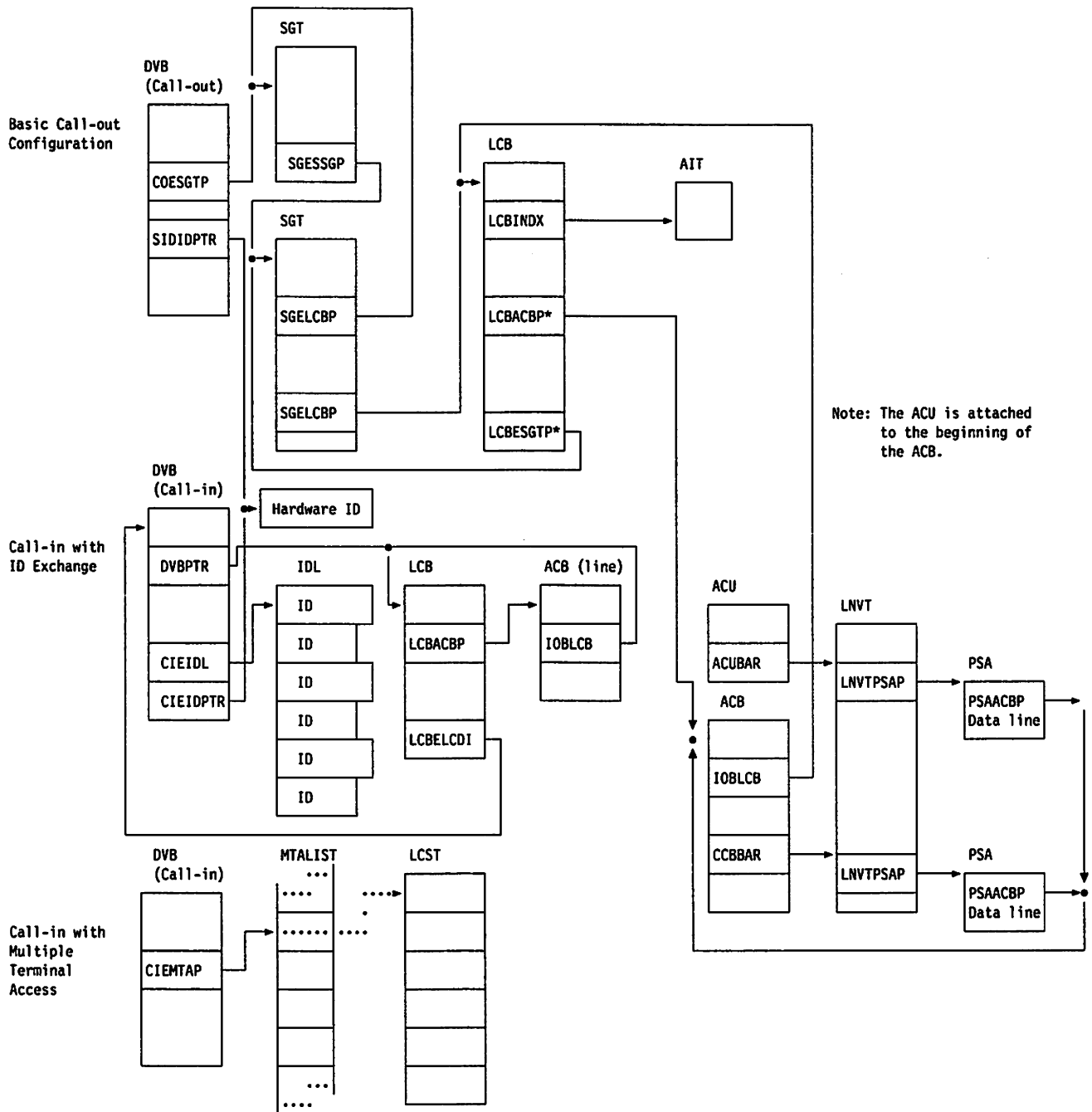


Figure 1-6. NCP Control Block Relationships for Switched BSC/SS Lines (3745 only)

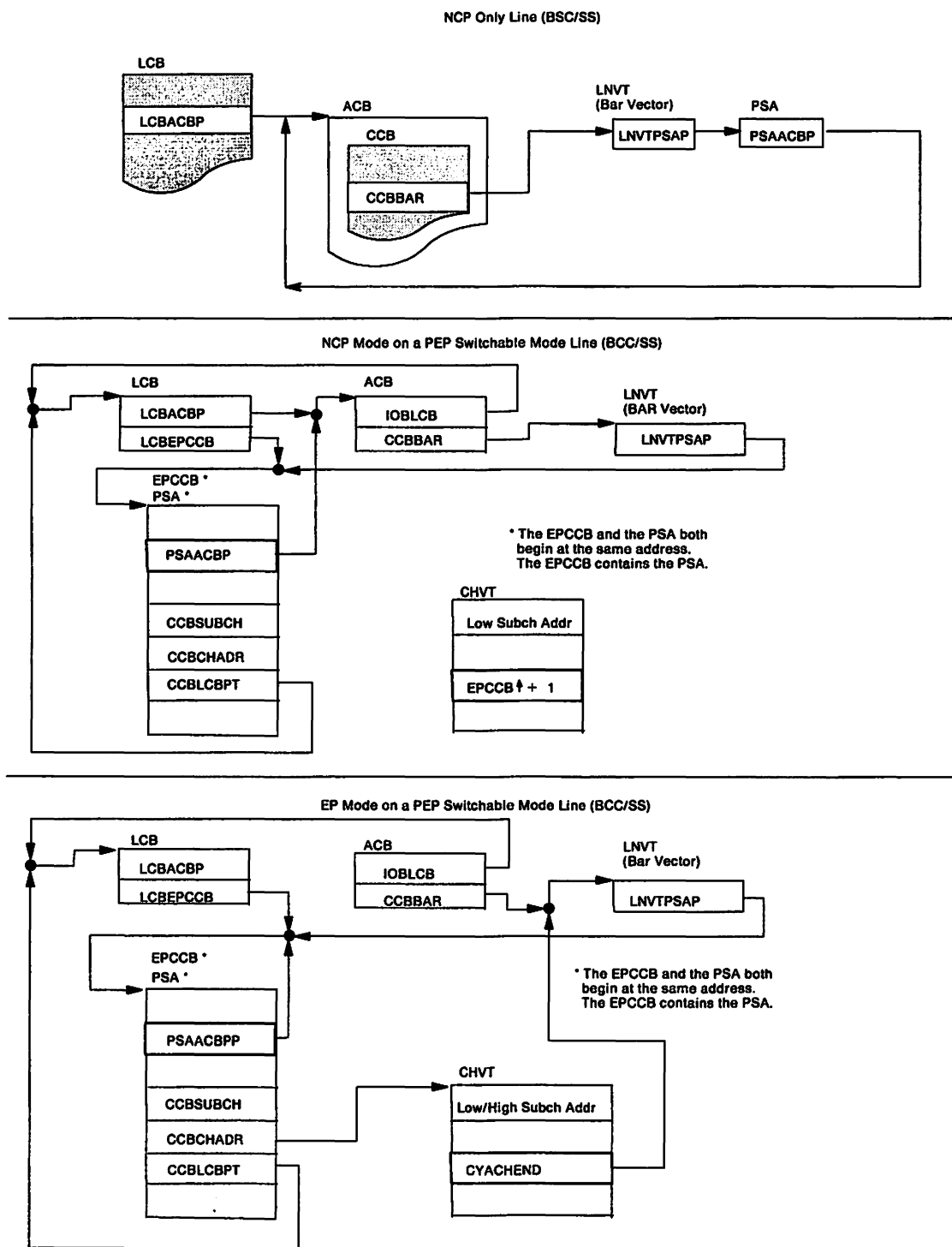


Figure 1-7 (Part 1 of 2). NCP Pointers to the CCB

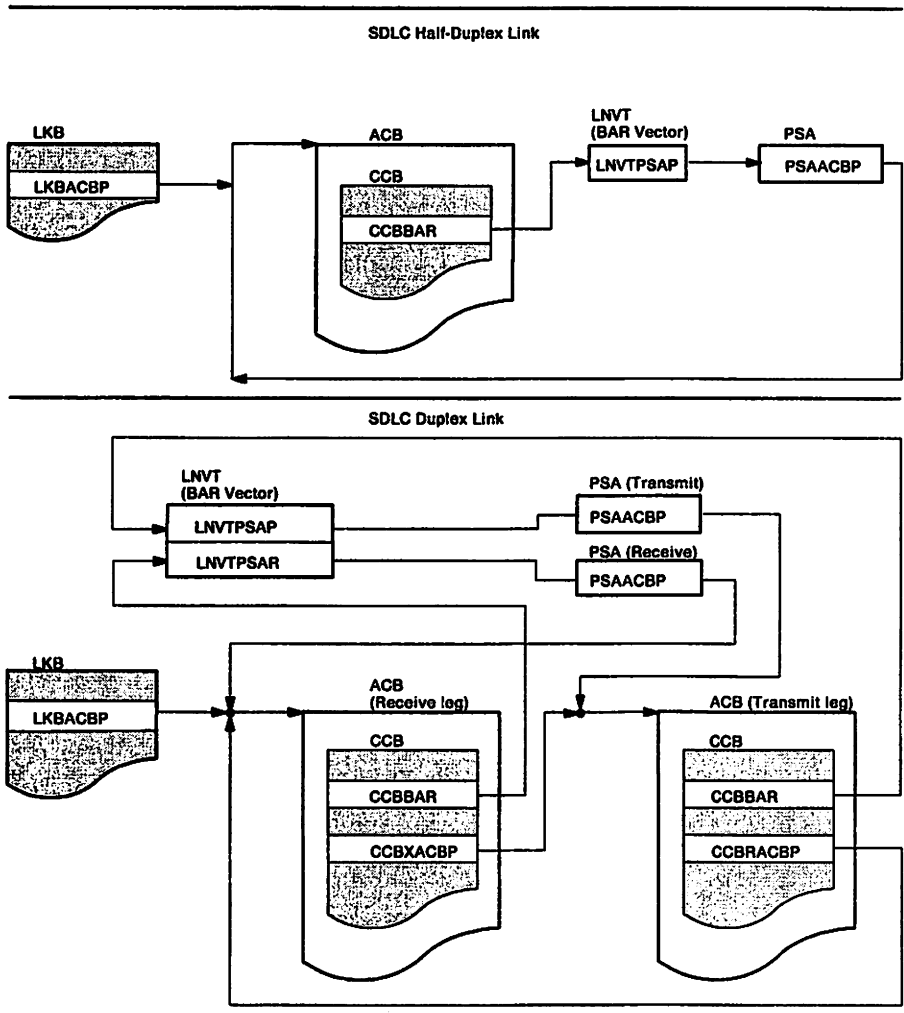


Figure 1-7 (Part 2 of 2). NCP Pointers to the CCB

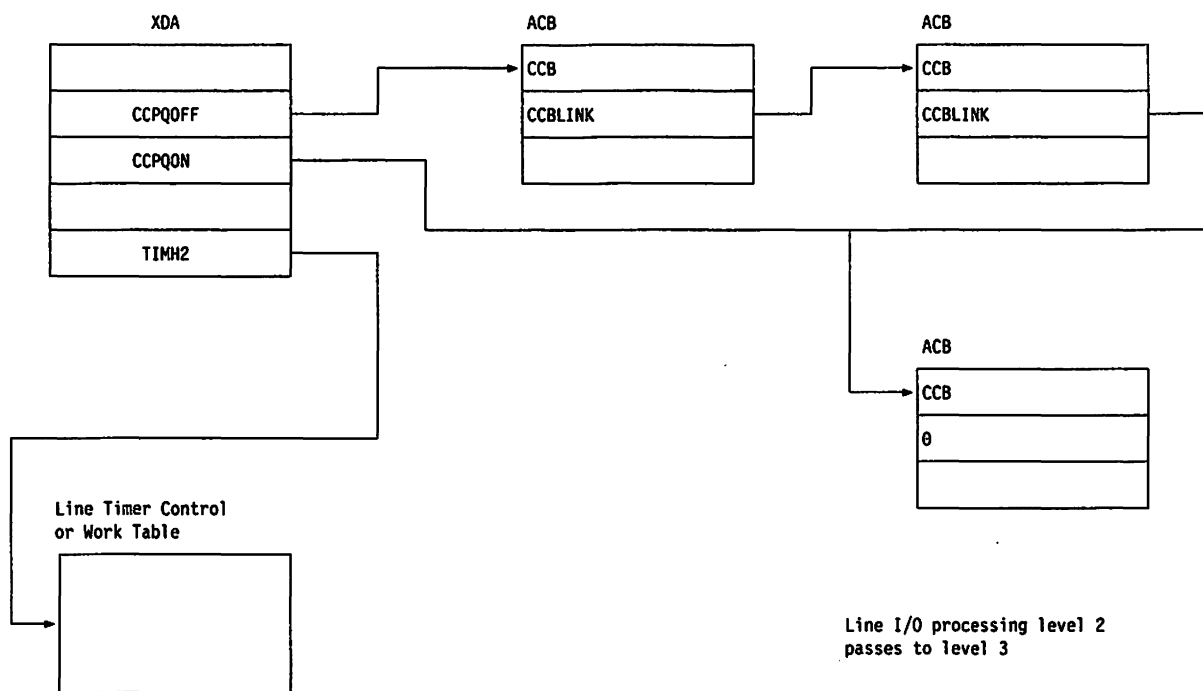


Figure 1-8. NCP Word Direct Addressable Pointers

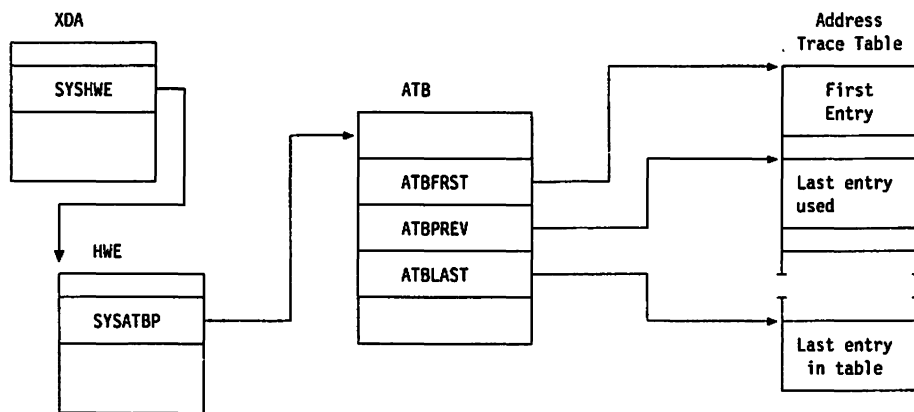


Figure 1-9. Location of the NCP Address Trace Table

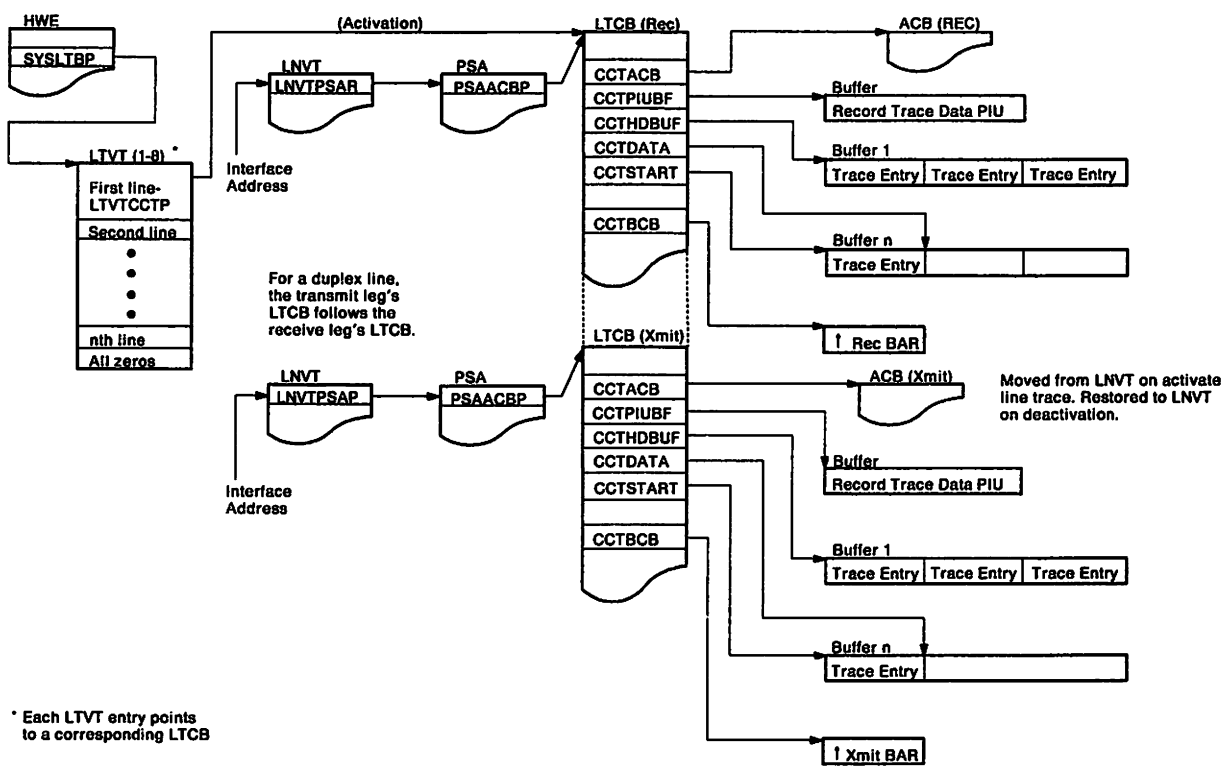
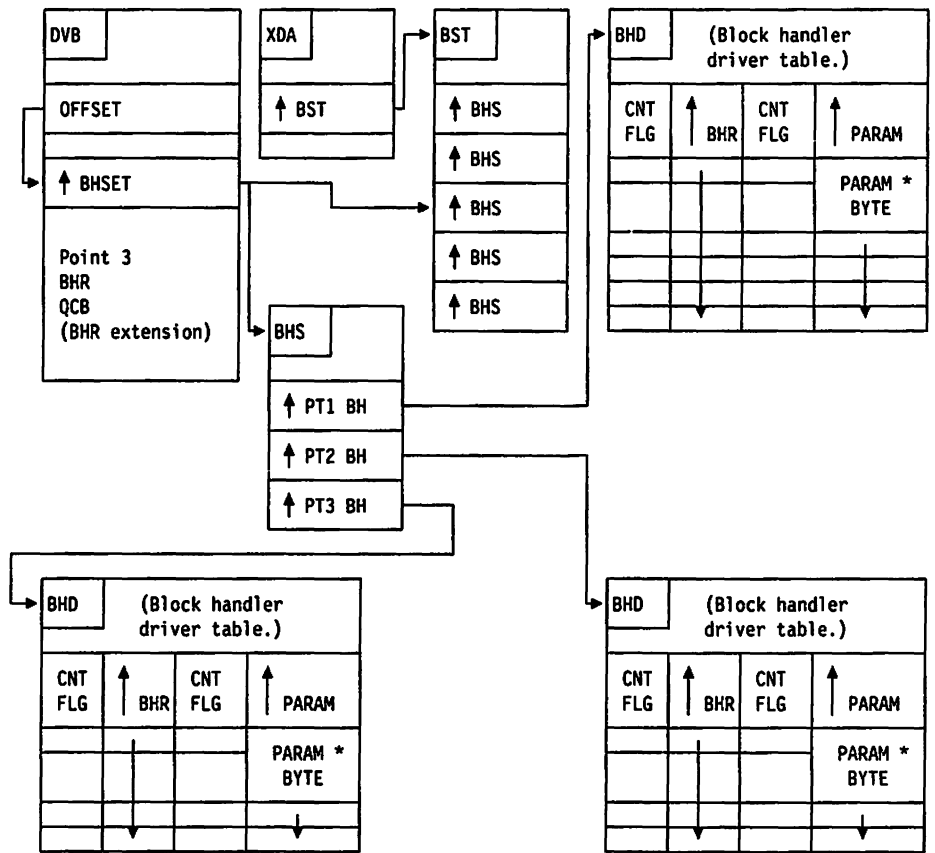


Figure 1-10. Control Block Relationships for NCP Line Trace



* BHRs have either a pointer to a parameter list or a byte parameter in their entry in the BHD.

Figure 1-11. NCP Control Block Relationships for BHRs

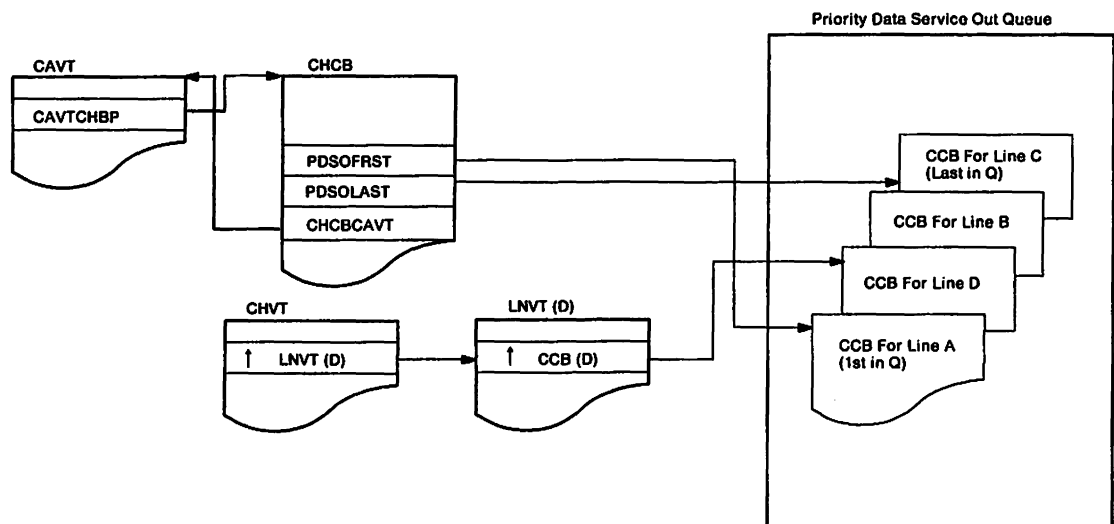


Figure 1-12. EP/PEP Control Block Relationships

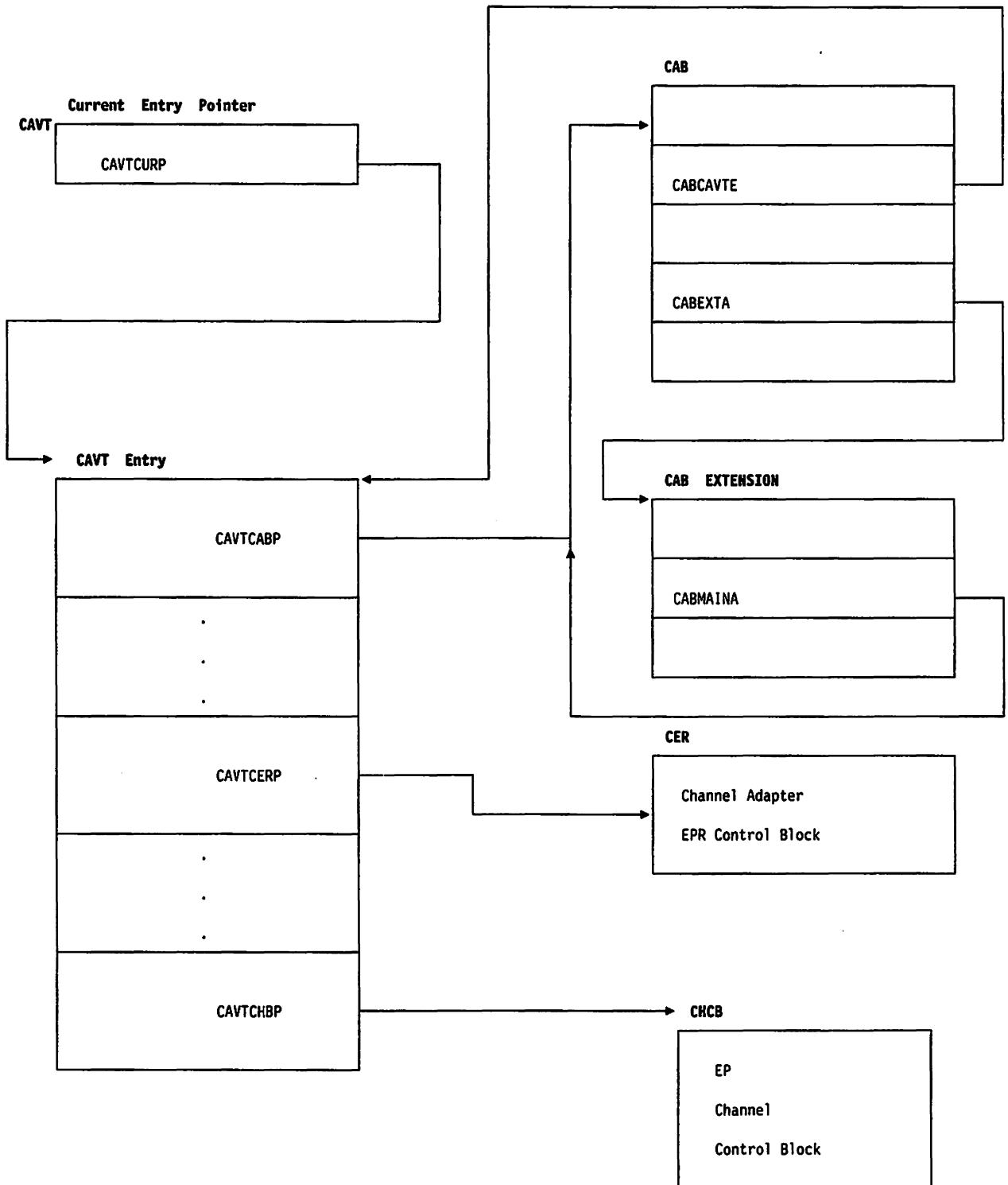
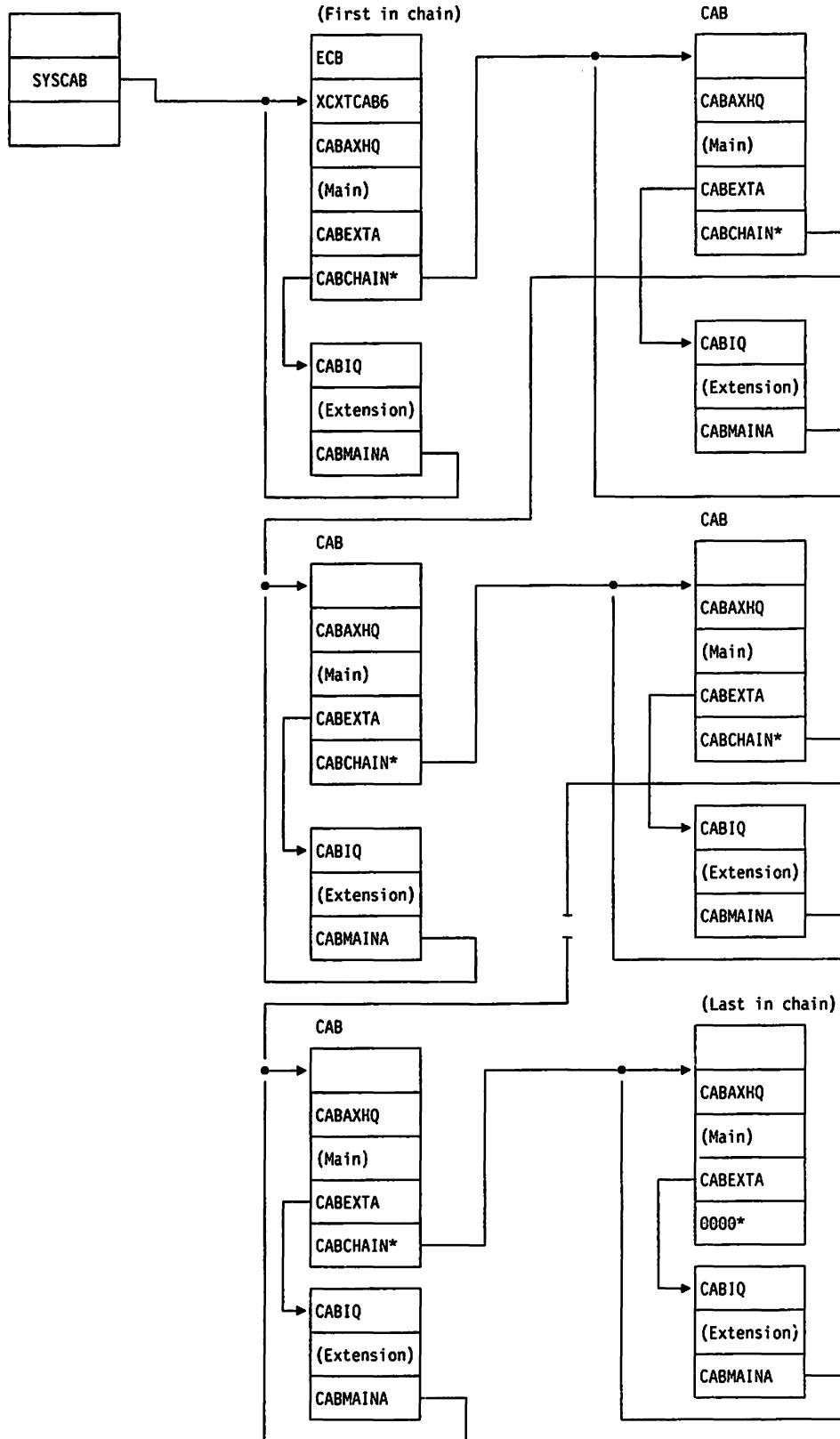


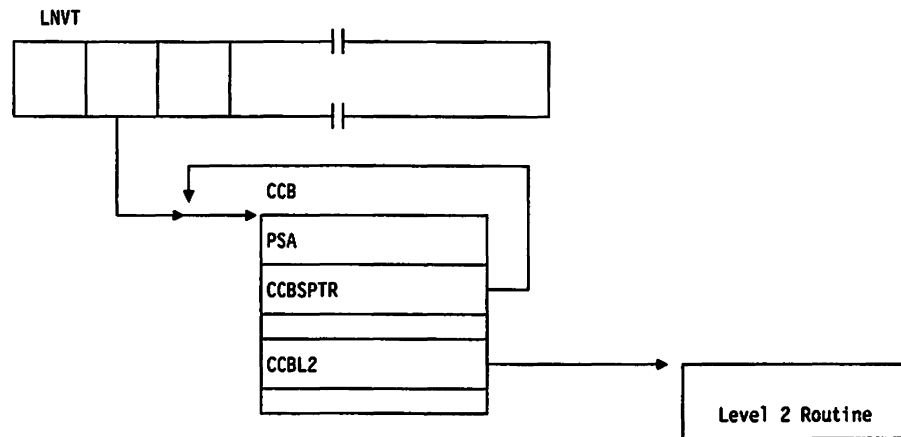
Figure 1-13. NCP Channel Adapter Control Block Relationships (for Channel Adapter currently being processed in Level 3)

This example shows six CAx generated active.
 HWE



*Last CAB in the chain has zeros in CABCHAIN field

Figure 1-14. NCP Channel Control Block Timer Chain Relationships



Normal EP Control Block Structure

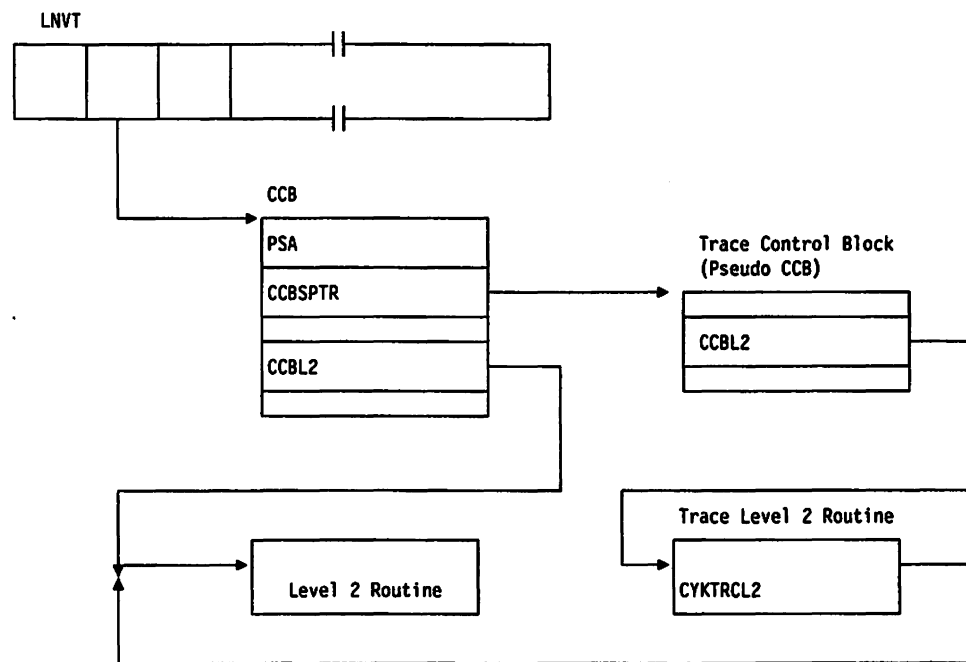


Figure 1-15. EP Control Block Structure When Tracing Level 2

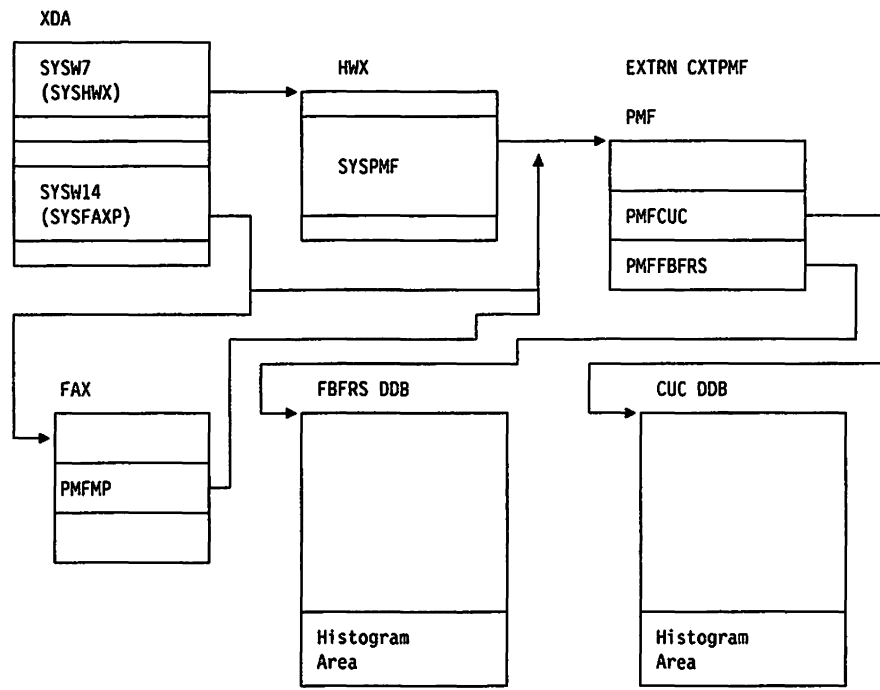


Figure 1-16. PMF Control Block Relationships

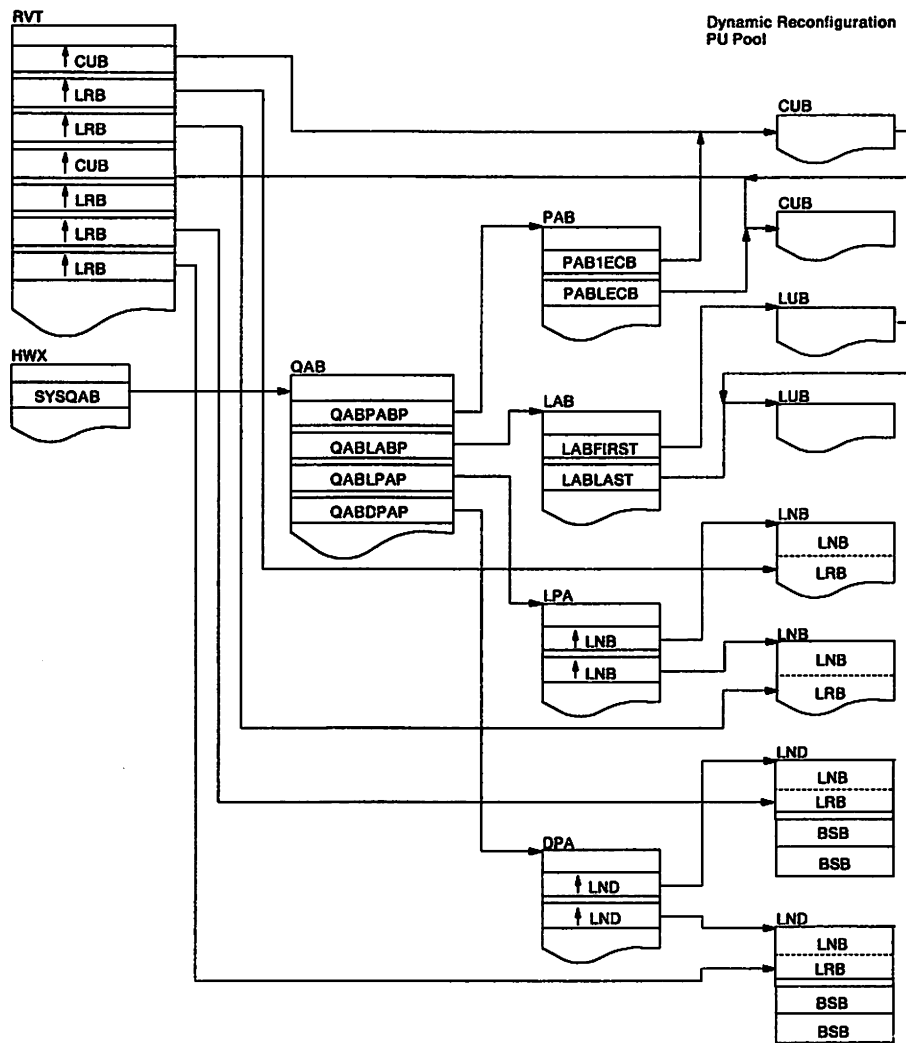


Figure 1-17. Dynamic Reconfiguration Control Block Relationships

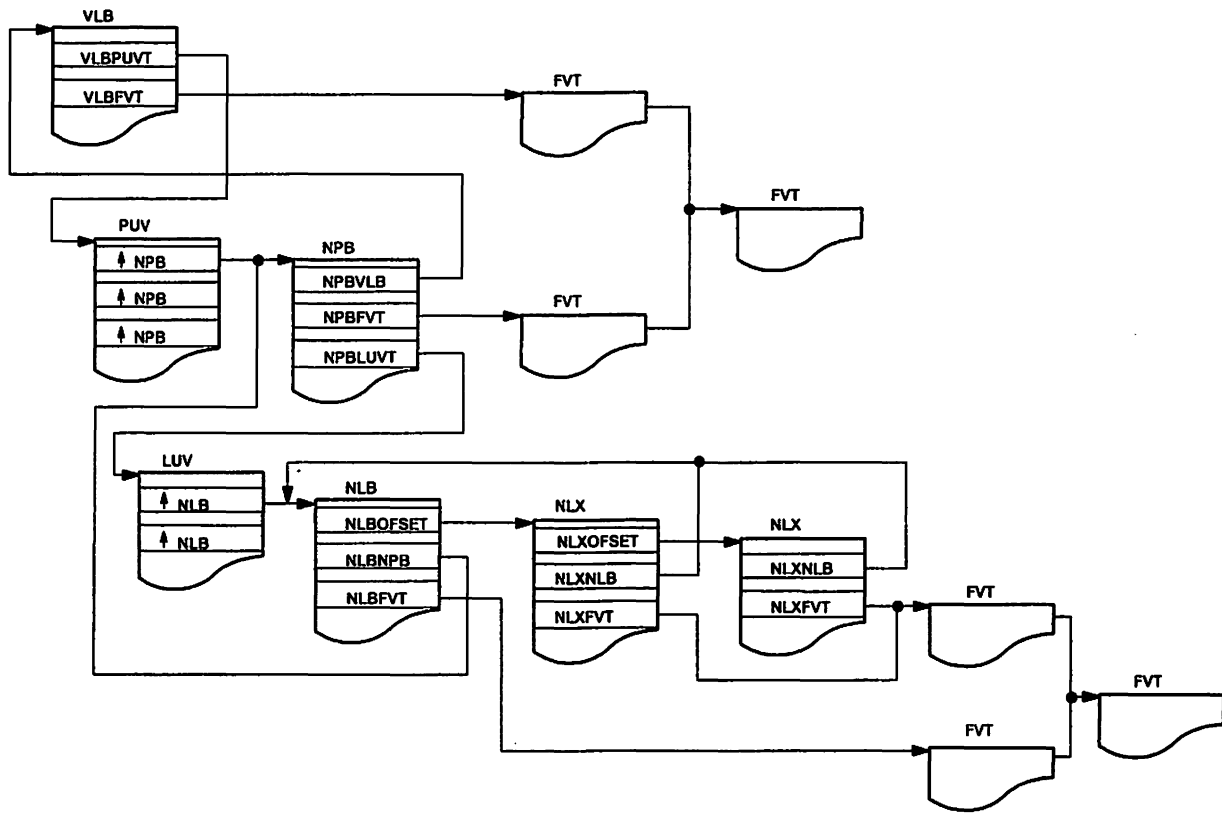


Figure 1-18. Programmed Resources Control Block Relationships

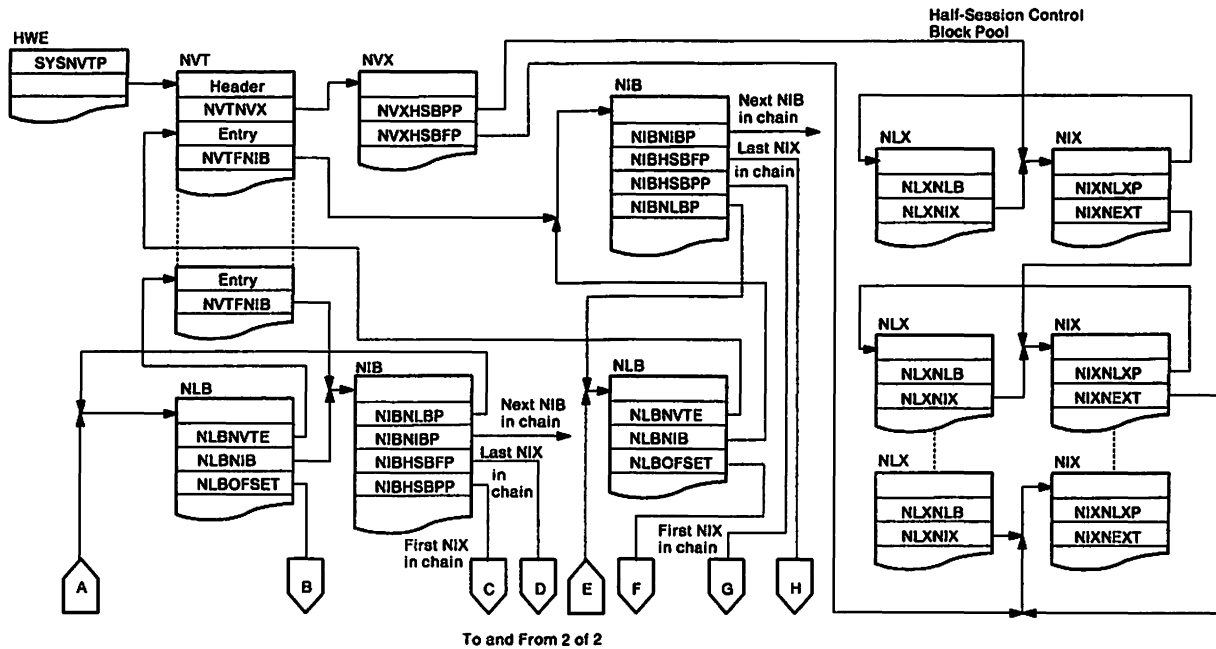


Figure 1-19 (Part 1 of 2). SNA Network Interconnect Session Control Block Relationships

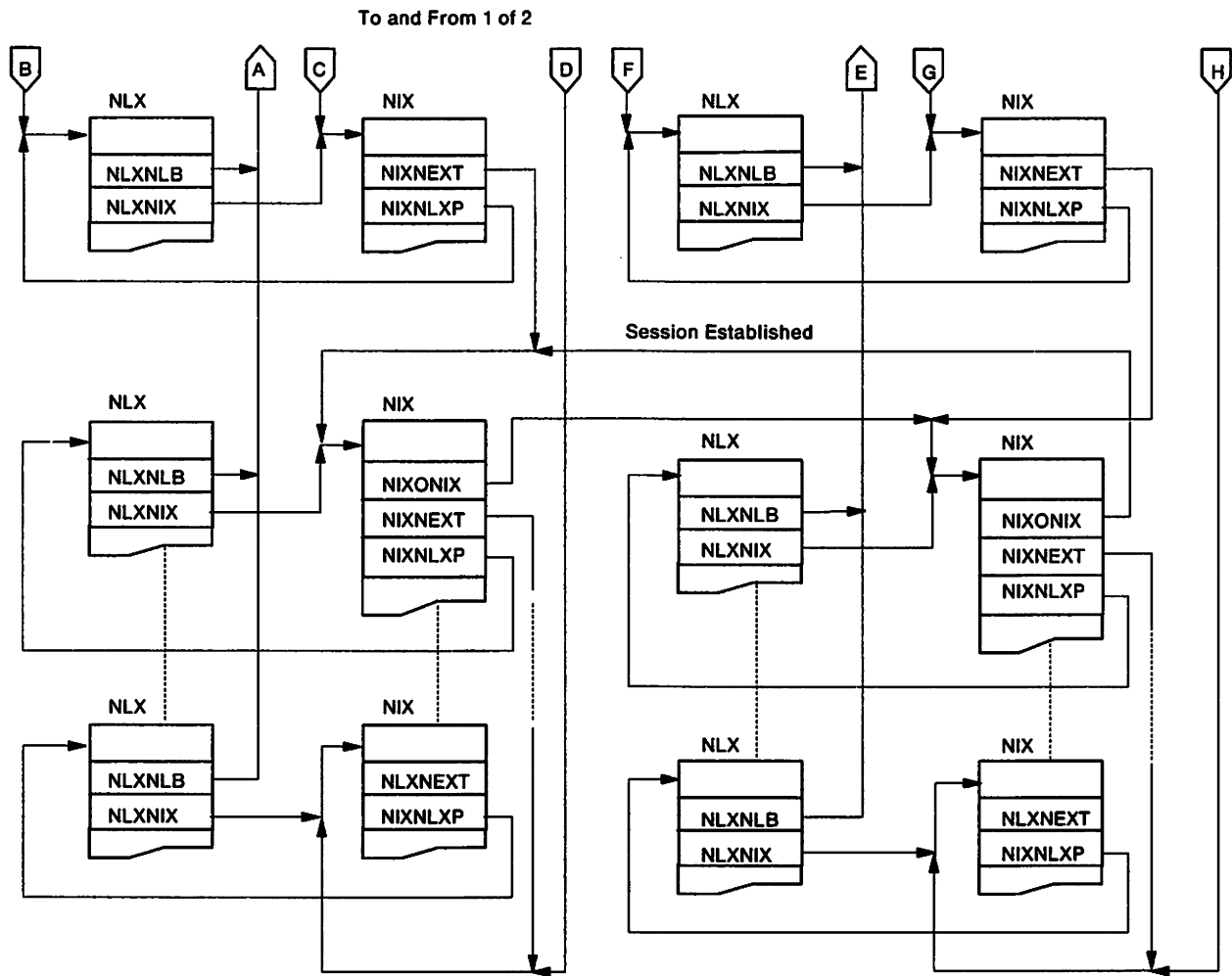


Figure 1-19 (Part 2 of 2). SNA Network Interconnect Session Control Block Relationships

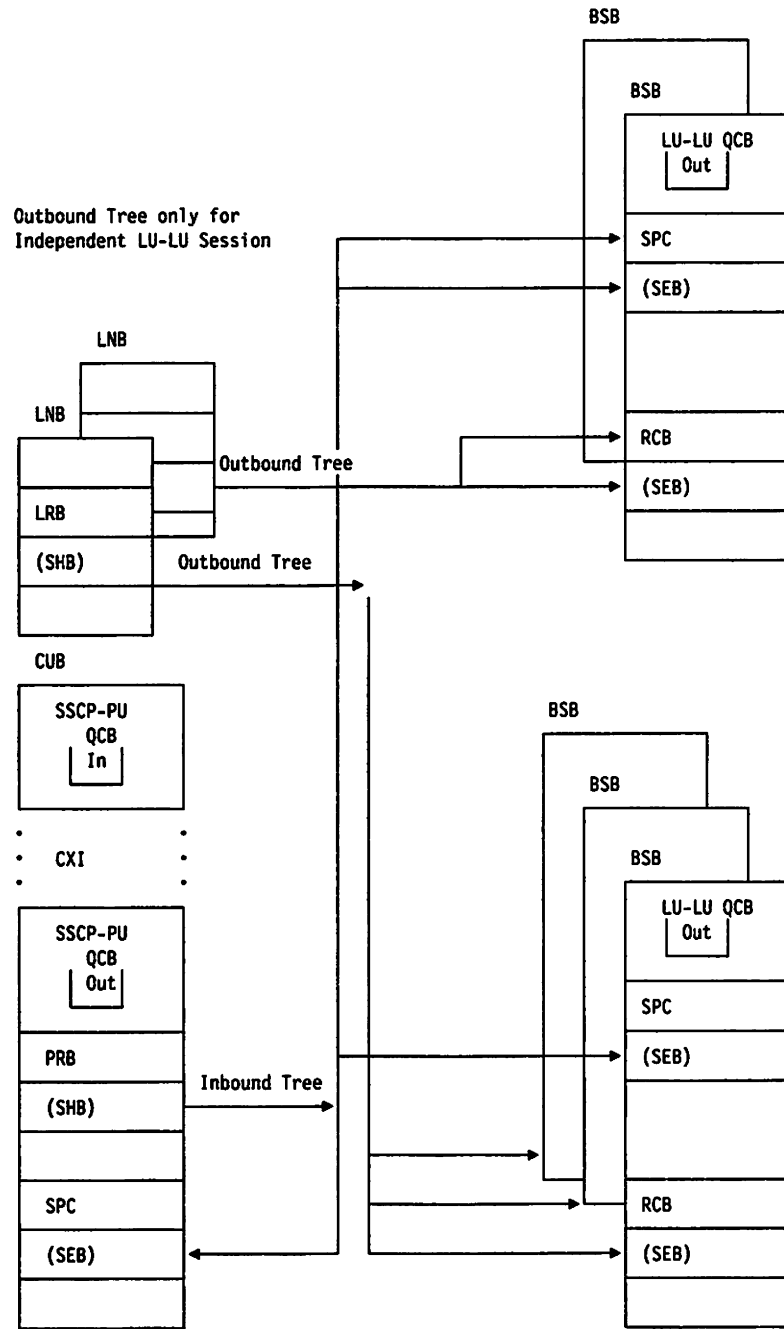


Figure 1-20. NCP Control Block Relationships for Inbound and Outbound Trees

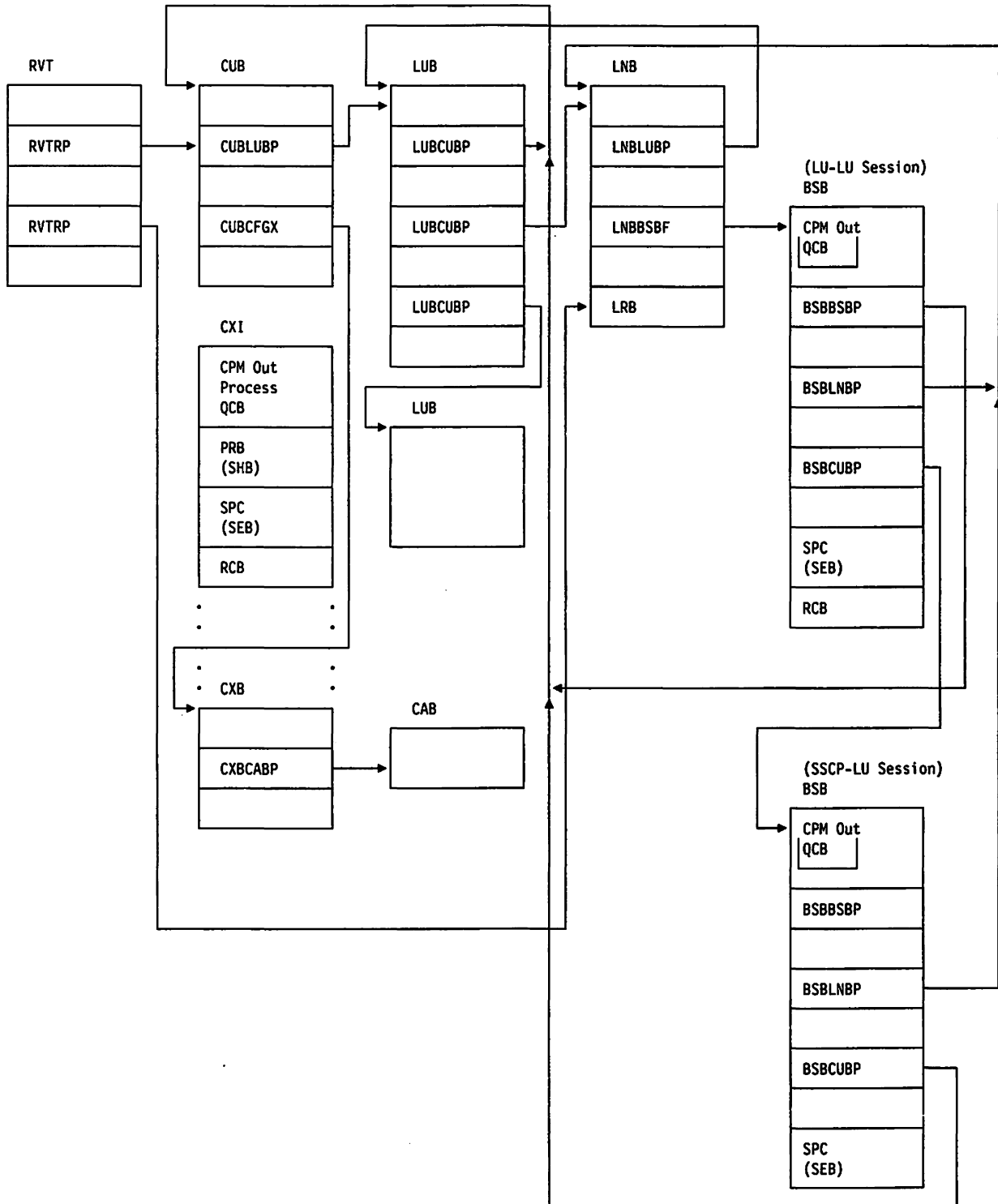


Figure 1-21. NCP Control Block Relationships for a Dependent LU in SSCP-LU or LU-LU Sessions

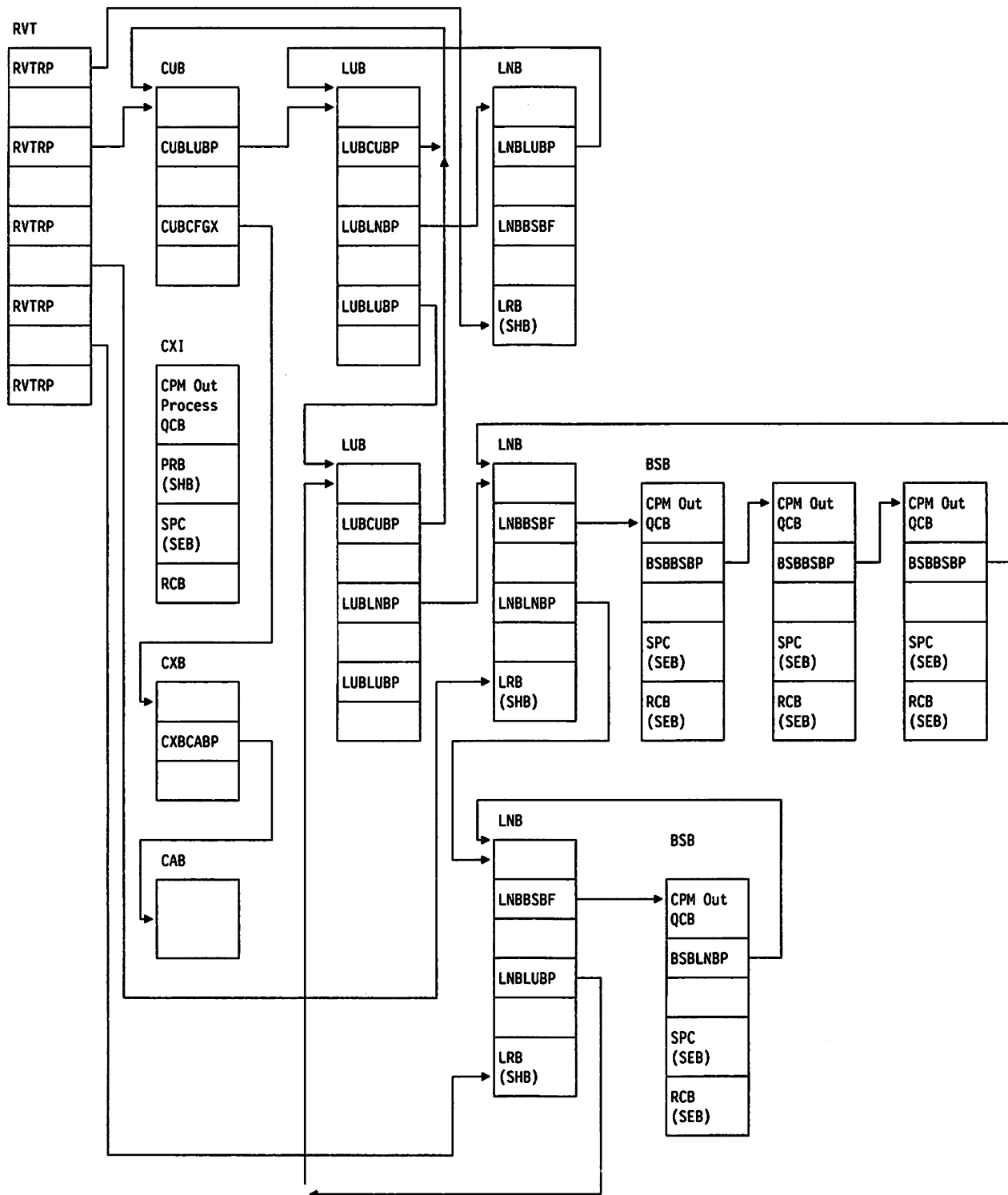


Figure 1-22. NCP Control Block Relationships for an Independent LU in an LU-LU Session

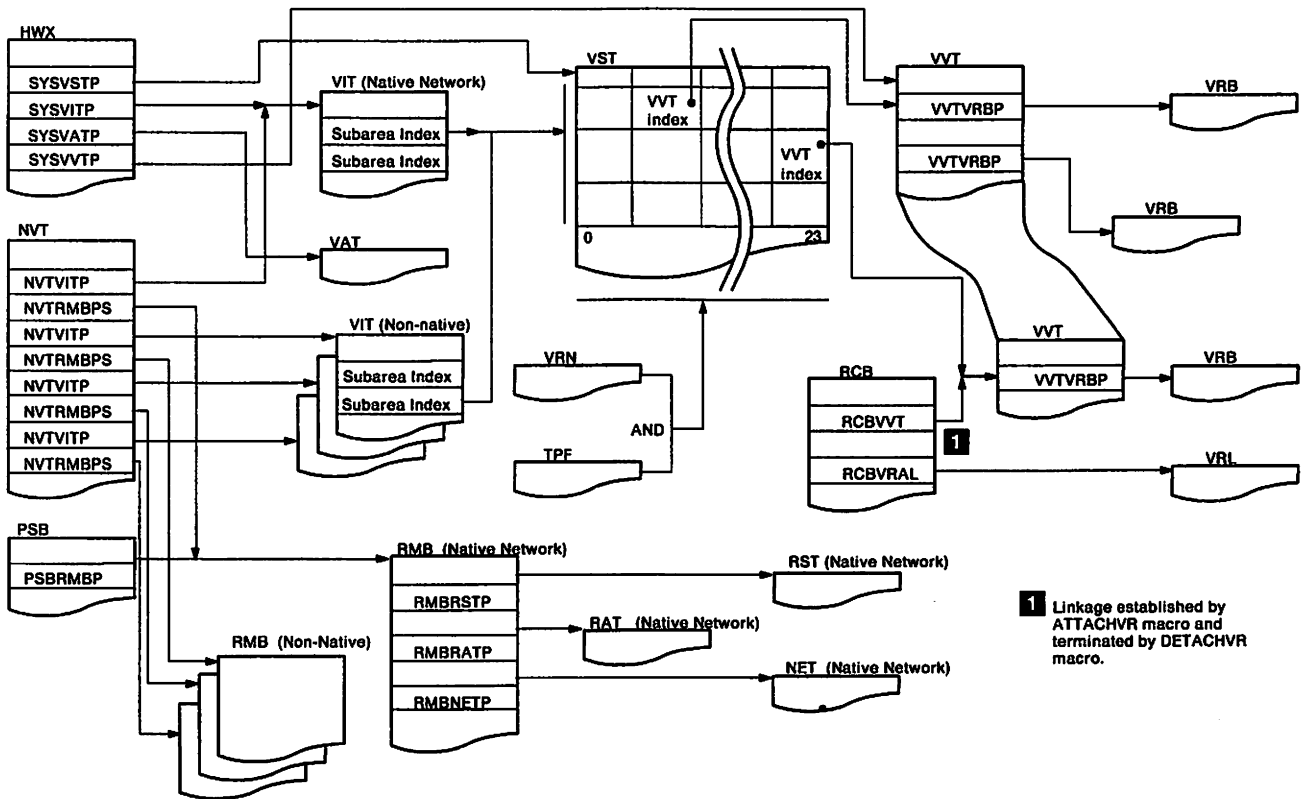


Figure 1-23. Routing Control Block Relationships

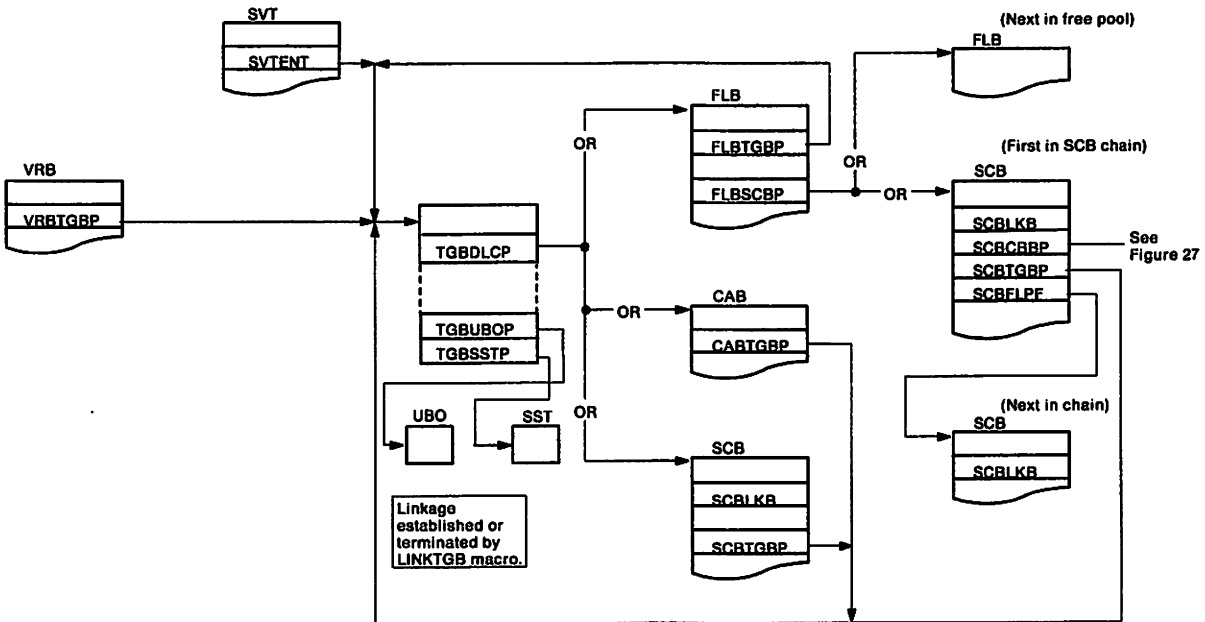


Figure 1-24. Transmission Group Control Block Relationships

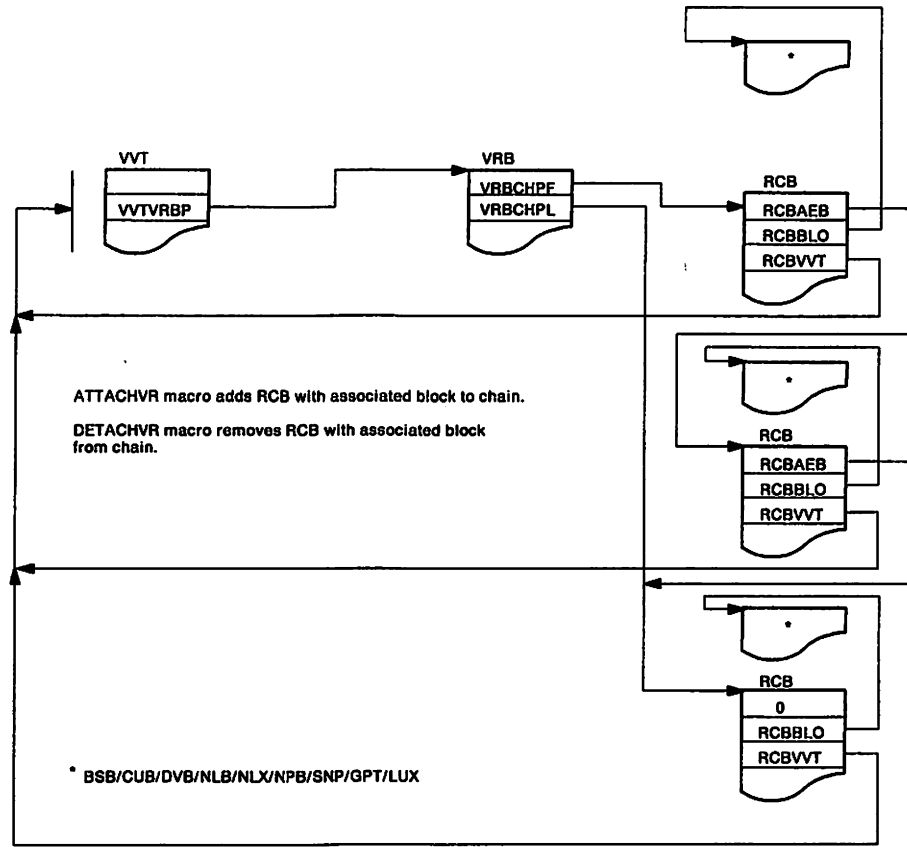


Figure 1-25. VR Session Relationships

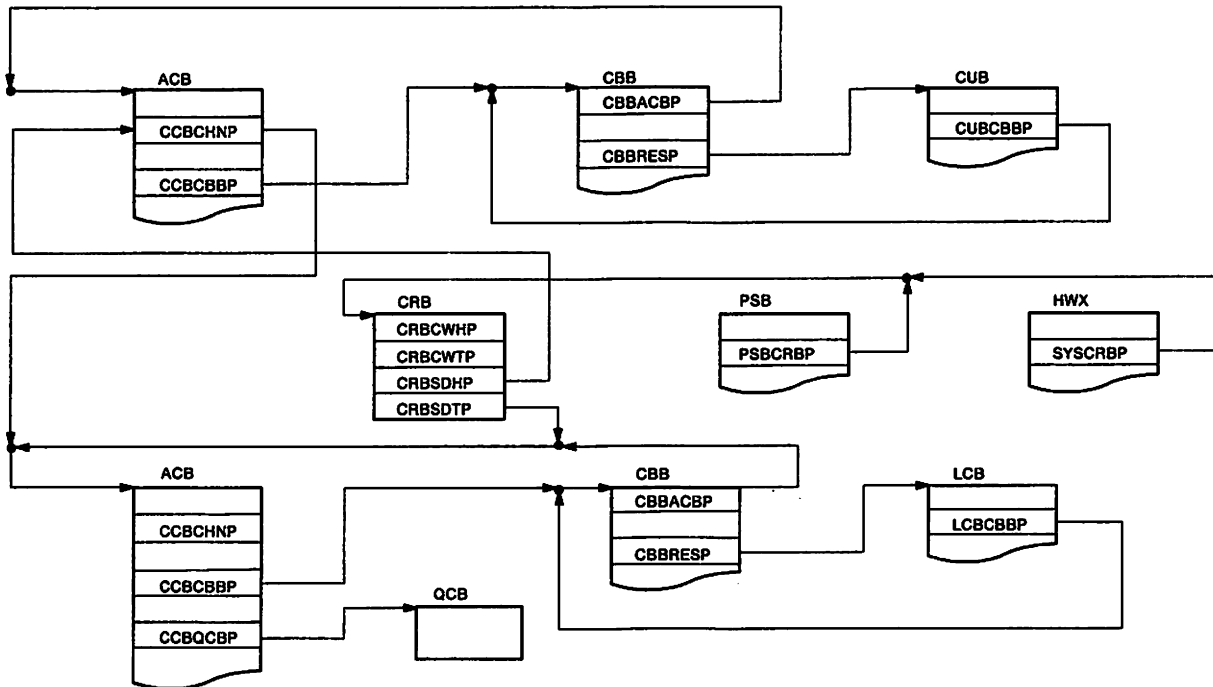


Figure 1-26. Committed Buffer Control Block Relationships

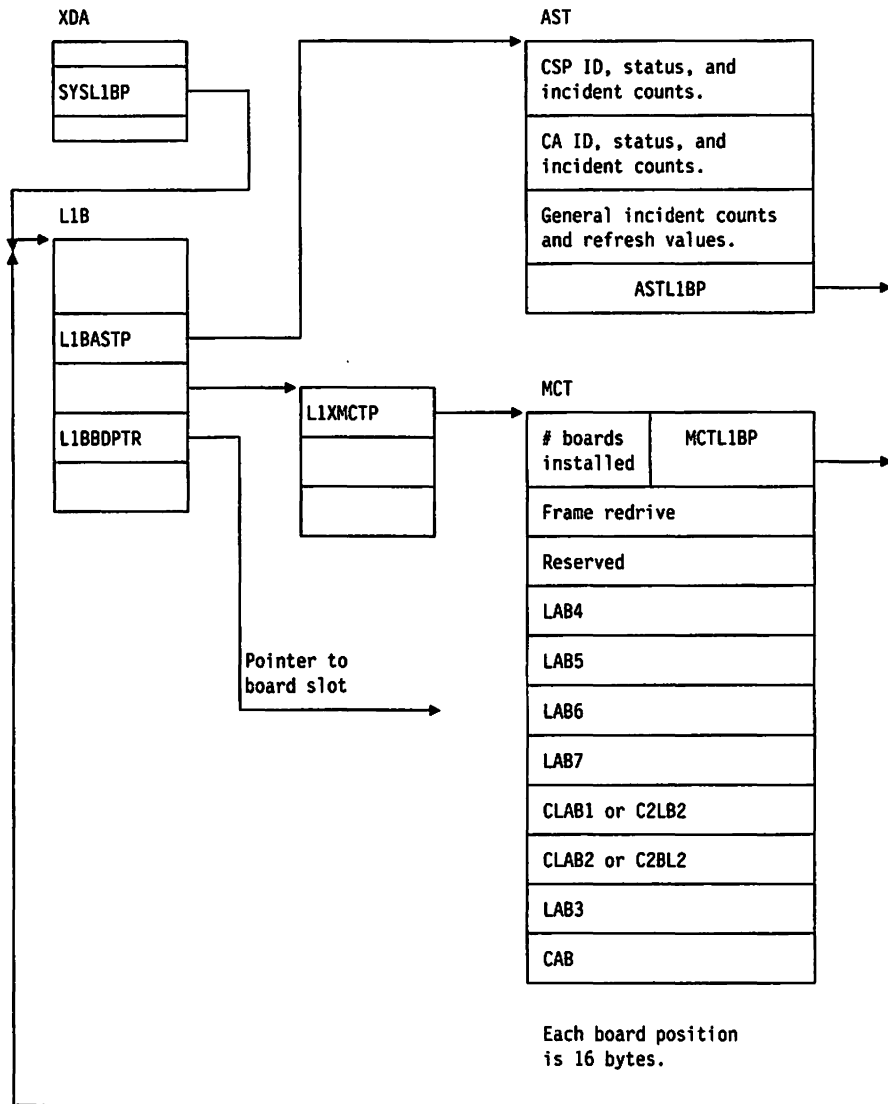


Figure 1-27. Level 1 Control Block Relationships (3720 only)

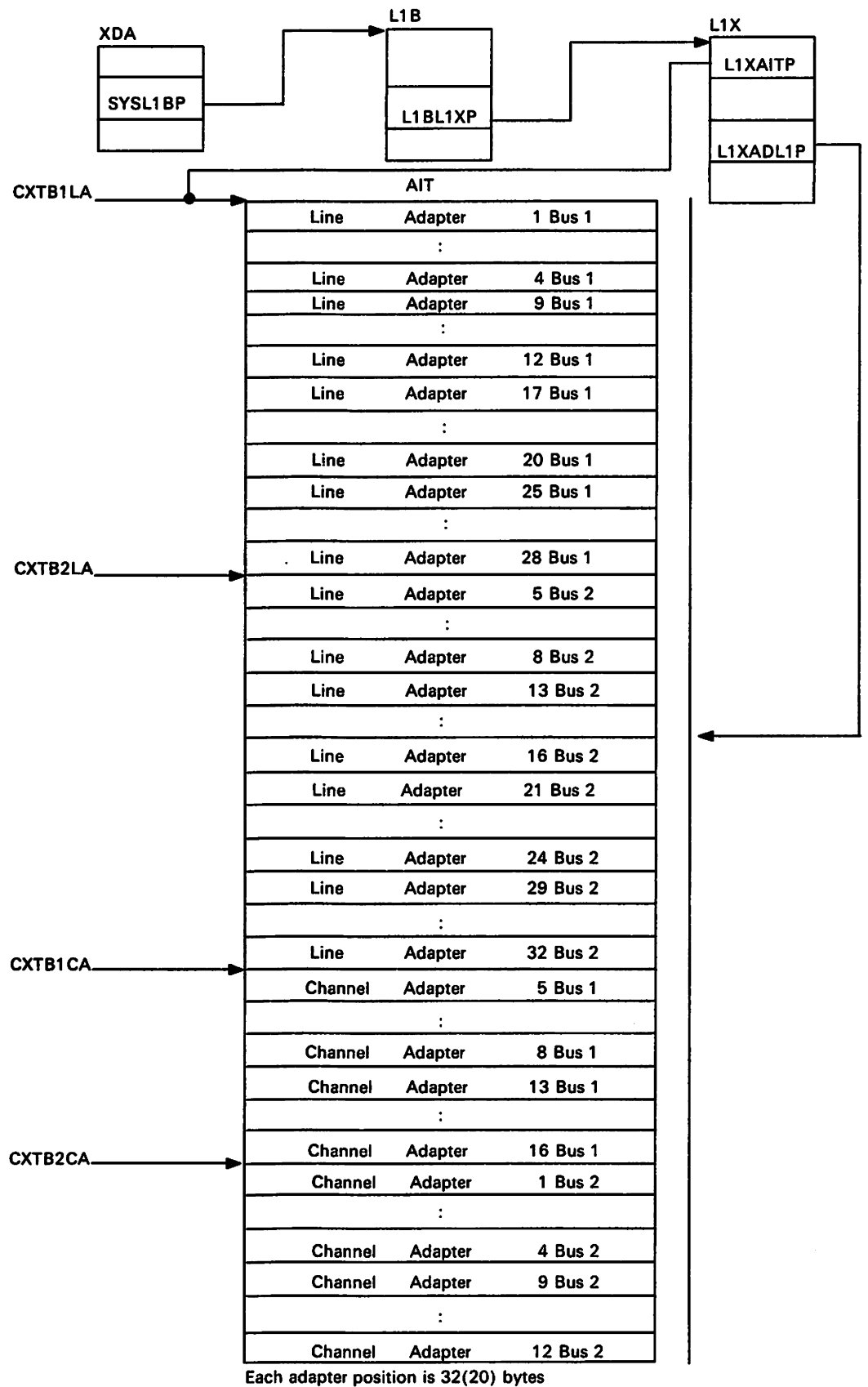
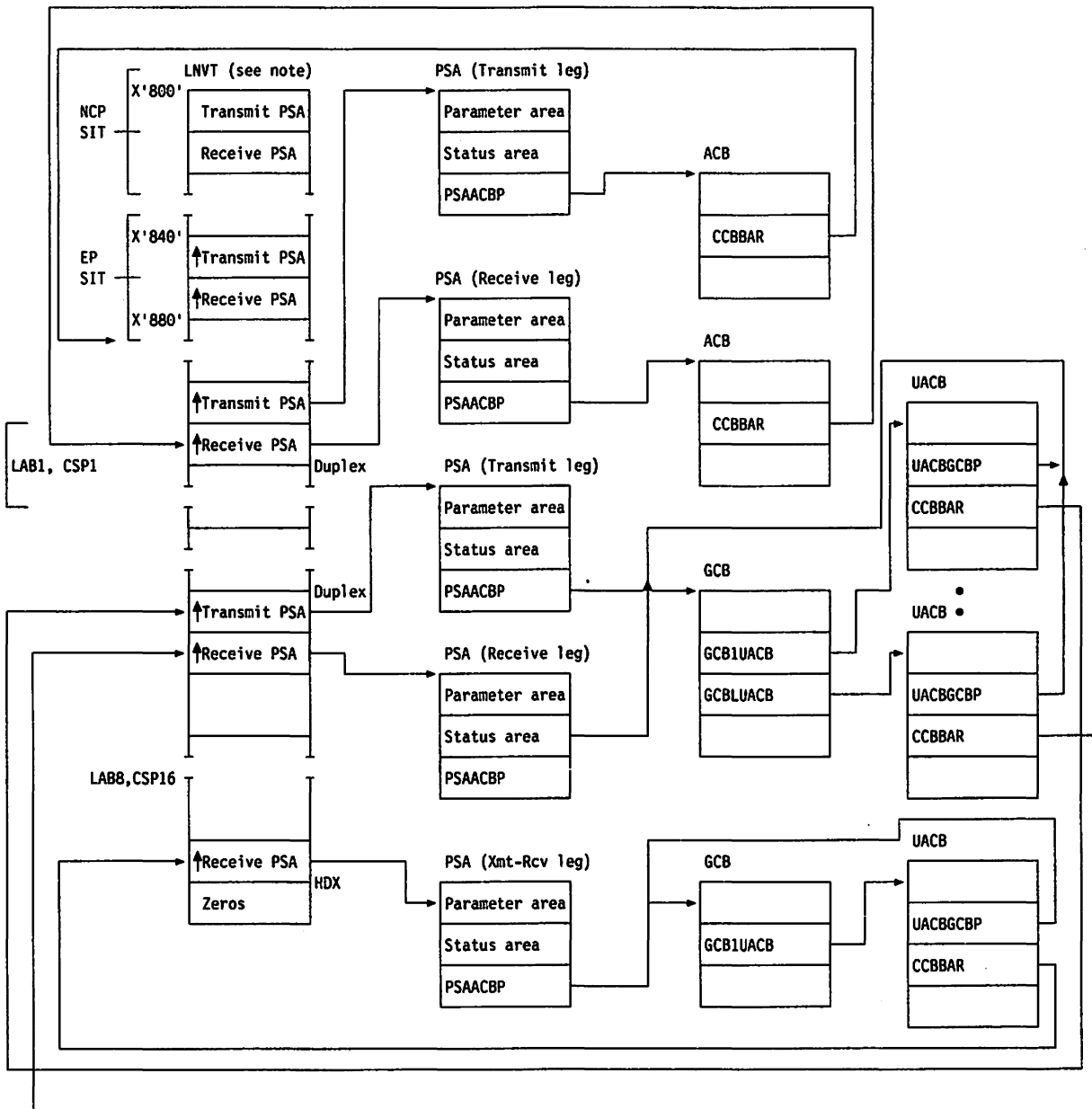


Figure 1-28. Level 1 Control Block Relationships (3745 only)



Note: The LNVN storage addresses may be changed by the Set Line Vector High/Low operation.

Figure 1-29. CSP Control Block Relationships for NCP (3720 only)

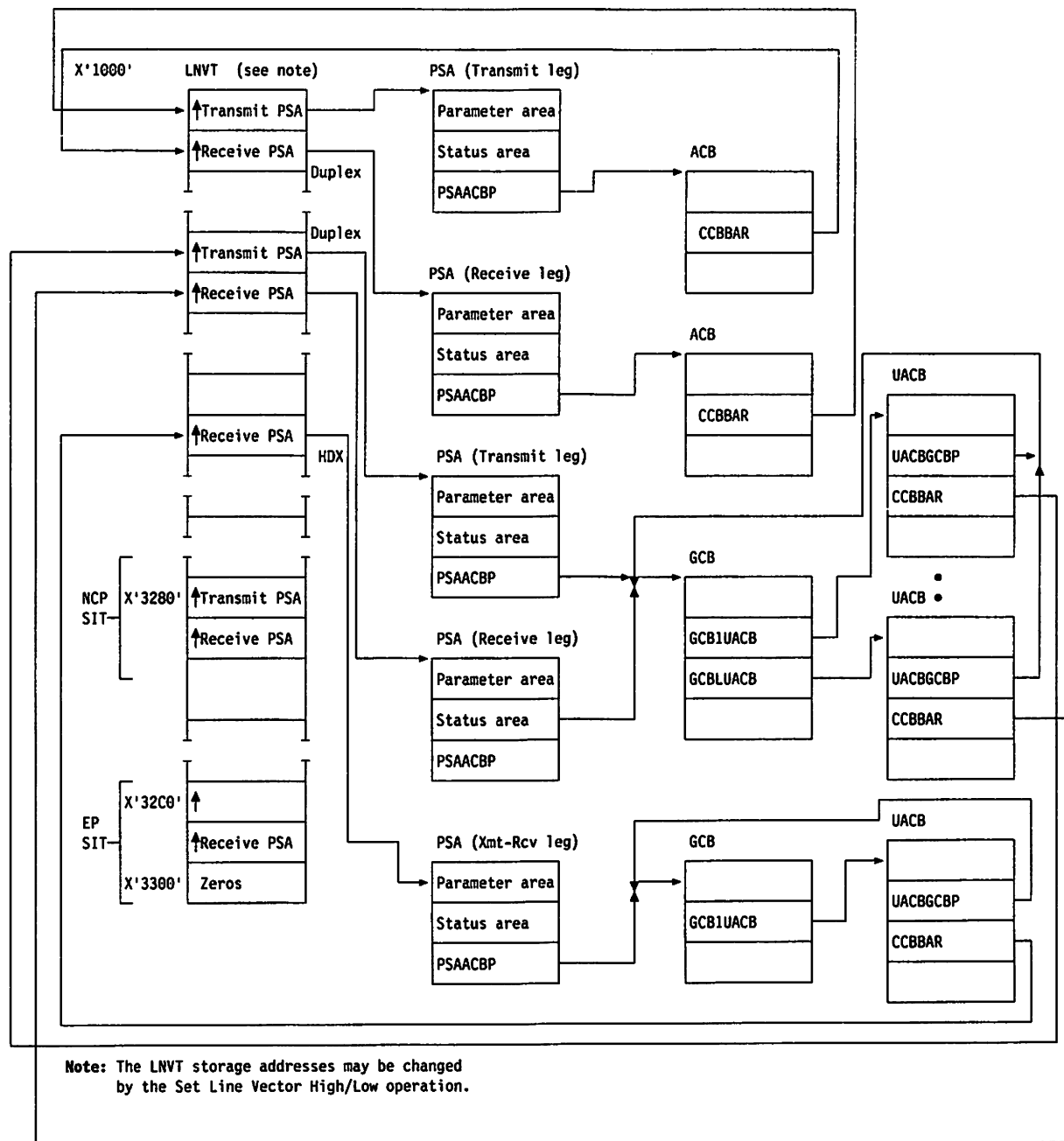


Figure 1-30. CSP Control Block Relationships for NCP (3745 only)

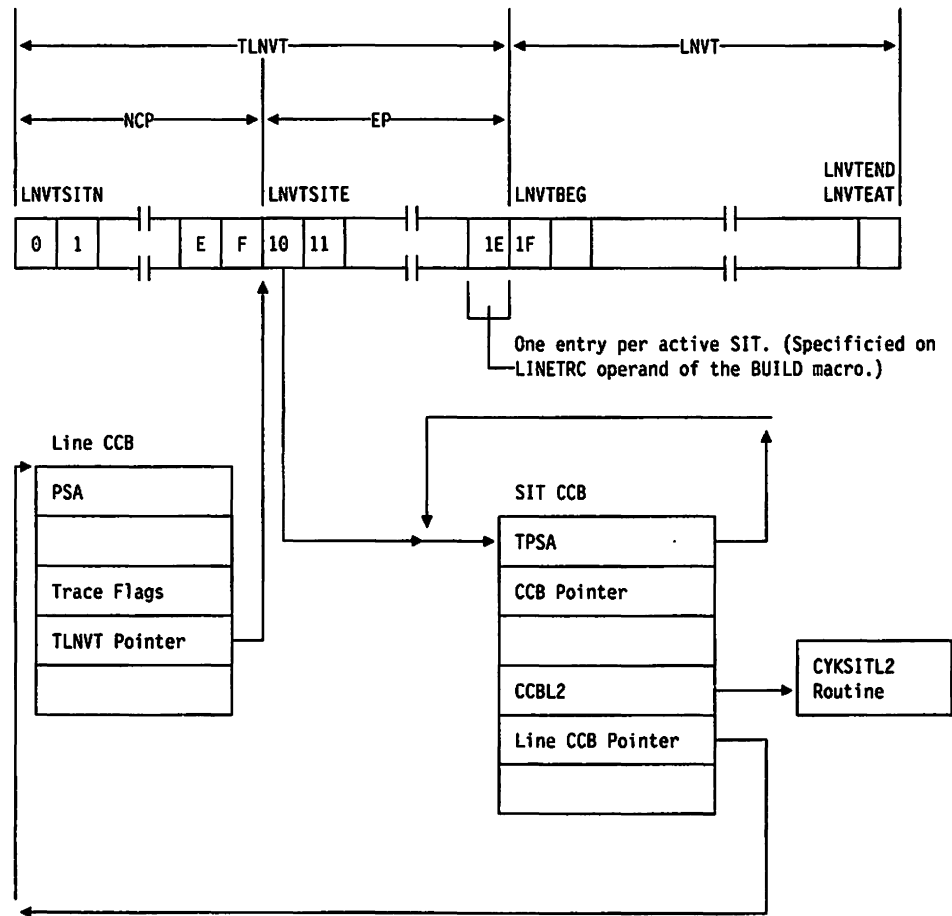


Figure 1-31. SIT Control Block Structure for EP (3720 only)

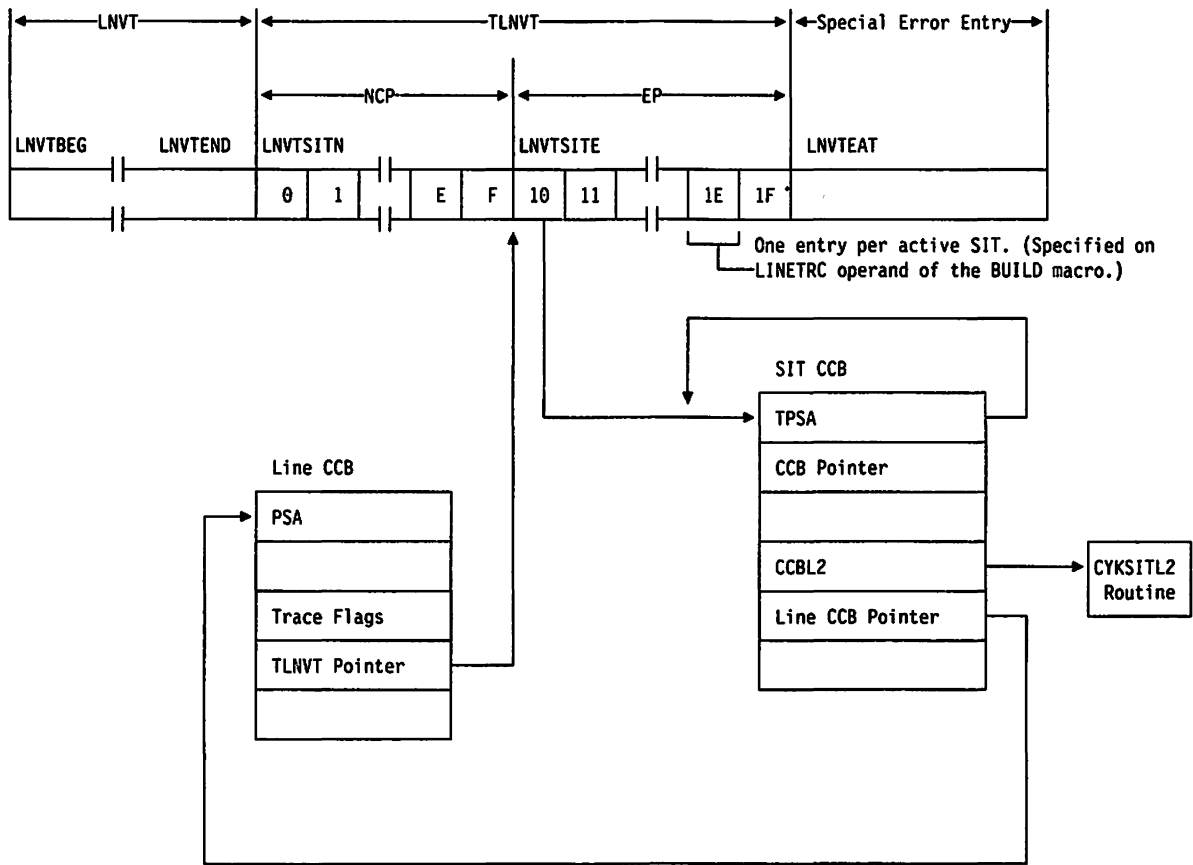


Figure 1-32. SIT Control Block Structure for EP (3745 only)

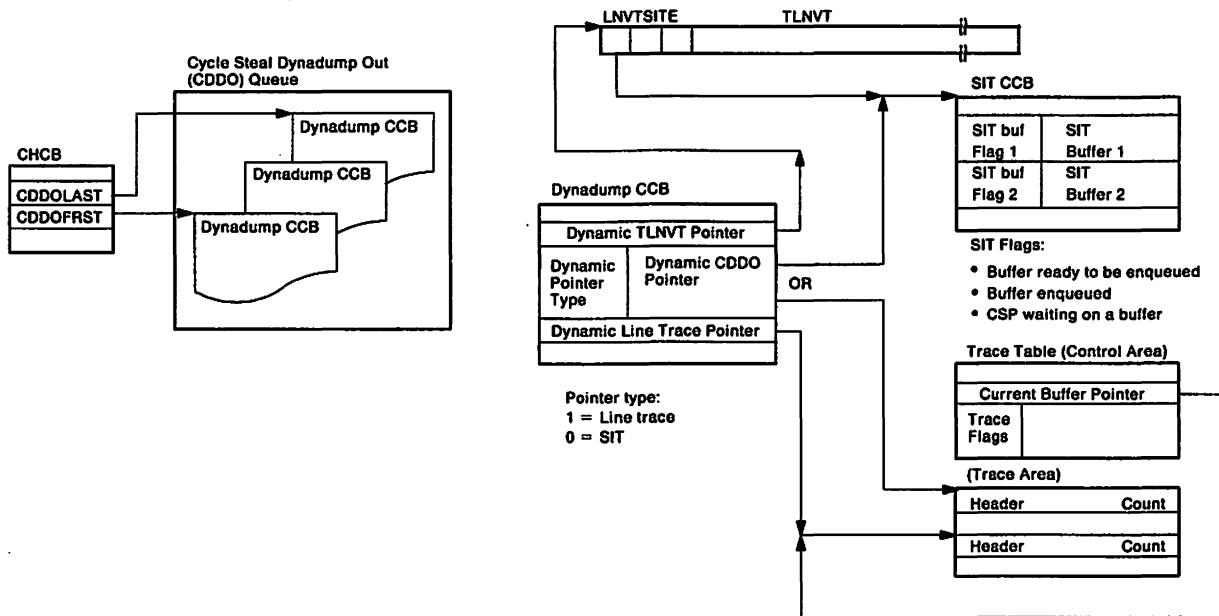


Figure 1-33. Control Block Relationships—Buffer Search for Dynamic Dump Request (EP)

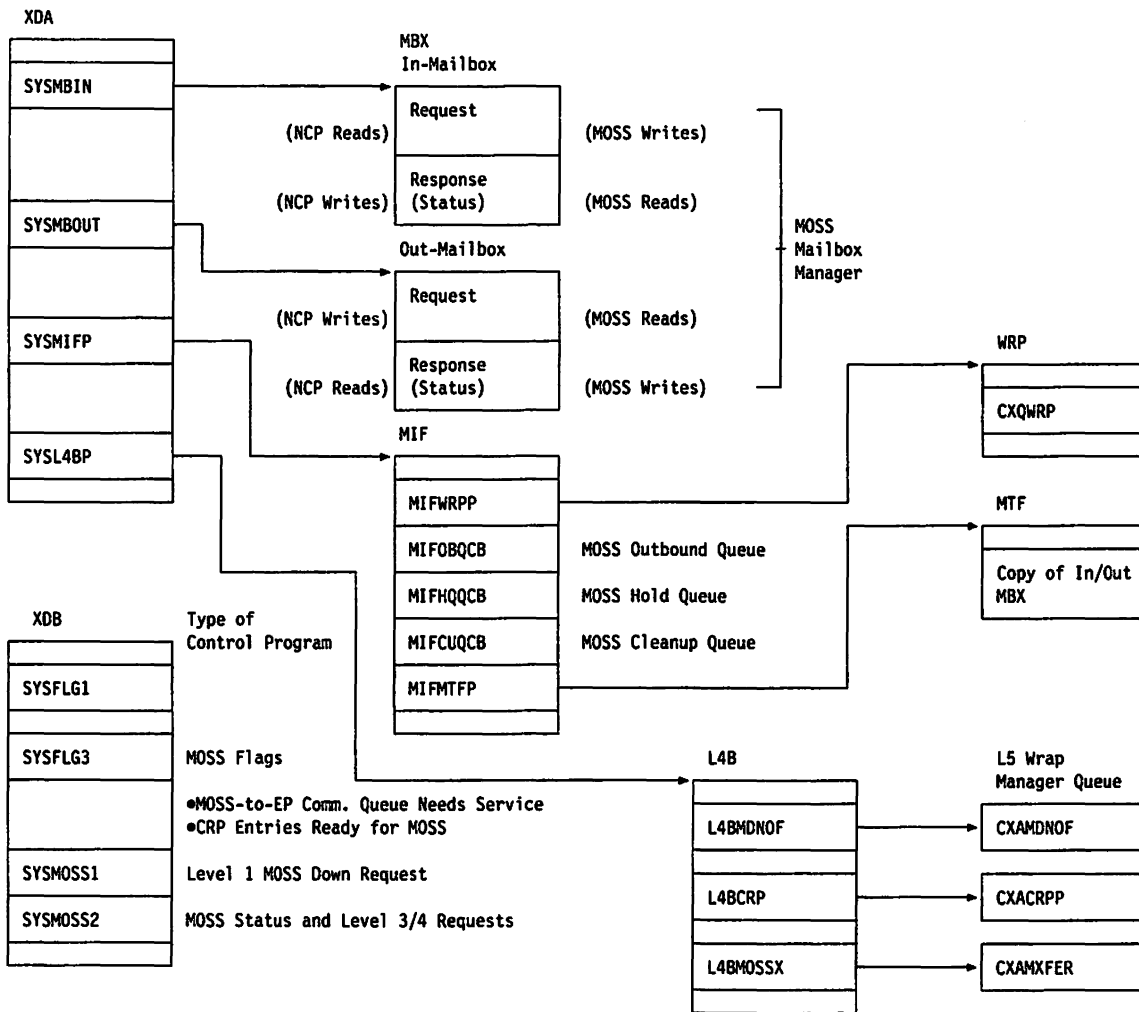


Figure 1-34. Maintenance and Operator Subsystem (MOSS) Control Block Relationships

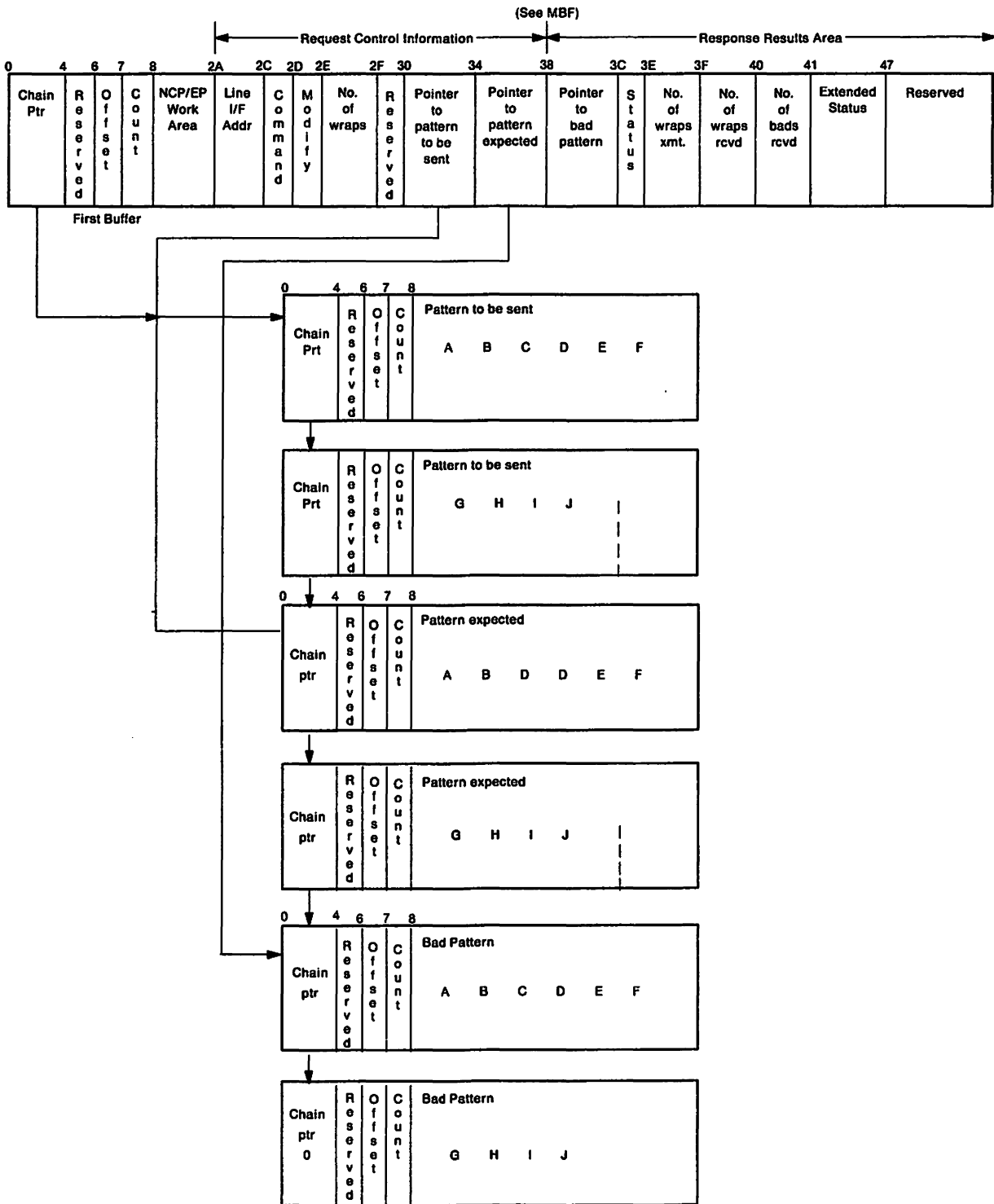
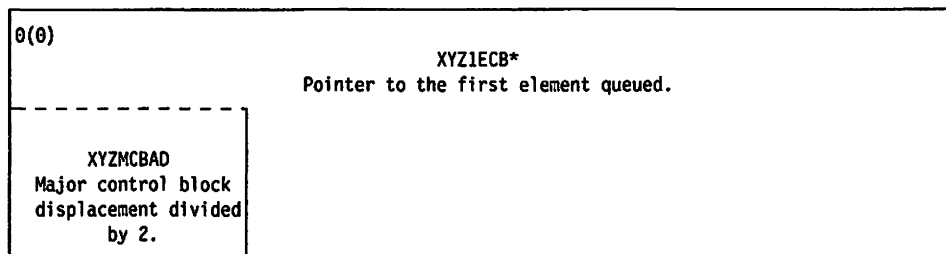


Figure 1-35. Wrap Results Buffer Chain for Start Wrap

Section 2. Data Area Layouts

The following conventions are used in this section:

- The displacement of each field from the beginning is given in both decimal and hexadecimal notation (hexadecimal in parentheses).
- If a single field has dual uses with different labels according to the use, the displacement is listed only once, and a broken line is inserted between the different labels.
- Shifted addresses are no longer used.
- Pointers or addresses contained in fields with a defined length of 4 bytes occupy the last 24 bits of the fields. Only the last 22 bits are significant. Often byte 0 of the fields is used for other purposes, such as for flags. In cases such as these, the 4 byte field is shown as follows:



- Labels shown in parentheses are equated in NCP and EP code to the defined label for a field. Equated labels are most frequently used in the direct addressable areas.
- One field in every queue control block (QCB) is labeled "major control block displacement." This field contains the offset in halfwords to the beginning of this QCB from the beginning of the major control block that contains the QCB. For example, the DVIMCBD field contains the displacement from the beginning of the device base control block (DVB) to the beginning of the device input QCB.
- Bit patterns or hex values within a field are defined in a byte expansion table following the formatted data area. The bytes within a field are numbered from zero origin. For example, if the first byte in a two-byte field has a unique definition, it is referred to as byte 0.
- Bits in the byte expansions that are not identified are reserved.
- Bits within a byte are numbered 0 through 7.

Achain Anchor Block

Program: NCP
Size in bytes: 8 (8)
Created by: NCP generation
Pointed to by: Variable
Function: Contains two pointers, one to first of chain and optionally one to last of chain

0(0)	AABCHPF First achain element pointer.
4(4)	AABCHPL Last achain element pointer. (Optional field)

Abend Control Block

Program: NCP, EP
Size in bytes: 128 (80) for ABN plus 52 (34) for ABNX; Total = 180 (B4)
Created by: NCP or PEP generation
Pointed to by: SYSABNP field in HWE
Function: Contains save areas for level 1 through level 5 registers at abend

0(0)	ABNTEMP Temporary save area for abend register 2.
4(4)	ABNABNXP Pointer to the ABN extension (ABNX) which directly follows the ABN.
8(8) - 15(F)	Reserved.
16(10) - 47(2F)	ABNL1IAR Eight fullword save areas for level 1 registers (IAR through 7).
48(30) - 79(4F)	ABNL2IAR Eight fullword save areas for level 2 registers (IAR through 7).
80(50) - 111(6F)	ABNL3IAR Eight fullword save areas for level 3 registers (IAR through 7).
112(70) - 127(7F)	ABNL4IAR Four fullword save areas for level 4 registers (IAR through 3).

Abend Control Block Extension (ABNX)

128(80) - 143(8F)	ABNL4R4 Four fullword save areas for level 4 registers.
144(90) - 175(AF)	ABNBGIAR Eight fullword save areas for level 5 registers.
176(B0)	ABNABNP Pointer back to the ABN.

Adapter Control Block (BSC/SS)

Program: NCP
Size in bytes: 128 (80) plus prefix.
Created by: NCP generation
Pointed to by: LCBACBP field in LCB, PSAACBP field in the PSA, or ACB vector
Function: Contains line control information and the status of I/O operations for BSC/SS lines

-16(10)	Auto-call unit prefix (ACU).
0(0) - 35(23)	Input/output block (IOB).
36(24) - 127(7F)	Character control block (CCB).

Adapter Control Block (SDLC)

Program: NCP
Size in bytes: 128 (80)
Created by: NCP generation
Pointed to by: LKBACBP field in LKB or PSAACBP field in the PSA

If it is a duplex link, CCBRACBP in the transmit leg's ACB points to the receive leg's ACB, and CCBXACBP in the receive leg's ACB points to the transmit leg's ACB.

Function: Contains line control information and the status of I/O operations for SDLC links

-16(10)	Auto-call unit prefix (ACU).
8(8) - 35(23)	Link X10 control block (LXB).
36(24) - 127(7F)	Character control block (CCB).

ACB Trace Control Block

Program: NCP
Size in bytes: 12 (C)
Created by: NCP generation
Pointed to by: SYSACTP field in the HWX
Function: Holds the trace data for the ACB trace

0(0)		ACTCMD Command decoder for the active ACB. (CXEX01CD in CXDCG0D)
4(4)		ACTENDR Command ender for the active ACB. (RNENDR in CXDCG0D)
8(8)	ACTNDSTT Command ender status. (ACTENDR which is traced in RNENDR in CXDCG0D)	10(A) ACTL37F External register X'7F' for level 3 interrupts. (CXCCTRTC in CXDNCP, CXDPEP, and CXDREM)

Auto-Call Unit

Program: NCP
Size in bytes: 16(10)
Created by: NCP generation
Pointed to by: Determined by subtracting 16(10) from the address of the LXB (SDLC) or IOB (BSC/SS)
Function: Contains the auto-call retry parameters

0(0) ACURTC Timer retry count.	1(1) ACURTL1 First level retry timer limit.	2(2) ACURC2 Second level retry count.	3(3) ACURCL2 Second level retry count limit.
4(4) ACURTL2 Second level retry timer limit.	5(5) ACURCL1 First level retry count limit.	6(6) ACUBAR* Auto-call unit interface address.	
		ACULPD20* First LPDA2 dial command sense byte.	7(7) ACULPD2N Last LPDA2 command sense byte.
8(8) ACUR1 Scanner command and line address.		10(A) ACUR2 Scanner address and E bit.	
12(C) ACUINDX Adapter information table index (3745).	13(D) Reserved.		
Reserved (3720).			

* Indicates a byte expansion follows.

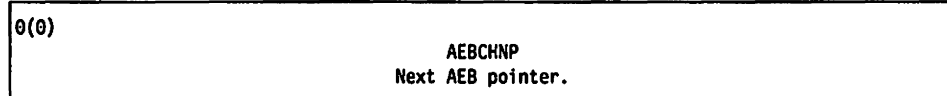
Byte Expansions

Offset/Field Name	Bit Pattern	Contents
6(6) ACUBAR	00xx xxxx xxxx xx0. .... ...1	Auto-call unit interface address. ACU interface address. Identifies ACUBAR when it is exchanged with CBBAR.

Offset/Field Name	Bit Pattern	Contents
6(6) ACULPD20	1.....	First LPDA2 dial command sense byte. ACU is on a Type 3 scanner.

Achain Element Block

Program: NCP
Size in bytes: 4 (4)
Created by: NCP generation
Pointed to by: Variable
Function: Contains a pointer for chaining



Adapter ID Index (3745 Only)

Program: NCP, EP
Size in bytes: 48(30); 48(30) one-byte entries
Created by: NCP or PEP generation

The shared code module CXASCBA calls the generation macro CXTAIL.

Function: Used to find the AIT index if the adapter number is known, using ENTRY label CXTAILLA for a line adapter or CXTAILCA for a channel adapter. The following method is used:

AIT Index = byte value at location (line adapter number - 1 + CXTAILLA)

or

AIT Index = byte value at location (channel adapter number - 1 + CXTAILCA)

Entry

0(0) AIIFTR AIT index factor.

Adapter Information Table (3745 Only)

Program: NCP, EP
Size in bytes: 1536(600); 48(30) entries of 32(20) bytes each
Created by: NCP or PEP generation

The shared code module CXASCBA calls the generating macro CXTAIT.

Pointer to: L1XAITP field in the L1X

Function: Contains identification and installation data about each adapter as passed by MOSS in the Configuration Data Set (CDS)

0(0) AITADNO Adapter ID number.	1(1) AITTYPE* Adapter Type.	2(2) AITCONF* Adapter configuration.	3(3) AITINFO* Adapter information.
4(4) AITRELNO Relative line number. (For an active line adapter, this is the first line number on the adapter. For an inactive line adapter, this is X'0000'.)		6(6) AITATTLC Attached line count.	7(7) Reserved.
8(8) - 15(F) Reserved.			
16(10) AITSTAT* Adapter status.	17(11) AITPIOCT PIO incident count.	18(12) AITAIOCT AIO incident count.	19(13) AITADPCT Adapter incident count.
20(14) AITCAEMK Channel adapter external register X'E' mask.		22(16) AITTA TA for the adapter.	
		AITHITA High byte of the TA.	23(17) AITLOTA Low byte of the TA.
24(18) AITSELMK CA select mask.	25(19) AITGNF Ground fault incident count.	26(1A) - 31(1F) Reserved.	

* Indicates a byte expansion follows.

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Byte Expansions

Offset/Field Name	Hex Value	Contents
1(1) AITTYPE	X'00' X'01' X'10' X'20' X'30'	Adapter type. No adapter associated with board. Channel Adapter data streaming (CADS). Transmission sub-system (TSS). High performance transmission sub-system (HPTSS). Token ring adapter.

Offset/Field Name	Bit Pattern	Contents
2(2) AITCONF	1... .. .1.. .. ..1. .. ...1 x..	Adapter configuration. Adapter not installed. Adapter not operative. Adapter not attached to this CCU. Adapter not switched to this CCU. Adapter modem status. 1 = Integrated modem in use. 0 = No integrated modem in use.

Offset/Field Name	Bit Pattern	Contents
3(3) AITINFO	1... .. .1.. ..	Adapter information. (Channel adapter entry only.) TPS not installed. Host doesn't support I/O error alerts.

Offset/Field Name	Bit Pattern	Contents
16(10) AITSTAT	1... .. .1.. .. ...1 ...... .1.. .... ..1. 1... .. .1.. .. ..1. .... ...1 1... 1	Adapter status indicator. Line Adapter Status Indicator Interrupt from the line adapter when disconnected. IOH instruction to line adapter failed twice. Line adapter down due to line adapter level 1 interrupt. Line adapter down due to exceeding incident limit. Line adapter down due to MOSS command. Channel Adapter Status Indicator Channel adapter active for NCP. Channel adapter active for EP. Channel adapter active for programmed resource. Channel adapter is "install in progress." Channel adapter is CACM mode disconnected. Channel adapter is permanently down.

Adapter Status Table (3720 Only)

Program: NCP, EP
Size in bytes: 84 (54)
Created by: NCP or PEP generation

The shared-code module CXASCB calls the generating macro CXTAST.

Pointed to by AST: L1BASTP field in L1B

Function: Contains identification, status, and level 1 incident counts for all communications scanner processors (CSP) and channel adapters (CA) in the communications controller as well as level 1 incident counts for adapter input/output (AIO), programmed input/output (PIO), and adapter unresolved errors.

Notes:

1. To address the byte for an individual CSP in the identifier-, status-, or incident count groups, (1) get the base address, (2) add the CSP address (0 through 3) to the base register, and (3) use the label at the beginning of the group as the displacement.
2. The byte for an individual CA identifier, status, or incident count can be addressed the same way except by adding the CA address (0 through 1) to the base register.
3. For NCP or PEP, CXFCDSIN initializes this table by using data from the configuration data set (CDS) subset passed by MOSS.

CSP Identifier Group—Same format for all 16 bytes.

0(0) ASTCSPID* Identifier for CSP 0.	1(1) Identifier for CSP 1.	2(2) Identifier for CSP 2.	3(3) Identifier for CSP 3.
4(4) Identifier for CSP 4.	5(5) Identifier for CSP 5.	6(6) Identifier for CSP 6.	7(7) Identifier for CSP 7.
8(8) Identifier for CSP 8.	9(9) Identifier for CSP 9.	10(A) Identifier for CSP A.	11(B) Identifier for CSP B.
12(C) Identifier for CSP C.	13(D) Identifier for CSP D.	14(E) Identifier for CSP E.	15(F) Identifier for CSP F.

* Indicates a byte expansion follows.

CSP Status Group—Same format for all 16 bytes

16(10) ASTCSPST* Status for CSP 0.	17(11) Status for CSP 1.	18(12) Status for CSP 2.	19(13) Status for CSP 3.
20(14) Status for CSP 4.	21(15) Status for CSP 5.	22(16) Status for CSP 6.	23(17) Status for CSP 7.
24(18) Status for CSP 8.	25(19) Status for CSP 9.	26(1A) Status for CSP A.	27(1B) Status for CSP B.
28(1C) Status for CSP C.	29(1D) Status for CSP D.	30(1E) Status for CSP E.	31(1F) Status for CSP F.

* Indicates a byte expansion follows.

CSP Incident Count Group

32(20) ASTCSPCT Incident count for CSP 0.	33(21) Incident count for CSP 1.	34(22) Incident count for CSP 2.	35(23) Incident count for CSP 3.
36(24) Incident count for CSP 4.	37(25) Incident count for CSP 5.	38(26) Incident count for CSP 6.	39(27) Incident count for CSP 7.
40(28) Incident count for CSP 8.	41(29) Incident count for CSP 9.	42(2A) Incident count for CSP A.	43(2B) Incident count for CSP B.
44(2C) Incident count for CSP C.	45(2D) Incident count for CSP D.	46(2E) Incident count for CSP E.	47(2F) Incident count for CSP F.

CA Identifier Group—Same format for all six bytes

48(30) ASTCAID* Identifier for CA position 1.	49(31) Identifier for CA position 2.	50(32) Identifier for CA position 3.	51(33) Identifier for CA position 4.
52(34) Identifier for CA position 5.	53(35) Identifier for CA position 6.	54(36) Reserved.	

* Indicates a byte expansion follows.

CA Status Group—Same format for all six bytes.

56(38) ASTCAST* Status for CA position 1.	57(39) Status for CA position 2.	58(3A) Status for CA position 3.	59(3B) Status for CA position 4.
60(3C) Status for CA position 5.	61(3D) Status for CA position 6.	62(3E) Reserved.	

* Indicates a byte expansion follows.

CA Incident Count Group

64(40) ASTCACT Incident count for CA position 1.	65(41) Incident count for CA position 2.	66(42) Incident count for CA position 3.	67(43) Incident count for CA position 4.
68(44) Incident count for CA position 5.	69(45) Incident count for CA position 6.	70(46) Reserved.	

72(48) ASTAIUOC AIO unresolved incident count.	73(49) ASTPIUOC PIO unresolved incident count.	74(4A) ASTADTUC Adapter unresolved incident count.	75(4B) ASTGLIUC Get-Line-ID cmd retry count.
76(4C) ASTCAREF CA threshold refresh value.	77(4D) ASTCSREF CSP threshold refresh value.	78(4E) ASTURREF Unresolved threshold refresh value.	79(4F) ASTGLREF Get-Line-ID cmd threshold refresh value.
80(50) ASTLIBP Pointer back to LIB control block.			

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) - 15(F) ASTCSPID		CSP identifier.
	1... ..	CSP/TRA not installed.
	.x.. ..	1 = CSP/TRA installed on LAB/TRA Type B. 0 = CSP installed on LAB Type A or CLAB.
	.01.	C2LB installed.
	...x	1 = CSP 2/TRA installed on LAB. 0 = CSP 1 installed on LAB.
	.... 1...	CSP IPL successful.
	.....01	CPS load module identifier.

Offset/Field Name	Bit Pattern	Contents
16(10)-31(1F) ASTCSPST		CSP status indicators.
	1... ..	Interrupt from CSP when it was disconnected.
	.1..	IOH instruction to CSP failed twice.
	...1	CSP down due to CSP L1 interrupt.
	.... 1...	CSP down due to redrive being disabled.
	.... .1..	CSP down due to exceeding incident limit.
	.... ..1.	CSP down due to MOSS command.
	.....1	Permanent CSP error or CSP not installed.

Offset/Field Name	Bit Pattern	Contents
48(30)-53(35) ASTCAID		CA identifier.
	1... ..	CA not installed.
	.1..	CA has Two Processor Switch.
	..0.	Always zero
	...x xxxx	Reserved.

Offset/Field Name	Bit Pattern	Contents
56(38)-61(3D) ASTCAST		CA status indicators.
	1... ..	CA active for NCP.
	.1..	CA active for EP.
	..1.	CA active for programmed resource.
	.... ..1.	Control program attempted to disable the CA.
	.....1	Permanent CA error.

Address Trace Block

Program: NCP
Size in bytes: 60 (3C)
Created by: NCP generation
Pointed to by: SYSATBP field in HWE
Function: Governs the operation of the address trace function executing in level 1

0(0)	ATBPRMS Addresses of trace variables (16 bytes). Parameter 1.	
4(4)	Parameter 2.	
8(8)	Parameter 3.	
12(C)	Parameter 4.	
16(10)	ATBFRST Address of first entry in trace table (CSTATPF).	
	ATBPRCT Number of variables in each trace entry.	
20(14)	ATBPREV Address of last entry used in trace table (CXSTATPL).	
	ATBCTL* Address trace control byte.	
24(18)	ATBLAST Address of last entry in trace table.	
	ATBLVLS* Program levels to be traced.	
28(1C)	ATBCNTR Number of interrupts processed.	30(1E) Reserved.

* Indicates a byte expansion follows.

32(20) Reserved.	34(22) ATBENTSZ Trace entry size.		
36(24) ATBTRAP Address of the trap routine. (ACITRAP CSECT)			
ATBECTL* Address trace enhancement control.			
40(28) ATBDATAL Data address of offset.			
ATBDLOC* Data location control.			
44(2C) ATBRIN Input Rx to R3 instruction placeholder.	46(2E) Reserved.		
48(30) ATBOP1M OP1 mask.	50(32) ATBOP2M OP2 mask.		
52(34) ATB01CTL* OP1 control.	53(35) ATB02CTL* OP2 control.	54(36) ATBTACT* True action control.	55(37) ATBFACT* False action control.
56(38) ATBDATA Halfword of data analyzed.		58(3A) ATBSTPCT Stop-trace-on-count counter.	

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
20(14) ATBCTL	xxxx xxxx	Address trace control byte. Program level to be traced. <ul style="list-style-type: none"> • Before trace activation X'0' • After trace activation X'08' Level 2 X'04' Level 3 X'02' Level 4 X'01' Level 5 Address trace type variables (bit 4 = variable #4 ... bit 7 = variable #1) 1 = Register or displacement. 0 = Storage.

Offset/Field Name	Hex Value	Contents
24(18) ATBLVLS	X'80' X'40' X'20' X'10'	Program level to be traced. Level 2 Level 3 Level 4 Level 5

Offset/Field Name	Bit Pattern	Contents
36(24) ATBECTL	1... .. .1.. 1.. ... 1..	Address trace enhancement control. Address trace enhancement active. UNCOND branch to trap. OP2 result is true. Stop trace on count.

Offset/Field Name	Bit Pattern	Contents
40(28) ATBDLOC	1... .. .1.. .. ..1.	Data location control. Storage address. Data in register. Address in register plus offset.

Offset/Field Name	Bit Pattern	Contents
52(34) ATB01CTL	1... .. .1.. ..	OP1 control. OP1 is an AND operation. OP1 is an XOR operation.

Offset/Field Name	Bit Pattern	Contents
53(35) ATB02CTL	1... .. .1.. .. ..1.	OP2 control. OP2 is an AND operation. OP2 is an XOR operation. OP2 is a COMPARE operation.

Offset/Field Name	Bit Pattern	Contents
54(36) ATBTACT 55(37) ATBFACT	 x... .. .1.. .. ..1. .. ...1 1...	True-action and false-action control. 1 = Ignore. 0 = Trace. Stop trace. Stop CCU. Abend or IPL (abend X'0500') Branch to trap routine (ACITRAP CSECT).

Adapter Control Block Extension

Program: NCP
Size in bytes: 128(80)
Created by: NCP generation
Located in: \$LVL5
Pointed to by: CCBAxBP field in the CCB
Function: Contains line control information

0(0)		AXBCCBP Back pointer to ACB.	
4(4)		AXBSDIAL Pointer to dial digits for switched line.	
AXBLPCMD Save area for command field value.			
8(8)	AXBOLDLN Original relative line number.	10(A)	AXBNEWLN Current relative line number.
12(C) - 21(15)			
Reserved.			
		22(16)	23(17)
		AXBLPAF LPDA 'A' field.	AXBFSTSV SDLC - save final status until final flag.
24(18)	25(19)	26(1A)	
AXBLPIF LPDA 'I' field.	AXBLPDA* LPDA flags.	AXBMULTB Multiple buffer lease amount.	
28(1C)		30(1E)	
AXBR1 Command and line address in scanner.		AXBR2 Scanner address and E bit. (Character or Normal mode.)	
32(20)			
AXBPQCQP Pointer to the SS/BSC QCB whose task is triggered upon completion of a queued commit.			
		34(22)	
AXBRTIME SDLC reply time value.		AXBXTIME SDLC text time value.	

36(24)		
AXBLPDXB Pointer to the LPDA2 level 2/3 transmit buffer.		
AXBLPCF LPDA 'C' field.	38(26) AXBRLPAF LPDA 'A' field.	39(27) AXBRLPIF LPDA 'I' field.
40(28)		
AXBLPDRB Pointer to the LPDA2 level 2/3 receive buffer.		
AXBSTATE* Program state byte.		
44(2C)		46(2E)
AXBDODLN Dial Port original relative line number		AXBDNWLN Dial port current relative line number.

* Indicates a byte expansion follows.

PSA Trace Function Expansion

48(30) AXB1SSCF Status control field 1.	49(31) AXB1CMD Command field 1.	50(32) AXB1SES Secondary status field 1.	51(33) AXB1LSTA Line communication field 1.
52(34) AXB2SSCF Status control field 2.	53(35) AXB2CMD Command field 2.	54(36) AXB2SES Secondary status field 2.	55(37) AXB2LSTA Line communication field 2.
56(38) AXB3SSCF Status control field 3.	57(39) AXB3CMD Command field 3.	58(3A) AXB3SES Secondary status field 3.	59(3B) AXB3LSTA Line communication field 3.
60(3C) AXB4SSCF Status control field 4.	61(3D) AXB4CMD Command field 4.	62(3E) AXB4SES Secondary status field 4.	63(3F) AXB4LSTA Line communication field 4.
64(40) AXBTROFF Offset into PSA trace table.	65(41) AXBSMSDF* Setmode control flags.	66(42) AXBHLTTR* Trace for Halt/Halt Immediate issued to CSP.	
		AXBHLT0	67(43) AXBHLT1
68(44) AXBCBL2 Saved CCBL2 for all backup time-outs.		70(46) AXBPCMD Command saved when issuing Line Dump (X'F5') command.	71(47) AXBTYPE* Line type.
72(48) AXBLBREL Pointer to the head of the released buffers.			
76(4C) Reserved.		78(4E) AXBTCTL* ACB trace entry control byte.	79(4F) Reserved.

* Indicates a byte expansion follows.

80(50)	ACB trace entry 1. **
84(54)	ACB trace entry 2. **
88(58)	ACB trace entry 3. **
92(5C)	ACB trace entry 4. **
96(60)	ACB trace entry 5. **
100(64)	ACB trace entry 6. **
104(68)	ACB trace entry 7. **
108(6C)	ACB trace entry 8. **
112(70)	AXBSQHQ*** Pointer to head of the SQQ.
116(74)	AXBSQQT1*** Pointer to tail of high priority SQQ subqueue.
120(78)	AXBSQQT2*** Pointer to tail of medium priority SQQ subqueue.
124(7C)	AXBSQQT3*** Pointer to tail of low priority SQQ subqueue.

** See ACB Trace Entry Formats that follow.

*** Optional fields included only on transmit leg AXBs with LSPRI=LINK generation.

ACB Trace Entry Formats
Command End Entry (See note)

0(0)	1(1)	2(2)
IOBCMAND field (BSC/SS).	RNTIME (Byte 1 of TIMH6 field in XDH).	IOBSTAT field (BSC/SS).
LXBCMAND field (SDLC).		LXBSTAT field (SDLC).

Note: For the Command End Entry only:

- AXBCMDn is the generic name for IOBCMAND and LXBCMAND.
- AXBRNTn is the generic name for RNTIME.
- AXBSTATn is the generic name for IOBSTAT and LXBSTAT.

These generic names are used in subvector key X'86', subfield key X'03'
 (AXB Control Block Data) on page 19-77.

Reset Entry

0(0)	1(1)	2(2)	3(3)
IOBCMAND field (BSC/SS).	RNTIME (Byte 1 of TIMH6 field in XDH).	IOBIMCTL field (BSC/SS).	X'D9' Reset entry ID.
LXBCMAND field (SDLC).		LXBIMCTL field (SDLC).	

SDLC Level 3 Entry

0(0)	1(1)	2(2)
CCBCTL field.	CCBRBLUC field.	CCBEND1 field.
	CCBCFLD field if duplex transmit.	

Link Activity Time-Out

0(0)	1(1)	2(2)
CCBCTL field.	LATO entry ID. X'D3'	CCBEND1 field.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
25(19) AXBLPDA		LPDA flags.
	1...	Line is attached to channelized modem.
	.1..	Line is tailed.
	..1.	Line is attached to channel A (LPDA1).
	...1	LPDA2 support on line.
	.... 1..	LPDA2 dial modem support.
	.... .1..	LPDA support on line (LPDA1 or LPDA2).
.... ..1.	Monitor Test Indicate (TI) lead.	

Offset/Field Name	Hex Value	Contents
40(28) AXBSTATE		Program state byte.
		TWX Auto-Speed Detect
	X'00'	1200 default speed pending.
	X'01'	2400 default speed pending.
	X'02'	Line quiet test pending.
	X'03'	Queue ACB to level 3.
		LPDA2 Modem Dial
	X'01'	Raise DTR pending.
	X'02'	Dial pending.
	X'03'	Enable pending.
	X'04'	Disconnect for retry pending.
	X'05'	Disconnect for abort pending.
	X'06'	Disable for retry pending.
	X'07'	Raise DTR for retry pending.

Offset/Field Name	Bit Pattern	Contents
65(41) AXBSMSDF	<p>x...</p> <p>.xxx x...</p> <p>.... .x..</p> <p>.... ..x.</p> <p>.....1</p>	<p>Set mode control flags. (For 3720)</p> <p>1 = Synchronous line—normal mode. 0 = Start/stop line.</p> <p>Line speed—Controller clocking.</p> <p>Synchronous line</p> <p>0001 = 50 bps 0010 = 110 0100 = 134.5 0111 = 200 1000 = 300 1011 = 1200 1110 = Special</p> <p>Start/stop line</p> <p>0000 = 50 bps 0001 = 2400 0010 = 4800 0011 = 110 0100 = 9600 0101 = 134.5 0110 = 200 0111 = 19200 1001 = 300 1010 = 600 1100 = 1200 1101 = 100 1110 = 75 1111 = Special</p> <p>1 = Modem clocking. 0 = Controller clocking.</p> <p>Data rate select bit (World Trade modems):</p> <p>1 = High speed. 0 = Low speed.</p> <p>Local attachment—no modem.</p>

Offset/Field Name	Bit Pattern	Contents
65(41) AXBSMSDF	xxxx x... x.. x.	Set mode control flags. (For 3745) Line speed. 00000 = 50 bps 00001 = 75 00010 = 100 00011 = 110 00100 = 134.5 00101 = 200 00110 = 300 00111 = 600 01000 = 1200 01001 = 2400 01010 = 4800 01011 = 9600 01100 = 19200 01101 = 38400 01110 = 55855 01111 = 245760 11111 = Special 1 = Modem clocking. 0 = Controller clocking. Data rate select bit (World Trade modems): 1 = High speed. 0 = Low speed. Direct attachment—no modem.

Offset/Field Name	Hex Value	Contents
66(42) AXBHLTTR	X'0000' X'00F0' X'FFF1'	Trace for Halt/Halt Immediate issued to CSP. No Halt/Halt Immediate issued. Halt issued. Halt Immediate issued.

Offset/Field Name	Bit Pattern	Contents
71(47) AXBTYPE	1... .. 1.	Line Type X.21 leased line. High speed line.

Offset/Field Name	Bit Pattern	Contents
78(4E) ACBTCTL		ACB trace entry control byte. Entry Control Bits Entry 1 next. Entry 2 next. Entry 3 next. Entry 4 next. Entry 5 next. Entry 6 next. Entry 7 next. Entry 8 next.
	.... .000	
	.... .001	
	.... .010	
	.... .011	
	.... .100	
	.... .101	
	.... .110	
	.... .111	

BFSESSINFO PIU Control Table

Program: NCP
Size in bytes: 100(64)
Created by: NCP generation; one per network
Pointer to: SYSBCTP field in the HWX
Function: Holds BFSESSINFO PIU information

BCT Queue
 (See QCB for input queues for all bit definitions.)

0(0)		BCTIECB Pointer to first element queued.	
BCTNCBD Major control block displacement divided by 2.			
4(4)		BCTLECB Pointer to last element queued.	
8(8)		BCTLINK Pointer to next QCB on the queue.	
BCTPRKEY QCB ID flag and task protection key.			
12(C)		BCTTSKEP Task entry point.	
BCTSTAT Task and queue status.			
16(10)		BCTSAVE Address of save area pushdown list.	
BCTSCHED Task dispatching priority.	17(11) BCTSTATP Prelease flags.	18(12) BCTPREL Prelease buffer count.	
20(14)		BCTLUNK Pointer to previous QCB on queue.	
BCTBHSCB BHR scheduling bits.			

24(18)	Reserved.	26(1A)	BCTINUSE Number of BCT entries in use.	27(1B)	BCTBUFN Number of buffers to build one BFSESSINFO.
28(1C)	BCTFCUBP Pointer to first CUB in chain of CUBs that do not have BCT entries.				
32(20)	BCTLCUBP Pointer to last CUB in chain of CUBs that do not have BCT entries.				
36(24)	BCTCCUBP Pointer to current CUB in BCT entries chain.				
40(28) - 51(33)	BCTENT1 First BCT entry for a PU.				
52(34) - 63(3F)	BCTENT2 Second BCT entry for a PU.				
64(40) - 75(4B)	BCTENT3 Third BCT entry for a PU.				
76(4C) - 87(57)	BCTENT4 Fourth BCT entry for a PU.				
88(58) - 99(63)	BCTENT5 Fifth BCT entry for a PU.				

BCT Entry Format

0(0)	BCTLLUBP Next LUB pointer to be reported.	
	BCTESTAT* Status byte.	
4(4)	BCTLLNBP Next LNB pointer to be reported.	
8(8)	BCTLBSBP Next BSB pointer to be reported.	

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) BCTESTAT	1... .. .xxx xxxx	Status byte. BCT entry in use. Reserved.

Block Control Unit (BSC/SS)

Program: NCP
Size in bytes: 48 (30) control bytes plus BTU plus prefix
Located in: Dynamic buffers
Created by: Built dynamically by internal routines
Function: To request work

Buffer Prefix

-4(4) BHBHTG* Buffer tag.	-3(3) BHBUFTAG X'C2'	-2(2) BHVVTI Buffer virtual route vector table index.	
0(0) BCBUFCHN Buffer prefix chain field.			
4(4) BCCOPYF Copy field.		6(6) BCOFFSET Buffer prefix data offset field.	7(7) BCDATCNT Buffer prefix data count field.
BCCOPCT Copy count.	5(5) BCCOPYS Copy status.		

* See the buffer prefix (BH) for expansions.

Event Control Block

8(8) BCUECHN ECB chain pointer.		

BCUESTAT* Event status flags.		
12(C) BCUCSTAT* Block status flags.	13(D) Reserved.	14(E) BCUTMINT (BCUBKLN) Set time interval, as specified by SETIME macro.

		BCUTCNT BCU text count.
16(10) BCUWQCB Address of waiting task's input QCB.		
20(14) - 35(23) Alignment Bytes.		

* Indicates a byte expansion follows.

Work Area

36(24) Reserved.	38(26) BCUTDSP Get byte/put byte displacement value.	
40(28) BCURVTE Address of RVT entry.		
44(2C) BCUSSP Subtask sequence pointer for suspended sessions.	46(2E) BCUREDS Record descriptor.	47(2F) BCUFLAGS* Critical text flags to channel output.
		BCUIWA
48(30) See "Basic Transmission Unit (BTU)" for format. Variable in length.		

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
8(8) BCUSTAT	1... ..	Event status flags.
	.1... ..	Event is satisfied.
	..1... ..	Task is to be dispatched.

Offset/Field Name	Bit Pattern	Contents
12(C) BCUCSTAT	1... ..	Block status flags.
	.1... ..	Block enqueued.
	..1... ..	Buffers in block are counted.
	...1... ..	SOH status message.

Offset/Field Name	Bit Pattern	Contents
47(2F) BCUFLAGS	1... ..	Critical test flags to channel output.
	.1... ..	Clear data in release blocks.
	..1... ..	Replace = session-initiation information reset mode.
	...1... ..	Check mode for replace-session -initiation-information.
	....1... ..	Second pass.
.....1... ..	Third pass.	

Box Event Record

Program: NCP, EP
Size in bytes: Variable, depending on the BER format
Created by: Macro CXTBER, as needed

Only those BERs generated by NCP are listed in this BER control block. For BERs and IDs not listed, call hardware service personnel or refer to the Maintenance Information Manuals.

Pointed to by: None

Function: Resides in check record pool (CRP) entries when the data is gathered originally and in NCP buffers when the data is sent to MOSS. The first six bytes of all BERs are common; then the formats depend on the type of error for which the BER is being built.

Notes:

1. The data shown here begins two bytes into the CRP unit.
2. If the data in a BER is invalid, NCP fills in the data field with X'FEFE'.

Common BER Header

0(0) BERLEN BER length.	1(1) BERTYP* BER type.	2(2) BERID* BER ID.	3(3) BERLRC Lost CRP record count.
4(4) BERABND Abend code.			

Byte Expansions

Offset/Field Name	Hex Value	Contents
1(1) BERTYP	X'10' X'11' X'12' X'13' X'14' X'15' X'01'	BER type. Errors related to channel adapter operation. Errors related to transmission subsystem operation. Program exceptions. CCU related errors. Input/Output controller related errors. Errors related to the Token-Ring subsystem. MOSS related errors. Note: The following BER formats are listed in the above order.

Offset/Field Name	Bit Pattern	Contents
2(2) BERID	1... .. .xxx	BER ID Hardware suspected error. Interrupt level of detection.

Type 10 Level 1 CA-PIO Error Reported by I/O Controller for the 3745

Applicable BER IDs:

- X'18' Attempt to select a CA that is not installed
- X'1C' Sequence of outputs to a CA in Error
- X'80' Auto selection failure, CA bypassed
- X'97' PIO error
- X'9B' IOH failure during a CA PIO ERP.

		6(6)	BER217E X'7E' CCU level 1 interrupt request register.				
8(8)	BER2110C X'76' IOC error summary register.		10(A) BER2011 First 2 bytes of failing instruction.				
12(C) BER20LAR X'74' Lagging address register.							
16(10)		18(12)					
BER00CMP CACM mode remembrance halfword. (V5R2 and later releases)		BERXR76U X'76' for PIO error in level 1.					
20(14)		22(16)	23(17)				
BER20ETA TA field of IOH failing in level 1.		Reserved.	BER00ANO CA number.				
24(18)	25(19)	26(1A)					
BER21FB* BER flag.	BER00CVT CAVT flag byte.	BER21SWA Switch adapter error register information.					
28(1C) BER00IAR Interrupted level's IAR.							
<table border="1" style="width: 100%;"> <tr> <td style="width: 25%; border: 1px dashed black;">BER00IL Interrupted level.</td> <td colspan="3"></td> </tr> </table>				BER00IL Interrupted level.			
BER00IL Interrupted level.							
32(20)		34(22)					
BER00TA IOH/IOHI image - TA data.		BER00TD IOH/IOHI image - TD data.					
36(24)		38(26)					
BER00C08 CA register X'8'.		BER00C09 CA register X'9'.					
40(28)		42(2A)					
BER00C0A CA register X'A'.		BER00C50 CA register X'50'.					
44(2C)		46(2E)					
BER00C51 CA register X'51'.		BER00C52 CA register X'52'.					

48(30) - 95(5F)	
X'30' bytes of fields from the CAB, from CABND up to and including CABCA0F. For EP the field CASEL thru TERMADR are included from the EP CHCB (X'10' bytes). The remaining space plus BER00CAC (CABCNTL) is padded with X'FF's for EP.	
96(60)	98(62)
BER20CAC CA contact control flags. (CABCNTL)	BER20C00 CA register X'0'.
100(64)	102(66)
BER20C01 CA register X'1'.	BER2C002 CA register X'2'.
104(68)	106(6A)
BERC0C03 CA register X'3'.	BERC0C04 CA register X'4'.
108(6C)	110(6E)
BERC0C05 CA register X'5'.	BERC0C06 CA register X'6'.
112(70)	114(72)
BERC0C07 CA register X'7'.	BERC0C0B CA register X'B'.
116(74)	118(76)
BERC0C0C CA register X'C'.	BERC0C0D CA register X'D'.
120(78)	122(7A)
BERC0C0E CA register X'E'.	BERC0C0F CA register X'F'.

Type 10 Level 1 CA-PIO Error Reported by I/O Controller for the 3720

Applicable BER IDs:

- X'18' Attempt to select a CA that is not installed
- X'1C' Sequence of outputs to a CA in Error
- X'1E' Invalid output IOH to a CA
- X'97' PIO error
- X'9B' IOH failure during a CA PIO ERP.

		6(6)	BER207E X'7E' CCU level 1 interrupt request register.
8(8)	BER2010C X'76' IOC error summary register.	10(A)	BER201I First 2 bytes of failing instruction.
12(C) BER20LAR X'74' Lagging address register.			
16(10)	BER00ER X'D' CA level 1 error register.	18(12)	BER2076U X'76' for PIO error in level 1.
20(14) BER20ETA TA field of IOH failing in level 1.		22(16) Reserved.	23(17) BER00CAA CA select mask.
24(18) BER20FB* BER flag.	25(19) BER20RHB Logical OR of redrive-error registers.	26(1A) BER20CL1 CLAB1 board-redrive address and error register.	
28(1C) BER20CL2 CLAB2 board-redrive address and error register.		30(1E) BER20L3B LAB3 board-redrive address and error register.	
32(20) BER20CAB CAB board-redrive address and error register.		34(22) BER20FDR FRDV board-redrive address and error register.	
36(24) BER20L4B LAB4 board-redrive address and error register.		38(26) BER20L5B LAB5 board-redrive address and error register.	
40(28) BER20L6B LAB6 board-redrive address and error register.		42(2A) BER20L7B LAB7 board-redrive address and error register.	
44(2C) BER20L8B LAB8 board-redrive address and error register.		46(2E) Reserved.	

48(30)		BER20IAR Interrupted level's IAR.	
BER20IL Interrupted level.			
52(34)	BER20TA IOH/IOHI image - TA data.	54(36)	BER20TD IOH/IOHI image - TD data.
56(38)			
BER00CAB X'30' bytes of fields from the CAB, from CABND up to and including ABCA0F. For EP the field CASEL thru TERMADR are included from the EP CHCB (X'10' bytes). The remaining space plus BER00CAC (CABCNTL) is padded with X'FF's for EP.			
104(68)	BER00CAC CA contact control flags. (CABCNTL)	106(6A)	BER00C60 CA register X'0'.
108(6C)	BER00C61 CA register X'1'.	110(6E)	BER00C62 CA register X'2'.
112(70)	BER00C63 CA register X'3'.	114(72)	BER00C64 CA register X'4'.
116(74)	BER00C65 CA register X'5'.	118(76)	BER00C66 CA register X'6'.
120(78)	BER00C67 CA register X'7'.	122(7A)	BER00C68 CA register X'8'.
124(7C)	BER00C6C CA register X'C'.	126(7E)	BER00C6D CA register X'D'.
128(80)	BER00C6E CA register X'E'.	130(82)	BER00C6F CA register X'F'.

Type 10 Level 1 CA-AIO Error Reported by I/O Controller for the 3745

Applicable BER IDs:

- X'14' Addressing exception
- X'16' Storage protection
- X'91' AIO error
- X'9A' IOH failure during a CA AIO ERP.

		6(6) BER217E X'7E' CCU level 1 interrupt request register.
8(8) BER21I0C X'76' I0C error summary register.	10(A) BER2275 X'75' AIO cycle-steal controlword register.	
12(C) Reserved.	14(E) BER22ETA TA field of IOH failing in level 1.	
16(10) Reserved.	18(12) BER2276U X'76' for PIO error in level 1.	
20(14) BER02FPR The CA cycle-steal fixed-pointer register (X'3m'/'6m').		
24(18) BER22F8* BER flag.	25(19) Reserved.	26(1A) BER21SWA Switch adapter error register information.
28(1C) - 41(29) Reserved.		
		42(2A) BER01C50 CA register X'50'.
44(2C) BER01C51 CA register X'51'.	46(2E) BER01C52 CA register X'52'.	

48(30) - 95(5F) <p style="text-align: center;">BER02CAB</p> X'30' bytes of fields from the CAB, from CABEND up to and including CABCA0F. For EP the field CASEL thru TERMADR are included from the EP CHCB (X'10' bytes). The remaining space plus BER00CAC (CABCNTL) is padded with X'FF's for EP.	
96(60) <p style="text-align: center;">BER02CAC CA contact control flags. (CABCNTL)</p>	98(62) <p style="text-align: center;">BERC0C00 CA register X'0'.</p>
100(64) <p style="text-align: center;">BERC0C01 CA register X'1'.</p>	102(66) <p style="text-align: center;">BERC0C02 CA register X'2'.</p>
104(68) <p style="text-align: center;">BERC0C03 CA register X'3'.</p>	106(6A) <p style="text-align: center;">BERC0C04 CA register X'4'.</p>
108(6C) <p style="text-align: center;">BERC0C05 CA register X'5'.</p>	110(6E) <p style="text-align: center;">BERC0C06 CA register X'6'.</p>
112(70) <p style="text-align: center;">BERC0C07 CA register X'7'.</p>	114(72) <p style="text-align: center;">BERC0C0B CA register X'B'.</p>
116(74) <p style="text-align: center;">BERC0C0C CA register X'C'.</p>	118(76) <p style="text-align: center;">BERC0C0D CA register X'D'.</p>
120(78) <p style="text-align: center;">BERC0C0E CA register X'E'.</p>	122(7A) <p style="text-align: center;">BERC0C0F CA register X'F'.</p>

Type 10 Level 1 CA-AIO Error Reported by I/O Controller for the 3720

Applicable BER IDs:

- X'14' Addressing exception
- X'16' Storage protection
- X'91' AIO error
- X'9A' IOH failure during a CA AIO ERP.

		6(6) BER227E X'7E' CCU level 1 interrupt request register.
8(8) BER2210C X'76' IOC error summary register.	10(A) BER2275 X'75' AIO cycle-steal controlword register.	
12(C) Reserved.	14(E) BER22ETA TA field of IOH failing in level 1.	
16(10) BER02ER X'D' CA level 1 error register from L1B.	18(12) BER2276U X'76' for PIO error in level 1.	
20(14) BER02FPR The CA cycle-steal fixed-pointer register (X'3m').		
24(18) BER22FB* BER flag.	25(19) BER22RHB Logical OR of redrive-error registers.	26(1A) BER22CL1 CLAB1 board-redrive address and error register.
28(1C) BER22CL2 CLAB2 board-redrive address and error register.	30(1E) BER22L3B LAB3 board-redrive address and error register.	
32(20) BER22CAB CAB board-redrive address and error register.	34(22) BER22FDR FRDV board-redrive address and error register.	
36(24) BER22L4B LAB4 board-redrive address and error register.	38(26) BER22L5B LAB5 board-redrive address and error register.	
40(28) BER22L6B LAB6 board-redrive address and error register.	42(2A) BER22L7B LAB7 board-redrive address and error register.	
44(2C) BER22L8B LAB8 board-redrive address and error register.	46(2E) Reserved.	

48(30) - 95(5F)		BER02CAB X'30' bytes of fields from the CAB, from CABEND up to and including CABCA0F. For EP the field CASEL thru TERMADR are included from the EP CHCB (X'10' bytes). The remaining space plus BER00CAC (CABCNTL) is padded with X'FF's for EP.	
96(60)	BER02CAC CA contact control flags. (CABCNTL)	98(62)	BER02C60 CA register X'0'.
100(64)	BER02C61 CA register X'1'.	102(66)	BER02C62 CA register X'2'.
104(68)	BER02C63 CA register X'3'.	106(6A)	BER02C64 CA register X'4'.
108(6C)	BER02C65 CA register X'5'.	110(6E)	BER02C66 CA register X'6'.
112(70)	BER02C67 CA register X'7'.	114(72)	BER02C68 CA register X'8'.
116(74)	BER02C6C CA register X'C'.	118(76)	BER02C6D CA register X'D'.
120(78)	BER02C6E CA register X'E'.	122(7A)	BER02C6F CA register X'F'.

Type 10 Level 1 CA-AIO Error Reported by I/O Controller for the 3745

Applicable BER IDs:

- X'81' Power block failure
- X'82' Suspected power block failure; no CA on IOC bus can be selected.

		6(6)	BER207E X'7E' CCU level 1 interrupt request register.
8(8)	BER2010C X'76' IOC error summary register.	10(A) Reserved.	
12(C) BER20LAR X'74' Lagging address register.			
16(10)	BER2075 X'75' AIO cycle steal control word register.	18(12) BER2076U X'76' for PIO error in level 1.	
20(14)	BER20ETA TA field of IOH failing in level 1.	22(16) Reserved.	23(17) BER00CAA CA number.
24(18)	BER20FB BER flag.	25(19) BER0CVT CAVT flag byte.	26(1A) BER00SWA Switch adapter error register information.
28(1C) Reserved.			
32(20)	BER00TA IOH/IOHI image - TA data.	34(22) BER00TD IOH/IOHI image - TD data.	
36(24)	Reserved.	38(26) BER00CMA CACM mode remembrance halfword. (V5R2 and later releases)	
40(28) Reserved.			
44(2C) BER00FPR CA cycle steal fixed pointer register (X'3m'/'6m').			

Type 10 Level 1 Error Reported by Channel Adapter for 3745

Applicable BER IDs:

- X'10' Invalid ESC address; EP or user is CA owner
- X'1F' Invalid output IOH to a CA
- X'87' Interrupt from disabled CA
- X'90' Invalid ESC address; EP is not a CA owner
- X'92' Level 1 from CA in ERP state
- X'96' CA bus-in check
- X'98' Channel adapter internal error
- X'99' CA ground-fault error.
- X'9C' IOH failure during a CA ERP
- X'9D' CA microcode error
- X'9E' Unresolved CA level 1 interrupt; (Channel Adapter error not identified in X'D' register)
- X'9F' ESC interrupt; EP is not a CA owner.

		6(6) BER217E X'7E' CCU level 1 interrupt request register.
8(8) BER2110C X'76' IOC error summary register.	10(A) BER21A0 CA number.	11(B) Reserved.
12(C) BER01LAR X'74' Lagging address register.		
16(10) Reserved.		18(12) BERXR76U X'76' for PIO error in level 1.
20(14) BER01TA TA field of IOH failing in level 1.		22(16) Reserved.
24(18) BER21FB* BER flag.	25(19) Reserved.	26(1A) BER21SWA Switch adapter error register information.
28(1C) - 39(27) Reserved.		
40(28) BER01C60 CA register X'60'. (Applies to BER ID X'9D' only)		42(2A) BER01C50 CA register X'50'.
44(2C) BER01C51 CA register X'51'.		46(2E) BER01C52 CA register X'52'.

48(30) Reserved.	50(32) - 97(61) BER01CAB
X'30' bytes of fields from the CAB, from CABEND up to and including CABCA0F. For EP the field CASEL thru TERMADR are included from the EP CHCB (X'10' bytes). The remaining space plus BER00CAC (CABCNTL) is padded with X'FF's for EP.	
98(62) BER10CAC CA contact control flags. (CABCNTL)	
100(64) BERC0C00 CA register X'0'.	102(66) BERC0C01 CA register X'1'.
104(68) BERC0C02 CA register X'2'.	106(6A) BERC0C03 CA register X'3'.
108(6C) BERC0C04 CA register X'4'.	110(6E) BERC0C05 CA register X'5'.
112(70) BERC0C06 CA register X'6'.	114(72) BERC0C07 CA register X'7'.
116(74) BERC0C08 CA register X'8'.	118(76) BERC0C0C CA register X'C'.
120(78) BERC0C0D CA register X'D'.	122(7A) BERC0C0E CA register X'E'.
124(7C) BERC0C0F CA register X'F'.	

Type 10 Level 1 Error Reported by Channel Adapter for 3745

(Continued)

Applicable BER IDs:

- X'85' Channel adapter is not accessible.
- X'86' Channel adapter is not operative.
- X'88' Level 1 interrupt from a CACM Mode disconnected channel adapter (V5R2 and later releases).
- X'89' Level 1 interrupt from a channel adapter with install in progress (V5R2 and later releases).
- X'BF' Unresolved channel adapter level 1 interrupt (A channel adapter is not identified in X'E' register).

		6(6) BER0C7E X'7E' CCU level 1 interrupt request register.
8(8) BER0C10C X'76' IOC error summary register.	10(A) BER0CAN0 CA number.	11(B) BER0CCAF CAVT flag byte.
12(C) BER0CLAR X'74' Lagging address register.		
16(10) BER0CTA TA field of IOH failing in level 1.		18(12) BER0C76U X'76' for PIO error in level 1.
20(14) BER0CFB BER flag.	21(15) Reserved.	22(16) BER0CSWA Switch adapter error register information.
24(18) BER0C157 CCU input register X'57'. (V5R2 and later releases)		26(1A) BER0C057 CCU output register X'57'. (V5R2 and later releases)
28(1C) BER0CC0D CA register X'0D'.		30(1E) BER0CC0E CA register X'0E'.
32(20) BER0CC0F CA register X'0F'.		

Type 10 Level 1 Error Reported by Channel Adapter for the 3720

Applicable BER IDs:

- X'10' Invalid ESC address; EP or user is CA owner
- X'1F' Invalid output IOH to a CA
- X'90' Invalid ESC address; EP is not a CA owner
- X'92' Level 1 from CA in ERP state
- X'93' CA driver or receiver check
- X'95' Unresolved CA level 1 interrupt (CA not identified in X'E' register)
- X'96' CA bus-in check
- X'98' Channel adapter internal error
- X'99' CA ground-fault error
- X'9C' IOH failure during a channel adapter ERP
- X'9E' Unresolved CA level 1 interrupt; (Channel Adapter error not identified in X'D' register)
- X'9F' ESC interrupt—EP is not a CA owner.

		6(6)	BER217E X'7E' CCU level 1 interrupt request register.
8(8)	BER2110C X'76' IOC error summary register.	10(A) BER01CAA CA select mask.	11(B) Reserved.
12(C) BER01LAR X'74' Lagging address register.			
16(10)	BER01ER X'D' CA level 1 error register.	18(12) BER2176U X'76' for P10 error in level 1.	
20(14)	BER21BRR Redrive response-to-poll.	22(16) BER01CAR X'E' CA error register.	
24(18)	BER21FB* BER flag.	25(19) BER21RHB Logical OR of redrive-error registers.	26(1A) BER21CL1 CLAB1 board-redrive address and error register.
28(1C)	BER21CL2 CLAB2 board-redrive address and error register.	30(1E) BER21L3B LAB3 board-redrive address and error register.	
32(20)	BER21CAB CAB board-redrive address and error register.	34(22) BER21FDR FRDV board-redrive address and error register.	
36(24)	BER21L4B LAB4 board-redrive address and error register.	38(26) BER21L5B LAB5 board-redrive address and error register.	

40(28) BER21L6B LAB6 board-redrive address and error register.	42(2A) BER21L7B LAB7 board-redrive address and error register.
44(2C) BER21L8B LAB8 board-redrive address and error register.	46(2E) Reserved.
48(30) BER21TA TA field of IOH failing in level 1.	50(32) - 97(61) BER01CAB
X'30' bytes of fields from the CAB, from CABEND up to and including CABCA0F. For EP the field CASEL thru TERMADR are included from the EP CHCB (X'10' bytes). The remaining space plus BER00CAC (CABCNTL) is padded with X'FF's for EP.	
	98(62) BER01CAC CA contact control flags. (CABCNTL)
100(64) BER01C60 CA register X'0'.	102(66) BER01C61 CA register X'1'.
104(68) BER01C62 CA register X'2'.	106(6A) BER01C63 CA register X'3'.
108(6C) BER01C64 CA register X'4'.	110(6E) BER01C65 CA register X'5'.
112(70) BER01C66 CA register X'6'.	114(72) BER01C67 CA register X'7'.
116(74) BER01C6B CA register X'B'.	118(76) BER01C6C CA register X'C'.
120(78) BER01C6D CA register X'D'.	122(7A) BER01C6E CA register X'E'.
124(7C) BER01C6F CA register X'F'.	

Type 10 Level 3 CA and CCU Errors for the 3745

Applicable BER IDs:

- X'34' Level 3 IPL configuration check
- X'35' ESC address not within range (EP on level 3 interrupt)
- X'B1' Unresolved CA level 3 initial-select interrupt
- X'B2' Unresolved CA level 3 data/status interrupt
- X'B5' Level 3 cannot disable CA
- X'B6' On stacked-initial status; command not NOP or TIO (EP only)
- X'BD' Level 3 interrupt from an ERP inoperative CA
- X'BE' Level 3 interrupt from a disabled CA.

		6(6) BERAAR77 X'77' Adapter levels 2, 3 interrupt request register.
8(8) BERAAR7F X'7F' CCU levels 2, 3, 4 interrupt request register.		10(A) BERAAR00 X'0' CA initial selection register.
12(C) BERAAR01 X'1' CA CCW and subchannel address.		14(E) BERAAR02 X'2' Data status register.
16(10) BERAAR03 X'3' CA ESC subchannel address and status register.		18(12) BERAAR04 X'4' CA PIO bytes 1 and 2.
20(14) BERAAR05 X'5' CA PIO bytes 3 and 4.		22(16) BERAAR06 X'6' CA NSC status register.
24(18) BERAAR07 X'7' CA enabled indications.		26(1A) BERAAR08 X'B' CA ESC TIO address and status register.
28(1C) BERAAR0C X'C' CA-AIO operations register.		30(1E) BERAAR0F X'F' CA level 3 interrupt request register.
32(20) - 79(4F) BEREACAB X'30' bytes of fields from the CAB, from CABEND up to and including CABXR6F. For EP the field CASEL thru TERMADR are included from the EP CHCB (X'10' bytes). The remaining space plus BER00CAC (CABCNTL) is padded with X'FE's for EP.		
80(50) BEREACAC Channel adapter contact control flags.	82(52) BEREATA High byte of TA used to collect CA registers.	83(53) BEREAFGL CER flag byte (BER ID X'B5' only)
84(54) BERCAVTF CAVT flag.		

Type 10 Level 3 CA and CCU Errors for the 3745

(Continued)

Applicable BER IDs:

- X'B3' Unresolved CA level 3 interrupt
- X'B7' Level 3 interrupt from a CA that is not defined to this CCU
- X'B8' Level 3 interrupt from a CA that is not accessible
- X'BA' Level 3 interrupt from a CA that is not operational
- X'BB' Level 3 interrupt from a CACM Mode Disconnected CA
- X'BC' Level 3 interrupt from a CA with Install in Progress.

		6(6) BERECR77 X'77' Adapter level 2,3 interrupt request register.
8(8) BERECR7F X'7F' CCU level 2,3,4 interrupt request register.	10(A) BERECA CER CA state.	
12(C) BERECI57 CCU input register X'57' (V5R2 and later releases)		14(E) BEREC057 CCU output register X'57' (V5R2 and later releases)
16(10) BERECTA High byte of TA used to collect CA registers	17(11) BERECAVT CAVT flag	18(12) BERECROF X'0F' CA level 3 interrupt request register

Type 10 Level 3 CA and CCU Errors for the 3720

Applicable BER IDs:

- X'33' Unresolved CA level 3 interrupt
- X'34' Level 3 IPL configuration check
- X'35' ESC address not within range (EP on level 3 interrupt)
- X'B1' Unresolved CA level 3 initial-select interrupt
- X'B2' Unresolved CA level 3 data/status interrupt
- X'B5' Level 3 cannot disable CA
- X'B6' On stacked-initial status; command not NOP or TIO (EP only).

	6(6) BERAAR77 X'77' Adapter levels 2, 3 interrupt request register.
8(8) BERAAR7F X'7F' CCu levels 2, 3, 4 interrupt request register.	10(A) BERAAR60 X'0' CA initial selection register.
12(C) BERAAR61 X'1' CA CCW and subchannel address.	14(E) BERAAR62 X'2' Data status register.
16(10) BERAAR63 X'3' CA EXC subchannel address and status register.	18(12) BERAAR64 X'4' CA PIO bytes 1 and 2.
20(14) BERAAR65 X'5' CA PIO bytes 3 and 4.	22(16) BERAAR66 X'6' CA NSC status register.
24(18) BERAAR67 X'7' CA enabled indications.	26(1A) BERAAR6B X'B' CA ESC TIO address and status register.
28(1C) BERAAR6C X'C' CA-AIO operations register.	30(1E) BERAAR6F X'F' CA level 3 interrupt request register.
32(20) - 79(4F) BEREACAB X'30' bytes of fields from the CAB, from CABEND up to and including CABXR6F. For EP the field CASEL thru TERMADR are included from the EP CHCB (X'10' bytes). The remaining space plus BER00CAC (CABCNTL) is padded with X'FF's for EP.	
80(50) BEREACAC Channel adapter contact control flags. (Contains X'FFFF' for EP.)	

Type 11 Level 1 CSP-PIO Error Reported by I/O Controller for the 3720

Applicable BER IDs:

- X'18' IOH/IOHI issued to transmission subset (TSS) not installed
- X'1B' Invalid Input IOH issued to TSS
- X'97' TSS PIO error - Output IOH/IOHI (count ≤ limit)
- X'98' TSS PIO error - Output IOH/IOHI (count > limit)
- X'9C' TSS PIO error - Input Get-line-ID operation code.

		6(6) BER207E X'7E' CCU level 1 interrupt request register.
8(8) BER2010C X'76' IOC error summary register.	10(A) BER2011 First 2 bytes of instruction.	
12(C) BER20LAR X'74' Lagging address register.		
16(10) BER10CSP CSP error status register.	18(12) BER2076U X'76' for PIO error in level 1.	
20(14) BER20ETA TA field of IOH failing in level 1.	22(16) Reserved.	
24(18) BER20FB* BER flag.	25(19) BER20RHB Logical OR of redrive-error registers.	26(1A) BER20CL1 CLAB1 board-redrive address and error register.
28(1C) BER20CL2 CLAB2 board-redrive address and error register.	30(1E) BER20L3B LAB3 board-redrive address and error register.	
32(20) BER20CAB CAB board-redrive address and error register.	34(22) BER20FDR FDRV board-redrive address and error register.	
36(24) BER20L4B LAB4 board-redrive address and error register.	38(26) BER20L5B LAB5 board-redrive address and error register.	
40(28) BER20L6B LAB6 board-redrive address and error register.	42(2A) BER20L7B LAB7 board-redrive address and error register.	

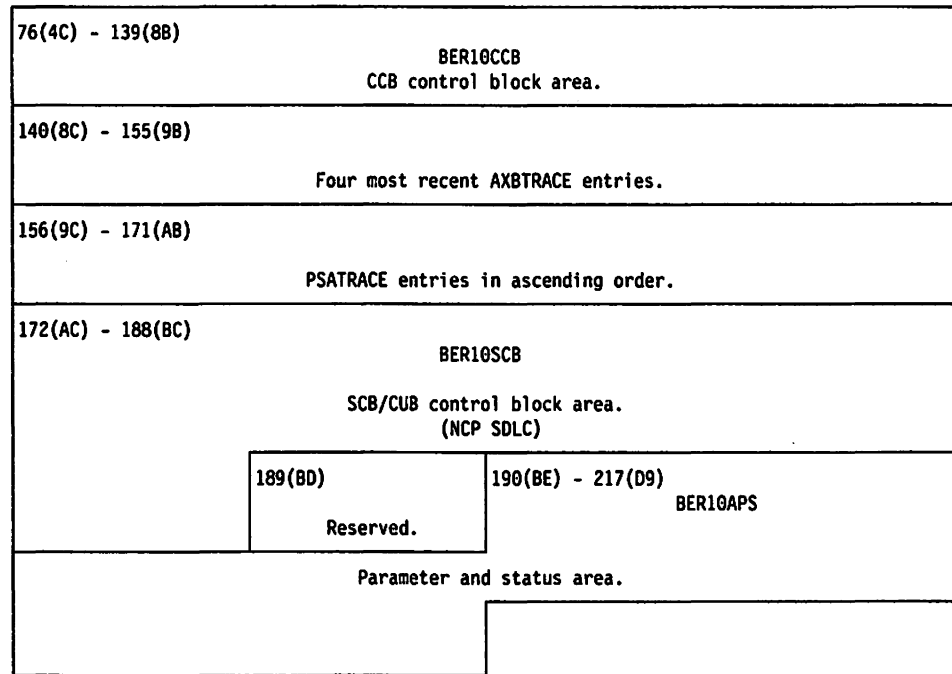
44(2C) BER20L8B LAB8 board-redrive address and error register.	46(2E) Reserved.
48(30) BER20IAR Interrupted level's IAR.	
BER20IL Interrupted level.	
52(34) BER20TA IOH/IOHI image-TA data.	54(36) BER20TD IOH/IOHI image-TD data.

Type 11 Level 1 LA-PIO Error Reported by I/O Controller for 3745

Applicable BER IDs:

- X'18' IOH/IOHI issued to LA not installed
- X'1B' Invalid input IOH issued to LA
- X'97' LA PIO error—Output IOH/IOHI (Count ≤ limit)
- X'98' LA PIO error—Output IOH/IOHI (Count > limit)
- X'9C' LA PIO error—Input — Get line ID operation code
- X'9E' LA PIO error—Get error status failed.

		6(6)	BER207E X'7E' CCU level 1 interrupt request register.
8(8)	BER2010C X'76' IOC error summary register.	10(A)	BER2011 First 2 bytes of instruction.
12(C) BER20LAR X'74' Lagging address register.			
16(10)	BER10LA LA error status register.	18(12)	BER2076U X'76' for PIO error in level 1.
20(14)	BER20ETA TA field on IOH failing in level 1.	22(16)	Reserved.
24(18)	BER20FB BER flag.	25(19)	Reserved.
		26(1A)	BER00SWA Switch adapter error register information.
28(1C) BER00IAR Interrupted level's IAR.			
BER00IL Interrupted level.			
32(20)	BER00TA IOH/IOHI image - TA data.	34(22)	BER00TD IOH/IOHI image - TD data.
36(24) Reserved.			
40(28) - 75(48) BER10L10 LXB/IOB control block area. (X'FE' for EP)			



Type 11 Level 1 CSP-AIO Error Reported by I/O Controller for the 3720

Applicable BER IDs:

- X'14' Addressing exception
- X'16' Storage protection
- X'91' TSS AIO error (TSS retries once)
- X'92' TSS AIO error unresolved
- X'93' TSS AIO invalid CCW (TSS retries once).

		6(6) BER227E X'7E' CCU level 1 interrupt request register.
8(8) BER2210C X'76' IOC error summary register.	10(A) BER2211 X'75' AIO cycle-steal control-word register.	
12(C) Reserved.	14(E) BER22ETA TA field of IOH failure in level 1.	
16(10) BER12CSP CSP error status register.	18(12) BER2276U X'76' PIO error in level 1.	
20(14) BER12SPR The CSP shared-pointer register (X'3F').		
24(18) BER22FB* BER flag.	25(19) BER22RHB Logical OR of redrive-error registers.	26(1A) BER22CL1 CLAB1 board-redrive address and error register.
28(1C) BER22CL2 CLAB2 board-redrive address and error register.	30(1E) BER22L3B LAB3 board-redrive address and error register.	
32(20) BER22CAB CAB board-redrive address and error register.	34(22) BER22FDR FDRV board-redrive address and error register.	
36(24) BER22L4B LAB4 board-redrive address and error register.	38(26) BER22L5B LAB5 board-redrive address and error register.	
40(28) BER22L6B LAB6 board-redrive address and error register.	42(2A) BER22L7B LAB7 board-redrive address and error register.	
44(2C) BER22L8B LAB8 board-redrive address and error register.	46(2E) Reserved.	

Type 11 Level 1 LA-AIO Error Reported by I/O Controller for the 3745

Applicable BER IDs:

- X'14' Addressing exception
- X'16' Storage protection
- X'91' LA AIO error (LA retries once)
- X'92' LA AIO error unresolved
- X'93' LA AIO invalid CCW (LA retries once).

		6(6) BER227E X'7E' CCU level 1 interrupt request register.
8(8) BER2210C X'76' IOC error summary register.	10(A) BER2275 X'75' AIO cycle-steal control-word register.	
12(C) Reserved.	14(E) BER22ETA TA field of IOH failing in level 1.	
16(10) BER12LA LA error status register.	18(12) BER2276U X'76' for PIO error in level 1.	
20(14) BER12SPR The LA shared pointer register. (X'3F' or X'6F')		
24(18) BER22FB* BER flag.	25(19) Reserved.	26(1A) BER22SWA Switch adapter error register information.
28(1C) BER12LAR X'74' Lagging address register.		

Type 11 Level 1 Error Reported by Communication Scanner Processor for the 3720 (CSP—Command Rejected by TSS)

Applicable BER IDs:

- X'1E' Invalid Output IOH to transmission subsystem (TSS)
- X'95' TSS hardstop
- X'96' TSS disconnect state
- X'99' TSS adapter error
- X'9A' Unresolved TSS adapter error
- X'9B' Interrupt received from disconnected TSS.

		6(6)	BER217E X'7E' CCU level 1 interrupt request register.
8(8)	BER21IOC X'76' IOC error summary register.	10(A) BER11CSA CSP address.	11(B) Reserved.
12(C) Reserved.			
16(10)	BER21CSP CSP error status register.	18(12)	BER2176U X'76' for PIO error in level 1.
20(14)	BER21BRR Redrive response-to-poll.	22(16)	Reserved.
24(18)	BER21FB BER flag.	25(19)	BER21RHB Logical OR of redrive error.
		26(1A)	BER21CL1 CLAB1 board-redrive address and error register.
28(1C)	BER21CL2 CLAB2 board-redrive address and error register.	30(1E)	BER21L3B LAB3 board-redrive address and error register.
32(20)	BER21CAB CAB board-redrive address and error register.	34(22)	BER21FDR FDRV board-redrive address and error register.
36(24)	BER21L4B LAB4 board-redrive address and error register.	38(26)	BER21L5B LAB5 board-redrive address and error register.
40(28)	BER21L6B LAB6 board-redrive address and error register.	42(2A)	BER21L7B LAB7 board-redrive address and error register.

44(2C) BER21L8B LAB8 board-redrive address and error register.	46(2E) Reserved.
48(30) BER21TA TA field of IOH failure in level 1.	

Type 11 Level 1 Error Reported by Line Adapter for the 3745

Applicable BER ID:

- X'1C' Command reject by LA.
- X'94' DMA/Cycle Steal Error on Set Mode

	6(6) BER10FLG BER flags.	7(7) BER10LVL Interrupted level.
8(8) BER10LVT Pointer to LNVT entry.	10(A) - 25(19) BER10PSA Parameter area of PSA.	
	26(1A) BER10SL ----- Status control field. Line status.	
28(1C) BER10ES1 LA error status register.	30(1E) BER10CR Error status for command reject ----- First command. Second command. (if command reject is (if command reject is due to due to command-on-command) command-on-command)	
32(20)	BER10IAR Interrupted level's instruction address register.	
36(24) Reserved.	38(26) BER10TAD ----- TA data byte 0. TD data byte 1.	
40(28) - 75(4B) BER10LIO LXB/IOB control block area. X'24' bytes of LXB (for SDLC lines) or IOB (for BSC/SS lines). Refer to the LXB or IOB control block for a description of each field. For EP, this area is padded with X'FE's.		

<p>76(4C) - 139(8B)</p> <p style="text-align: center;">BERICCCB</p> <p>X'40' bytes of data from the CCB control block. If NCP, the fields are from CCBL2 thru CCBPOLL inclusive. If EP, the fields are from CCBTROPT thru CCBXPRT inclusive. Refer to the appropriate CCB entry for descriptions of each field.</p>
<p>140(8C) - 155(9B)</p> <p style="text-align: center;">Four most recent AXBTRACE entries.</p>
<p>156(9C) - 171(AB)</p> <p style="text-align: center;">PSATRACE entries in ascending order.</p>
<p>172(AC) - 188(BC)</p> <p style="text-align: center;">BERICSCB</p> <p>X'10' bytes of the SCB/CUB from SCBSSCF (CUBSSCF) through SCBRTCNT (CUBRTCNT) inclusively. For BSC/SS lines and for EP, this area plus BER85CSC (SCBCSCF/CUBCSCF) is padded with X'FE's.</p>
<p>189(BD)</p> <p style="text-align: center;">Reserved.</p>

Type 11 Level 1 Error Reported by Line Adapter for the 3745
 (Continued)

Applicable BER IDs:

- X'1E' Invalid output IOH to LA
- X'95' LA hardstop
- X'96' LA disconnect state
- X'99' LA adapter error
- X'9A' Unresolved LA adapter error
- X'9B' Interrupt received from disconnected LA
- X'9D' Scanner microcode error.

		6(6) BER217E X'7E' CCU level 1 interrupt request register.	
8(8) BER21IOC X'76' IOC error summary register.	10(A) BER21ANO LA number.	11(B) Reserved.	
12(C) Reserved.			
16(10) BER21LAS LA error status register.		18(12) BER2176U X'76' for PIO error in level 1.	
20(14) Reserved.			
24(18) BER21FB BER flag.	25(19) BER21FLA TSS flags.	26(1A) BER21SWA Switch adapter error register information.	
28(1C) BER21LAR X'74' Lagging address register.			
32(20) - 39(27) Reserved.			

40(28) - 75(48)	BER11LXB
X'24' bytes of LXB (for SDLC lines) or IOB (for BSC/SS lines). Refer to the LXB or IOB control block for a description of each field. For EP, this area is padded with X'FE's.	
76(4C) - 139(88)	BER11CCB
X'40' bytes of data from the CCB control block. If NCP, the fields are from CCBL2 thru CCBPOLL inclusive. If EP, the fields are from CCBTROPT thru CCBXPRT inclusive. Refer to the appropriate CCB entry for descriptions of each field.	
140(8C) - 155(9B)	Four most recent AXBTRACE entries.
156(9C) - 171(AB)	PSATRACE entries in ascending order.

**Type 11 Level 1 Error Reported by Communication Scanner Processor (CSP)
 for the 3720**

Applicable BER ID:

- X'1C' Command reject by TSS.

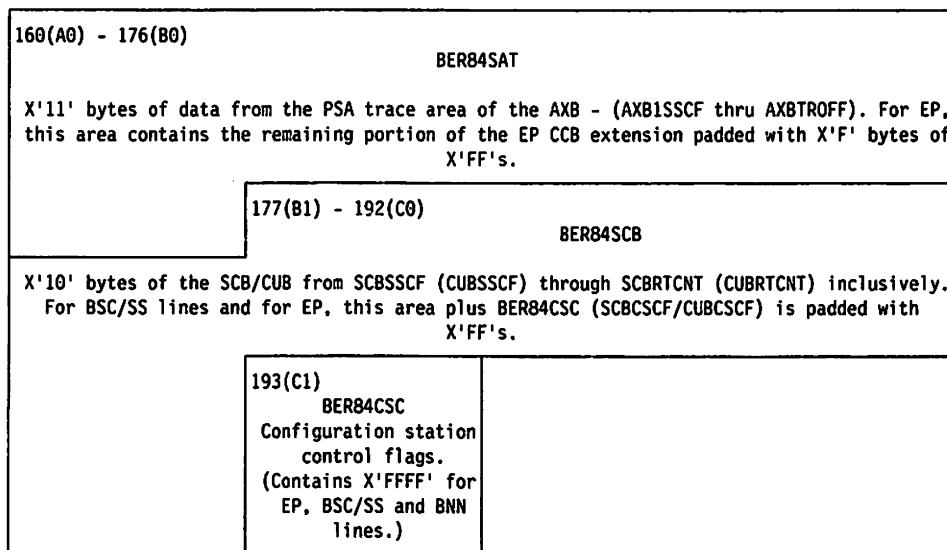
	6(6) BER10FLG BER flags.	7(7) BER10LVL Interrupted level.
8(8) BER10LVT Pointer to LNVT slot.	10(A) - 25(19) BER10PSA	
Parameter area of PSA.		
	26(1A) BER10SL	
	Status control field.	Line communication status.
28(1C) BER10ESI CSP error status register.	30(1E) BER10CR Error status for command reject due to second command issued during first command.	
	First command.	Second command.
32(20)	BER10IAR Interrupted level's instruction address register.	
36(24) Reserved.	38(26) BER10TAD	
	TA data byte 0.	TD data byte 1.
40(28) Reserved.		

Type 11 Level 2 CSP Unresolved Error for the 3720

Applicable BER ID:

- X'A1' Unresolved level 2 interrupt.

	6(6) BER8ABFB BER flag.	7(7) Reserved.
8(8) BER8ALP Get-Line-ID reponse. (Pointer to LNVT slot)	10(A) - 37(25) BER8APSA	
Parameter and status area		
	38(26) BER8ATA0 TA data byte 0.	39(27) BER8ATD1 TD data byte 1.
40(28) BER8ANOE Network address (NCP) or CA number and ESC (EP)	42(2A) BER84B01 LNVT entry bytes 0 and 1.	
44(2C) BER84B23 LNVT entry bytes 2 and 3.	46(2E) - 81(51) BER84L10	
X'24' bytes of LXB (for SDLC lines) or IOB (for BSC/SS lines). Refer to the LXB or IOB control block for a description of each field. For EP, this area is padded with X'FF's.		
	82(52) - 145(91) BER84CCB	
X'40' bytes of data from the CCB control block. If NCP, the fields are from CCBL2 thru CCBPOLL inclusive. If EP, the fields are from CCBTROPT thru CCBXPRT inclusive. Refer to the appropriate CCB entry for descriptions of each field.		
	146(92) - 159(9F) BER84AXB	
X'E' bytes of data from the AXB: AXBTCT and the last 3 ACB trace entries. For EP, this area contains the CCB extension starting at the EP CCB+X'60'.		

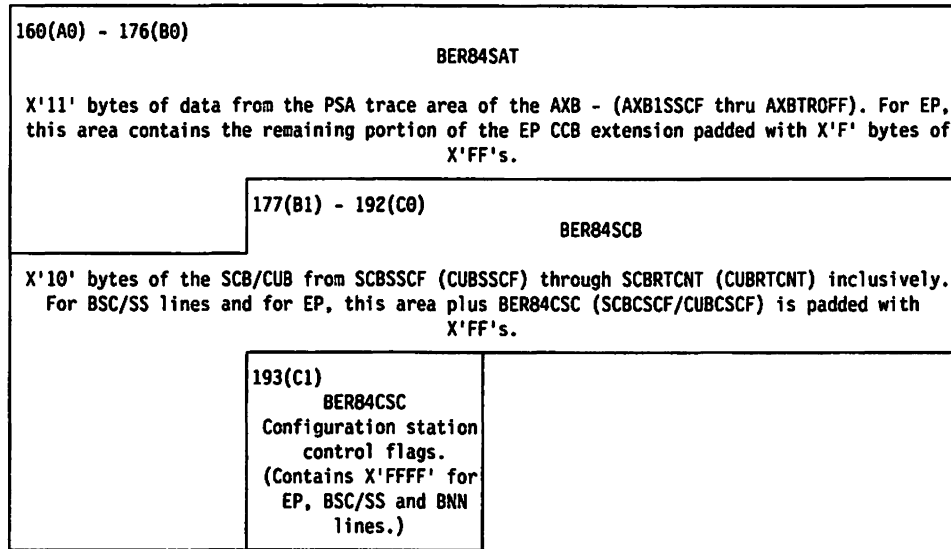


Type 11 Level 2 Line Adapter Unresolved Error for the 3745

Applicable BER ID:

- X'A1' Unresolved level 2 interrupt.

	6(6) BER8ABFB BER flag.	7(7) Reserved.
8(8) BER8ALP Get-Line-ID reponse. (Pointer to LNVT slot)	10(A) - 37(25) BER8APSA	
Parameter and status area		
	38(26) BER8ATA0 TA data byte 0.	39(27) BER8ATD1 TD data byte 1.
40(28) BER8ANOE Network address (NCP) or CA number and ESC (EP)	42(2A) BER84B01 LNVT entry bytes 0 and 1.	
44(2C) BER84B23 LNVT entry bytes 2 and 3.	46(2E) - 81(51) BER84L10	
X'24' bytes of LXB (for SDLC lines) or IOB (for BSC/SS lines). Refer to the LXB or IOB control block for a description of each field. For EP, this area is padded with X'FF's.		
	82(52) - 145(91) BER84CCB	
X'40' bytes of data from the CCB control block. If NCP, the fields are from CCBL2 thru CCBPOLL inclusive. If EP, the fields are from CCBTROPT thru CCBXPRT inclusive. Refer to the appropriate CCB entry for descriptions of each field.		
	146(92) - 159(9F) BER84AXB	
X'E' bytes of data from the AXB: ACBTCTL and the last 3 ACB trace entries. For EP, this area contains the CCB extension starting at the EP CCB+X'60'.		

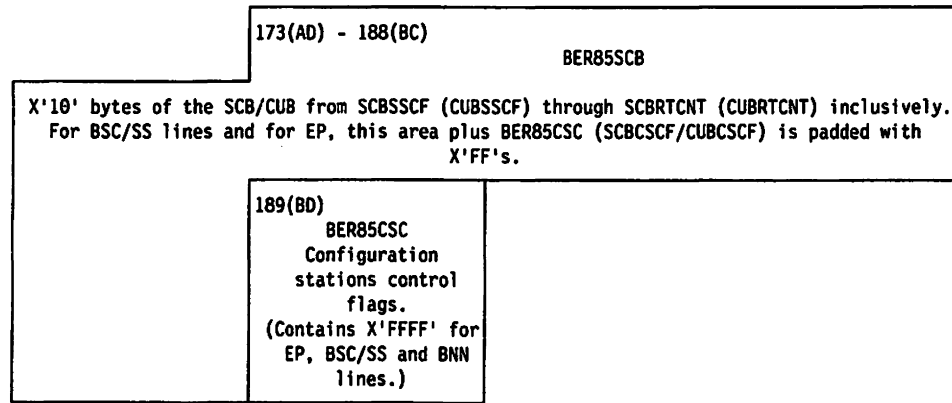


Type 11 Level 2 CSP Internal Error for the 3720

Applicable BER IDs:

- X'A2' Internal box error reported via level 2
- X'A4' Transient line error.
- X'AB' Integrated modem error.

	6(6) BER8ABFB BER flag.	7(7) Reserved.
8(8) BER8ALP Get-Line-ID response. (Pointer to LNVT slot)	10(A) - 37(25) BER8APSA	
Parameter and status area.		
	38(26) BER8ATA0 TA data byte 0.	39(27) BER8ATD1 TD data byte 1.
40(28) BER8ANOE Network address (NCP) of CA number and ESC (EP)	42(2A) - 77(4D) BER85L10	
X'24' bytes of LXB (for SDLC lines) or IOB (for BSC/SS lines). Refer to the LXB or IOB control block for a description of each field. For EP, this area is padded with X'FF's.		
	78(4E) - 141(8D) BER85CCB	
X'40' bytes of data from the CCB control block. If NCP, the fields are from CCBL2 thru CCBPOLL inclusive. If EP, the fields are from CCBTROPT thru CCBXPRT inclusive. Refer to the appropriate CCB entry for descriptions of each field.		
	142(8E) - 155(9B) BER85AXB	
X'E' bytes of data from the AXB: AXBTCTL and the last 3 ACB trace entries. For EP, this area contains the CCB extension starting at the EP CCB+X'60'.		
156(9C) - 172(AC) BER85SAT		
X'11' bytes of data from the PSA trace area of the AXB - (AXB1SSCF thru AXBTROFF). For EP, this area contains the remaining portion of the EP CCB extension padded with X'F' bytes of X'FF's.		

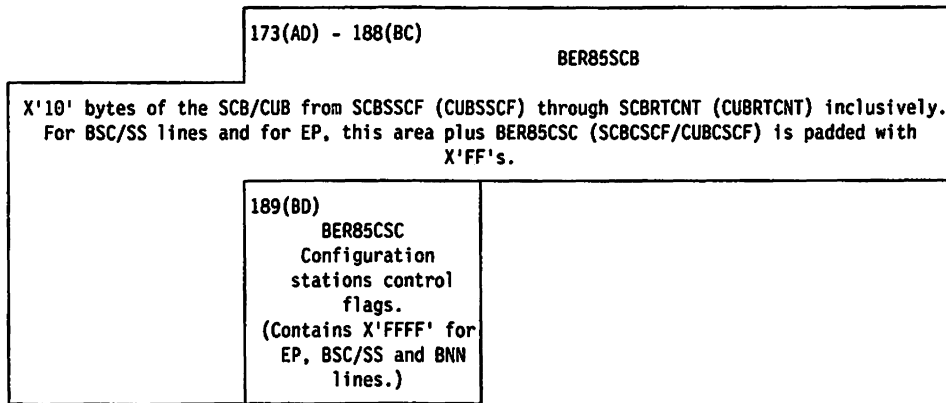


Type 11 Level 2 Line Adapter Internal Error for the 3745

Applicable BER IDs:

- X'A2' Internal box error reported via level 2.
- X'A4' Transient line error.
- X'AB' Integrated modem error.

	6(6) BER8ABFB BER flag.	7(7) Reserved.
8(8) BER8ALP Get-Line-ID response. (Pointer to LNVT slot)	10(A) - 37(25) BER8APSA	
Parameter and status area.		
	38(26) BER8ATA0 TA data byte 0.	39(27) BER8ATD1 TD data byte 1.
40(28) BER8ANOE Network address (NCP) of CA number and ESC (EP)	42(2A) - 77(4D) BER85LIO	
X'24' bytes of LXB (for SDLC lines) or IOB (for BSC/SS lines). Refer to the LXB or IOB control block for a description of each field. For EP, this area is padded with X'FF's.		
	78(4E) - 141(8D) BER85CCB	
X'40' bytes of data from the CCB control block. If NCP, the fields are from CCBL2 thru CCBPOLL inclusive. If EP, the fields are from CCBTROPT thru CCBXPRT inclusive. Refer to the appropriate CCB entry for descriptions of each field.		
	142(8E) - 155(9B) BER85AXB	
X'E' bytes of data from the AXB: ACBTCTL and the last 3 ACB trace entries. For EP, this area contains the CCB extension starting at the EP CCB+X'60'.		
156(9C) - 172(AC) BER85SAT		
X'11' bytes of data from the PSA trace area of the AXB - (AXB1SSCF thru AXBTROFF). For EP, this area contains the remaining portion of the EP CCB extension padded with X'F' bytes of X'FF's.		

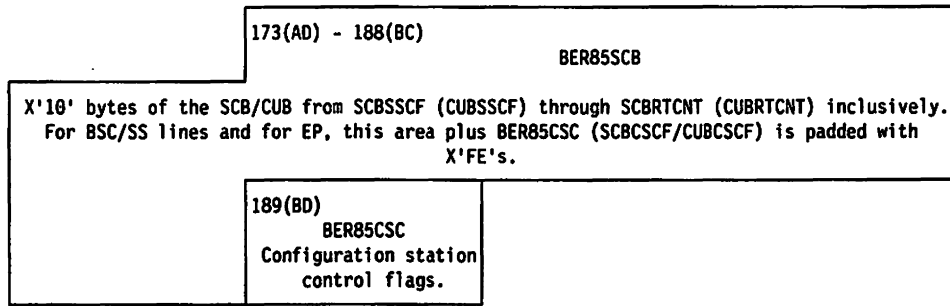


Type 11 Level 2 Line Adapter Internal Error for the 3745
 (Continued)

Applicable BER IDs:

- X'26' Storage control/direct memory access storage protect/address exception line communication status
- X'A3' Internal multiplexer/line interface coupler error reported by level 2, or internal high speed front end scanner error reported by level 2
- X'A5' Transient multiplexer/line interface coupler error reported by level 2, or transient high speed front end scanner error reported by level 2
- X'A6' Storage control/direct memory access internal error
- X'A7' Switch/storage control/direct memory access interface (main bus) error
- X'A8' Switch/direct memory access reported error
- X'A9' Switch/direct memory access parity check or direct memory time-out
- X'AA' High speed front end scanner/direct memory access interface error.

	6(6) BER8ABFB BER flags.	7(7) Reserved.
8(8) BER8ALP Get line ID response (pointer to LNVT entry).	10(A) - 37(25) BER8APSA	
Parameter and status area.		
	38(26) BER8ATA0 TA data byte 0.	39(27) BER8ATD1 TD data byte 1.
40(28) BER8ANOE Network address (NCP) or CA number, ESC (EP)	42(2A) - 77(4D) BER8SLIO	
X'24' bytes of LXB (for SDLC lines) or IOB (for BSC/SS lines). Refer to the LXB or IOB control block for a description of each field. For EP, this area is padded with X'FE's.		
	78(4E) - 141(8D) BER85CCB	
X'40' bytes of data from the CCB control block. If NCP, the fields are from CCBL2 thru CCBPOLL inclusive. If EP, the fields are from CCBTROPT thru CCBXPRT inclusive. Refer to the appropriate CCB entry for descriptions of each field.		
	142(8E) - 156(9C) BER85AXB	
X'E' bytes of data from the AXB: AXBTCTL and the last 3 ACB trace entries. For EP, this area contains the CCB extension starting at the EP CCB+X'60'.		
	157(9D) - 172(AC) BER85SAT	
X'11' bytes of data from the PSA trace area of the AXB - (AXBISSCF thru AXBTROFF). For EP, this area contains the remaining portion of the EP CCB extension padded with X'F' bytes of X'FE's.		

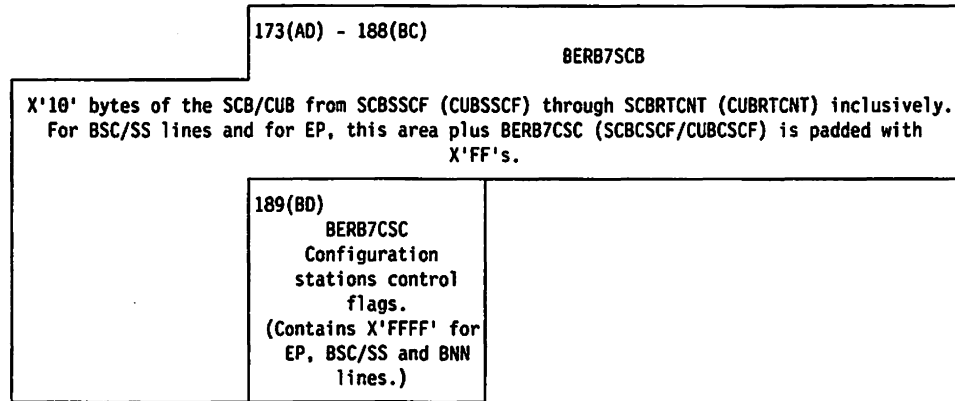


Type 11 Level 3 Line Adapter Command Time-Out for the 3720

Applicable BER ID:

- X'B1' Communications scanner processor command time-out.

8(8) BERB7LP Get-Line-ID response. (Pointer to LNVT slot)	6(6) BERB7BFB BER flag.	7(7) Reserved.
Parameter and status area.		
	38(26) BERB7TA0 TA data byte 0.	39(27) BERB7TD1 TD data byte 1.
40(28) BERB7NOE Network address (NCP) or CA number and ESC (EP)	42(2A) - 77(4D) BERB7L10	
X'24' bytes of LXB (for SDLC lines) or IOB (for BSC/SS lines). Refer to the LXB or IOB control block for a description of each field. For EP, this area is padded with X'FF's.		
	78(4E) - 141(8D) BERB7CCB	
X'40' bytes of data from the CCB control block. If NCP, the fields are from CCBL2 thru CCBPOLL inclusive. If EP, the fields are from CCBTROPT thru CCBXPRT inclusive. Refer to the appropriate CCB entry for descriptions of each field.		
	142(8E) - 155(9B) BERB7AXG	
X'E' bytes of data from the AXB: AXBTCTL and the last 3 ACB trace entries. For EP, this area contains the CCB extension starting at the EP CCB+X'60'.		
156(9C) - 172(AC) BERB7SAT X'11' bytes of data from the PSA trace area of the AXB - (AXB1SSCF thru AXBTROFF). For EP, this area contains the remaining portion of the EP CCB extension padded with X'F' bytes of X'FF's.		

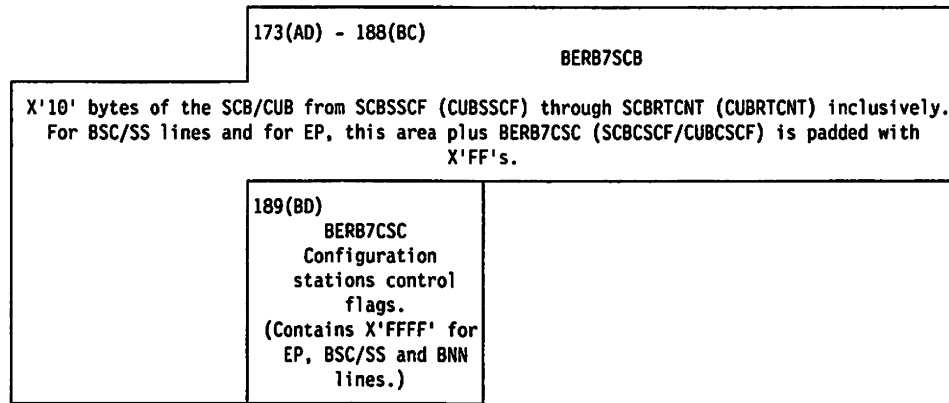


Type 11 Level 3 Line Adapter Command Timeout for the 3745

Applicable BER ID:

- X'B1' Communications scanner processor command timeout.

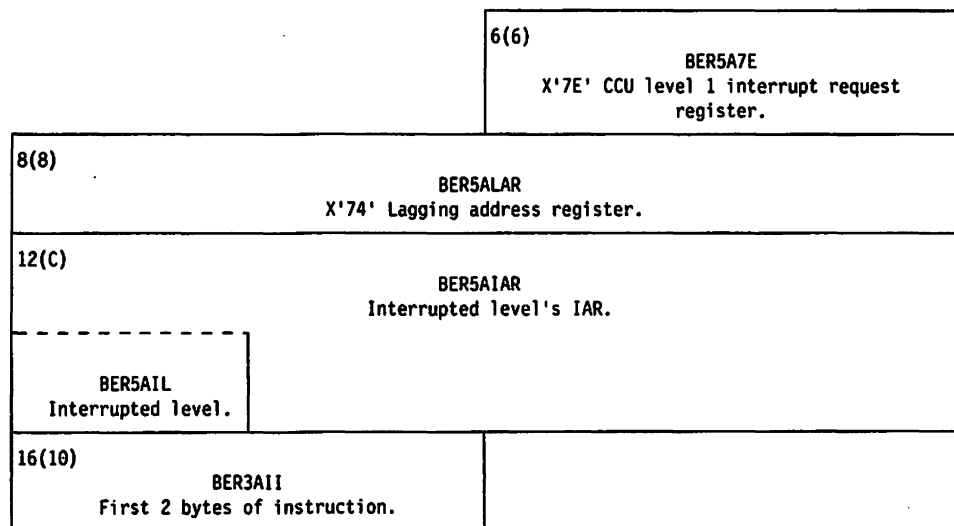
	6(6) BERB7BFB BER flag.	7(7) Reserved.
8(8) BERB7LP Get-Line-ID response. (Pointer to LNVT slot)	10(A) - 37(25) BERB7PSA	
Parameter and status area.		
	38(26) BERB7TA0 TA data byte 0.	39(27) BERB7TD1 TD data byte 1.
40(28) BERB7NOE Network address (NCP) or CA number and ESC (EP)	42(2A) - 77(4D) BERB7L10	
X'24' bytes of LXB (for SDLC lines) or IOB (for BSC/SS lines). Refer to the LXB or IOB control block for a description of each field. For EP, this area is padded with X'FF's.		
	78(4E) - 141(8D) BERB7CCB	
X'40' bytes of data from the CCB control block. If NCP, the fields are from CCBL2 thru CCBPOLL inclusive. If EP, the fields are from CCBTROPT thru CCBXPRT inclusive. Refer to the appropriate CCB entry for descriptions of each field.		
	142(8E) - 155(9B) BERB7AXB	
X'E' bytes of data from the AXB: AXBTCT and the last 3 ACB trace entries. For EP, this area contains the CCB extension starting at the EP CCB+X'60'.		
156(9C) - 172(AC)	BERB7SAT	
X'11' bytes of data from the PSA trace area of the AXB - (AXB1SSCF thru AXBTROFF). For EP, this area contains the remaining portion of the EP CCB extension padded with X'F' bytes of X'FF's.		



Type 12 Level 1 Program Exceptions Error

Applicable BER IDs:

- X'11' Level 5 code executes In/Out or IOH/IOHI instruction
- X'12' Invalid operation code
- X'13' Addressing exception on instruction fetch
- X'14' Addressing exception of instruction execution
- X'15' Storage protection on instruction fetch
- X'16' Storage protection on instruction execution
- X'17' Level 5 branch to location 0 (reported as level 5 In/Out)
- X'18' User branch to location 0 (reported as storage protect on fetch)
- X'19' Logic error—interrupt reason lost.



Type 12 Level 2 Program-Controlled Interrupt (PCI)

Applicable BER ID:

- X'21' Level 2 PCI.

	6(6) BER96R7F X'7F' CCU levels 2, 3, 4 interrupt request register.
8(8)	BER96L3 Level 3 IAR.
12(C)	BER96L4 Level 4 IAR.

Type 13 Level 1 CCU Related Check Error for the 3745

Applicable BER IDs:

- X'91' Unresolved level 1 interrupt
- X'92' Unresolved interrupted level (when requested)
- X'93' CCU hard check—should not occur
- X'94' IPL—should not occur
- X'95' Invalid level 1 interrupted IAR (IN X'79').

	6(6) BER5A7E X'7E' CCU level 1 interrupt request register.
8(8)	BER5ALAR X'74' Lagging address register.
12(C)	BER5AIAR Interrupted level's IAR.
BER5AIL Interrupted level.	
16(10)	BER4ACCU X'7D' CCU hardware check register.
18(12)	BER4I57 CCU input register X'57'. (V5R2 and later releases)
20(14)	BER4B057 CCU output register X'57'. (V5R2 and later releases)
22(16)	BER4BFB BER flag.

Type 13 Level 1 CCU Related Check Error for the 3720

Applicable BER IDs:

- X'91' Unresolved level 1 interrupt
- X'92' Unresolved interrupted level (when requested)
- X'93' CCU hard check—should not occur
- X'94' IPL—should not occur
- X'95' Invalid level 1 interrupted IAR (IN X'79').

		6(6) BER5A7E X'7E' CCU level 1 interrupt request register.
8(8) BER5ALAR X'74' Lagging address register.		
12(C) BER5AIAR Interrupted level's IAR.		
BER5AIL Interrupted level.		
16(10) BER4ACCU X'7D' CCU hardware check register.	18(12) BER4B6D CA register X'0D'.	
20(14) BER4B6E CA register X'0E'.		

Type 13 Level 3 CA and CCU Errors for the 3720

Applicable BER IDs:

- X'32' Level 3 interrupt configuration check
- X'B1' Unresolved level 3 interrupt.

		6(6) BERAAR77 X'77' Adapter levels 2, 3 interrupt request register.
8(8) BERAAR7F X'7F' CCU levels 2, 3, 4 interrupt request register.		10(A) BERAAR60 X'0' CA initial selection register.
12(C) BERAAR61 X'1' CA CCW and subchannel address.		14(E) BERAAR62 X'2' Data status register.
16(10) BERAAR63 X'3' CA ESC subchannel address and status register.		18(12) BERAAR64 X'4' CA PIO bytes 1 and 2.
20(14) BERAAR65 X'5' CA PIO bytes 3 and 4.		22(16) BERAAR66 X'6' CA NSC status register.
24(18) BERAAR67 X'7' CA enables indications.		26(1A) BERAAR6B X'B' CA-EXC T10 address and status register.
28(1C) BERAAR6C X'C' CA-AIO operations register.		30(1E) BERAAR6F X'F' CA level 3 interrupt request register.
32(20) BERFAR6D CA register X'D'.		34(22) BERFAR6E CA register X'E'.

Type 13 Level 3 CA and CCU Errors for the 3745

Applicable BER IDs:

- X'32' Level 3 interrupt configuration check
- X'B1' Unresolved level 3 interrupt.

	6(6) BERAAR77 X'77' Adapter level 2/3 interrupt request register.
8(8) BERAAR7F X'7F' CCU level 2/3/4 interrupt request register.	10(A) BERAAR00 X'00' CA initial selection register (IOC1).
12(C) BERAAR01 X'01' CA CCW and subchannel address (IOC1).	14(E) BERAAR02 X'02' Data status register (IOC1).
16(10) BERAAR03 X'03' CA ESC address and status register (IOC1).	18(12) BERAAR04 X'04' CA PIO bytes 1 and 2 (IOC1).
20(14) BERAAR05 X'05' CA PIO bytes 3 and 4 (IOC1).	22(16) BERAAR06 X'06' CA NSC status register (IOC1).
24(18) BERAAR07 X'07' CA enabled indications (IOC1).	26(1A) BERAAR0B X'0B' CA-ESC T10 address and status register (IOC1).
28(1C) BERAAR0C X'0C' CA-A10 operations register (IOC1).	30(1E) BERAA0F X'0F' CA level 3 interrupt request register (IOC1).
32(20) BERFA10D CA register X'0D' (IOC1).	34(22) BERFA10E CA register X'0E' (IOC1).
36(24) BERFA200 X'00' CA initial selection register (IOC 2).	38(26) BERFA201 X'01' CA CCW, subchannel address (IOC 2).
40(28) BERFA202 X'02' Data status register (IOC 2).	42(2A) BERFA203 X'03' CA ESC address and status (IOC 2).
44(2C) BERFA204 X'04' CA PIO bytes 1 and 2 (IOC 2).	46(2E) BERFA205 X'05' CA PIO bytes 3 and 4 (IOC 2).
48(30) BERFA206 X'06' CA NSC status register (IOC 2).	50(32) BERFA207 X'07' CA enabled indicator (IOC 2).

<p>52(34) BERFA20B X'0B' CA ESC T10 address and status (IOC 2).</p>	<p>54(36) BERFA20C X'0C' CA AIO operation register (IOC 2).</p>	
<p>56(38) BERFA20D CA register X'0D' (IOC 2).</p>	<p>58(3A) BERFA20E CA register X'0E' (IOC 2).</p>	
<p>60(3C) BERFA20F X'0F' CA level 3 interrupt request register (IOC 2).</p>	<p>62(3E) BERFATA TA (high byte).</p>	
	<p>From IOC 1.</p>	<p>From IOC 2.</p>
<p>64(40) BERFA157 CCU input register X'57'. (V5R2 and later releases)</p>	<p>66(42) BERFA057 CCU output register X'57'. (V5R2 and later releases)</p>	
<p>68(44) BERFLAG BER flag.</p>		

Type 13 Level 4 CCU Errors

Applicable BER IDs:

- X'C1' Unresolved level 4 interrupt; no level 4 hardware latches on
- X'C2' Unresolved level 4 PCI hardware interrupt
- X'C3' Continuous or unresolved level 4 PCI hardware interrupt (same as X'C2' except level 4 retry count = 0)
- X'C4' Unresolved level 4 SVC interrupt
- X'C5' Continuous or unresolved level 4 MOSS request hardware interrupt
- X'C6' Continuous or unresolved level 4 MOSS status hardware interrupt.

8(8) BERCAR7F X'7F' CCU levels 2, 3, 4 interrupt request register.	6(6) BERCAR77 X'77' Adapter levels 2, 3 interrupt request register.
Level 4 router control block.	10(A) - 17(11) BERCAL4B

Type 14 Level 1 I/O Controller Related Errors for the 3720

Applicable BER IDs:

- X'91' Unresolved level 1
- X'92' Unresolved AIO level 1 interrupt
- X'93' Unresolved PIO level 1 interrupt
- X'95' All read redrive error registers failed.

		6(6) BER6A7E X'7E' CCU level 1 interrupt request register.
8(8) BER6A10C X'76' IOC error summary register.	10(A) BER6A75 X'75' AIO cycle-steal control word register.	
12(C) BER6ALAR X'74' Lagging address register.		
16(10) Reserved.	18(12) BER6A76U X'76' for PIO error in level 1.	
20(14) Reserved.		
24(18) BER6AFB* BER flag.	25(19) BER6ARHB Logical OR of redrive-error registers.	26(1A) BER6ACL1 CLAB1 board-redrive address and error register.
28(1C) BER6ACL2 CLAB2 board-redrive address and error register.		30(1E) BER6AL3B LAB3 board-redrive address and error register.
32(20) BER6ACAB CAB board-redrive address and error register.		34(22) BER6AFDR FRDV board-redrive address and error register.
36(24) BER6AL4B LAB4 board-redrive address and error register.		38(26) BER6AL5B LAB5 board-redrive address and error register.
40(28) BER6AL6B LAB6 board-redrive address and error register.		42(2A) BER6AL7B LAB7 board-redrive address and error register.
44(2C) BER6AL8B LAB8 board-redrive address and error register.		46(2E) Reserved.

Type 14 Level 1 I/O Controller Related Errors for the 3745

Applicable BER IDs:

- X'92' Unresolved AIO level 1 interrupt
- X'93' Unresolved PIO level 1 interrupt
- X'96' Read of switch adapter's error register failed.

		6(6) BER6A7E X'7E' CCU level 1 interrupt request register.
8(8) BER6A10C X'76' IOC error summary register.	10(A) BER6A75 X'75' AIO cycle steal CX register.	
12(C) BER6ALAR X'74' Lagging address register.		
16(10) Reserved.	18(12) BER6A76U X'76' for PIO error in level 1.	
20(14) BER6A157 CCU input register X'57'. (V5R2 and later releases)	22(16) BER6A057 CCU output register X'57'. (V5R2 and later releases)	
24(18) BER6AFB BER flag.	25(19) Reserved.	26(1A) BER6ASWA Switch adapter error register information.

Type 15 Level 1 Token-Ring Multiplexer—PIO Errors for the 3720

Applicable BER IDs:

- X'18' Token-Ring adapter not installed
- X'97' Token-Ring adapter PIO error (count ≤ limit)
- X'98' Token-Ring adapter PIO error (count > limit)
- X'9C' Token-Ring adapter PIO error on Input Get-line-ID operation code.

		6(6) BER207E X'7E' CCU level 1 interrupt request register.
8(8) BER2010C X'76' IOC error summary register.	10(A) BER2011 First two bytes of instruction.	
12(C) BER20LAR X'74' Lagging address register.		
16(10) BRD10TRM Token-Ring multiplexer level 1 status register.	18(12) BER2076U X'76' PIO error in level 1.	
20(14) BER20ETA TA field of IOH failure in level 1.	22(16) Reserved.	
24(18) BER20FB* BER flag.	25(19) BER20RHB Logical OR of redrive-error registers.	26(1A) BER20CL1 CLAB1 board-redrive address and error register.
28(1C) BER20CL2 CLAB2 board-redrive address and error register.	30(1E) BER20L3B LAB3 board-redrive address and error register.	
32(20) BER20CAB CAB board-redrive address and error register.	34(22) BER20FDR FDRV board-redrive address and error register.	
36(24) BER20L4B LAB4 board-redrive address and error register.	38(26) BER20L5B LAB5 board-redrive address and error register.	
40(28) BER20L6B LAB6 board-redrive address and error register.	42(2A) BER20L7B LAB7 board-redrive address and error register.	
44(2C) BER20L8B LAB8 board-redrive address and error register.	46(2E) Reserved.	

48(30)	BER20IAR Interrupted level's IAR.	
BER20IL Interrupted level.		
52(34)	BER20TA IOH/IOHI image (TA data).	54(36)
		BER20TD IOH/IOHI image (TD data).

Type 15 Level 1 Token-Ring Multiplexer—PIO Error Reported by I/O Controller for the 3745

Applicable BER IDs:

- X'18' Token-Ring adapter not installed
- X'97' Token-Ring adapter PIO error (count ≤ limit)
- X'98' Token-Ring adapter PIO error (count > limit)
- X'9C' Token-Ring adapter PIO error on Input Get-line-ID operation code
- X'9E' Token-Ring adapter PIO error on Get Error Status command.

		6(6) BER207E X'7E' CCU level 1 interrupt request register.
8(8) BER2010C X'76' IOC error summary register.	10(A) BER2011 First 2 bytes of instruction.	
12(C) BER20LAR X'74' Lagging address register.		
16(10) BRD10TRM TRM error status register.	18(12) BER2076U X'76' PIO error in level 1.	
20(14) BER20ETA TA field of IOH failure in level 1.	22(16) Reserved.	
24(18) BER20FB BER flag.	25(19) Reserved.	26(1A) BER00SWA Switch adapter error register information.
28(1C) BER00IAR Interrupted level's IAR.		
BER00IL		
32(20) BER00TA IOH/IOHI image - TA data.	34(22) BER00TD IOH/IOHI image -TD data.	

Type 15 Level 1 Token-Ring Multiplexer—AIO Errors for the 3720

Applicable BER IDs:

- X'14' Addressing exception
- X'16' Storage protection
- X'91' Token-Ring adapter AIO error (time-out or parity check)
- X'92' Token-Ring adapter AIO error unresolved
- X'93' Token-Ring adapter AIO invalid CCW.

		6(6) BER227E X'7E' CCU level 1 interrupt request register.
8(8) BER2210C X'76' IOC error summary register.	10(A) BER2275 X'75' AIO cycle-steal control word.	
12(C) Reserved.		14(E) BER22ETA TA field of IOH failure in level 1.
16(10) BRD10TRM Token-Ring multiplexer level 1 status register.	18(12) BER2276U X'76' PIO error in level 1.	
20(14) BER12SPR The CSP shared-pointer register (X'3F').		
24(18) BER22FB* BER flag.	25(19) BER22RHB Logical OR of redrive-error registers.	26(1A) BER22CL1 CLAB1 board-redrive address and error register.
28(1C) BER22CL2 CLAB2 board-redrive address and error register.		30(1E) BER22L3B LAB3 board-redrive address and error register.
32(20) BER22CAB CAB board-redrive address and error register.		34(22) BER22FDR FDRV board-redrive address and error register.
36(24) BER22L4B LAB4 board-redrive address and error register.		38(26) BER22L5B LAB5 board-redrive address and error register.
40(28) BER22L6B LAB6 board-redrive address and error register.		42(2A) BER22L7B LAB7 board-redrive address and error register.
44(2C) BER22L8B LAB8 board-redrive address and error register.		46(2E) Reserved.

Type 15 Level 1 Token-Ring Multiplexer—AIO Errors for the 3745

Applicable BER IDs:

- X'14' Addressing exception
- X'16' Storage protection
- X'91' Token-Ring adapter AIO error (time-out or parity check)
- X'92' Token-Ring adapter AIO error unresolved
- X'93' Token-Ring adapter AIO invalid CCW.

		6(6) BER227E X'7E' CCU level 1 interrupt request register.
8(8) BER2210C X'76' IOC error summary register.	10(A) BER2275 X'75' AIO cycle steal control word register.	
12(C) Reserved.	14(E) BER22ETA TA field on IOH failure in level 1.	
16(10) BRD12TRM TRM error status register.	18(12) BER2276U X'76' PIO error in level 1.	
20(14) BER12SPR The LA shared pointer register (X'3F' or X'6F').		
24(18) BER22FB BER flag.	25(19) Reserved.	26(1A) BER22SWA Switch adapter error register information.

Type 15 Level 1 Interrupt Issued by Token-Ring Multiplexer for the 3720

Applicable BER IDs:

- X'96' Token-Ring adapter disconnect mode
- X'99' Token-Ring adapter error
- X'9A' Unresolved Token-Ring multiplexer error
- X'9B' Disconnect Token-Ring multiplexer interrupt.

		6(6) BER217E X'7E' CCU level 1 interrupt request register.
8(8) BER21IOC X'76' IOC error summary register.	10(A) BRD21TRM Token-Ring multiplexer address.	11(B) - 15(F)
Reserved.		
16(10) BRD11TRM Token-Ring multiplexer level 1 status register.	18(12) BER2176U X'76' PIO error in level 1.	
20(14) BER12BRR Redrive response-to-poll.	22(16) Reserved.	
24(18) BER21FB* BER flag.	25(19) BER21RHB Logical OR of redrive-error registers.	26(1A) BER21CL1 CLAB1 board-redrive address and error register.
28(1C) BER21CL2 CLAB2 board-redrive address and error register.	30(1E) BER21L3B LAB3 board-redrive address and error register.	
32(20) BER21CAB CAB board-redrive address and error register.	34(22) BER21FDR FDRV board-redrive address and error register.	
36(24) BER21L4B LAB4 board-redrive address and error register.	38(26) BER21L5B LAB5 board-redrive address and error register.	
40(28) BER21L6B LAB6 board-redrive address and error register.	42(2A) BER21L7B LAB7 board-redrive address and error register.	
44(2C) BER21L8B LAB8 board-redrive address and error register.	46(2E) Reserved.	

Type 15 Level 1 Error Reported by Token-Ring Multiplexer for the 3745

Applicable BER IDs:

- X'96' Token-Ring adapter disconnect mode
- X'99' Token-Ring adapter error
- X'9A' Unresolved Token-Ring multiplexer error
- X'9B' Disconnect Token-Ring multiplexer interrupt.

		6(6) BER217E X'7E' CCU level 1 interrupt request register.
8(8) BER2110C X'76' IOC error summary register.	10(A) BRD21TRM* TRM number.	11(B) Reserved.
12(C) Reserved.		
16(10) BRD11TRM TRM error status register.	18(12) BER2176U X'76' PIO error in level 1.	
20(14) Reserved.		
24(18) BER21FB BER flag.	25(19) BER21FLA LIBFLGTS.	26(1A) BER21SWA Switch adapter error register information.

Type 15 Level 2 Errors

Applicable BER IDs:

- X'A3' Invalid level 2 interrupt
- X'A4' Direct memory access or interrupt vector error (due to Token-Ring interface coupler)
- X'A5' Direct memory access or interrupt vector error (due to Token-Ring multiplexer)
- X'A7' PIO—memory mapped input output (MMIO) error (due to Token-Ring interface coupler)
- X'A8' PIO—MMIO error (due to Token-Ring multiplexer).

		6(6) BER8AFLG* BER flag.	7(7) BER8ATRP Token-Ring interface coupler number.
8(8) BER8AATA IOH/IOHI image (TA data).	10(A) BER8ATRM Token-Ring multiplexer level 2 status.		

Applicable BER ID:

- X'AC' Token-Ring interface coupler adapter check.

	6(6) BER8AFLG* BER flag.	7(7) BER8ATRP Token-Ring interface coupler number.
8(8) BERBAATA IOH/IOHI image (TA data).	10(A) BER8ATRM Token-Ring multiplexer level 2 status.	
12(C) - 19(13) BER8AACS Adapter check status.		

Type 15 Level 3 Errors

Applicable BER IDs:

- X'B3' Level 3 time-out due to Token-Ring interface coupler
- X'B4' Deadman Timer
- X'B5' Level 3 time-out due to Token-Ring multiplexer.

	6(6) BRDB7FLG* BER flag.	7(7) BRDB7TRP Token-Ring interface coupler number.
8(8) BRDB7TA IOH/IOHI image (TA data).	10(A) BRDB7IR Token-Ring multiplexer IR/BR status.	
12(C) BRDB7TCR Token-Ring interface coupler control register.		

Applicable BER ID:

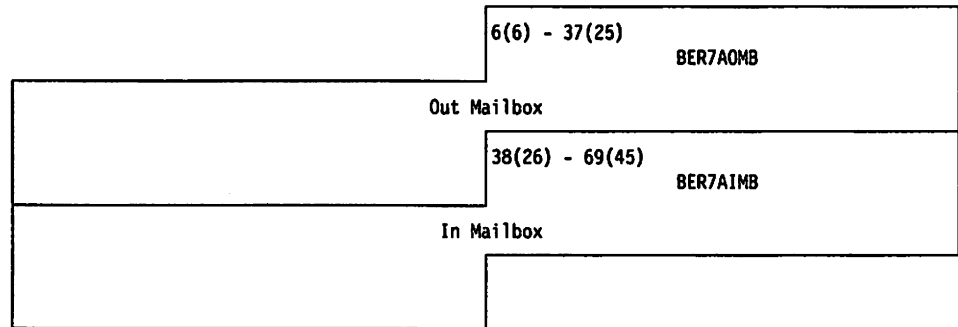
- X'B2' Token-Ring interface coupler/Token-Ring multiplexer check at initialization.

	6(6) BRDB7FLG* BER flag.	7(7) BRDB7TRP Token-Ring interface coupler number.
8(8) BRDB7TA IOH/IOHI image (TA data).	10(A) BRDB711R Token-Ring interface coupler initialization interrupt register.	
12(C) BRDB7TCR Token-Ring interface coupler control register.		

Type 01 Level 1 MOSS Down Error

Applicable BER ID:

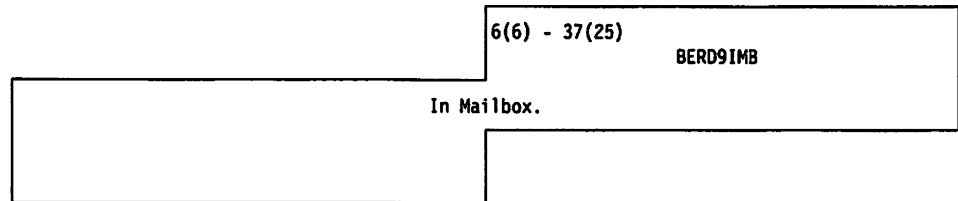
- X'91' MOSS down level 1.



Type 01 Level 4 MOSS Inbound Error

Applicable BER ID:

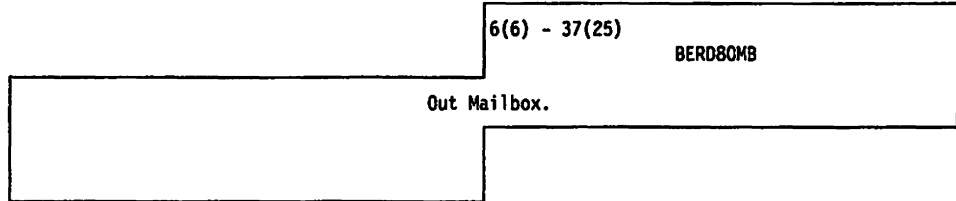
- X'C2' NCP-MOSS interface error (level 4 in IN Mailbox request).



Type 01 Level 4 MOSS Outbound Error

Applicable BER ID:

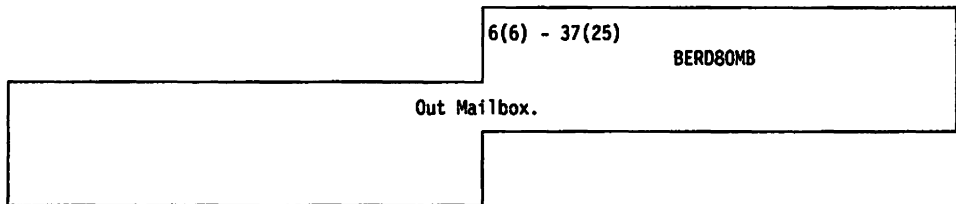
- X'C1' NCP-MOSS interface error (level 4 Out Mailbox request).



Type 01 Level 3 MOSS Command Time-Out Error

Applicable BER ID:

- X'B3' NCP-MOSS interface error (level 3 Out Mailbox time-out).



For BERs generated at level 1.

Offset/Field Name	Bit Pattern	Contents
6(6) 24(18) BERB7FLG BER8AFLG BER20FB BER21FB BER22FB BER0CFB BER10FLG BER6AFB	x... .. ..1.. .. ..1. .... ...1 x... .... .1.. .... ..1. .....1	Box error record flags. 1 = Control program is NCP or PEP. 0 = Control program is EP. Adapter or token-ring multiplexer down. Control program put adapter down. Redrive has been disabled (NCP only) or Error on invalid ESC (EP only). (3720 only) Reserved. Error on Get Error Status. CA is being disabled. IOH or IOHI on level 1 failed twice.

For BERs generated at level 2 and 3

Offset/Field Name	Bit Pattern	Contents
6(6) 24(18) BRD8AFLG BRDB7FLG BER8ABFB BER7BFB BRDB7FLG	 1... .. .1.. 1.. ..xx .xxx	Box error record flags. Control program is NCP or PEP Token-ring multiplexer down Token-ring interface coupler dump requested. Reserved.

Background Save Area

Program: NCP
Size in bytes: 40(28)
Created by: NCP generation
Called by: Background programs
Pointed to by: SYSSV5P field in HWX
Function: Background register save area

0(0)	BGSBCHN Back chain field.
4(4)	BGSFCHN Forward chain field.
8(8) - 39(27)	BGSAVERG Register save area (8 words).

Buffer Prefix

Program: NCP
Size in bytes: 8(8) plus 4-byte prefix
Located in: The beginning of each buffer
Created by: Any routine that uses the LEASE macro to get a buffer
Pointed to by: Variable
Function: Chains buffers in a BCU and points to the beginning of the text data within a single buffer

-4(4) BHBHTG* Buffer tag.	-3(3) BHBUFTAG Buffer overlay check. X'C2'	-2(2) BHVVTI Buffer virtual route vector table index.	
0(0) BHBUFCBN Buffer prefix chain field.			
4(4) BHCOPYF Copy field.		6(6) BHOFFSET Offset to beginning of text in this buffer.	7(7) BHDATAcnt Text data count (for this buffer only).
BHCOPCT Copy count.	5(5) BHCOPYS* Copy status.		

* Indicates a byte expansion follows.

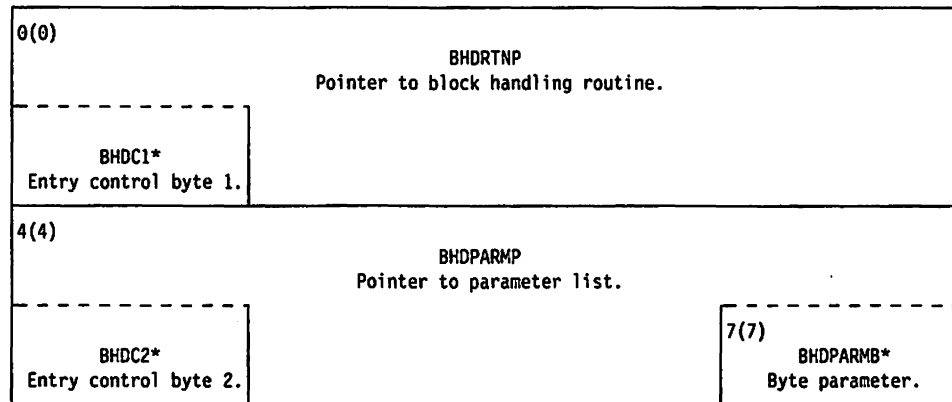
Byte Expansions

Offset/Field Name	Bit Pattern	Contents
-4(-4) BHBHTG	1... ..	Buffer is not in free buffer pool.
	... 1...	Buffer is initialized to the line or link.
	... .1..	Buffer is chained.
	... ..1.	Buffer is enqueued to QCB.
	... ..1	Buffer is unchained.

Offset/Field Name	Bit Pattern	Contents
5(5) BHCOPYS	... ..	Copy status.
	... 1...	PIU is a copy. Buffer is a PIU head buffer.

Block Handler Driver Table

Program: NCP
Size in bytes: 8(8) per entry; total size, variable
Created by: NCP generation
Pointer to: BHS
Function: Defines the block handling routines that are to be executed for a particular block handler



* Indicates a byte expansion follows.

Byte Expansions

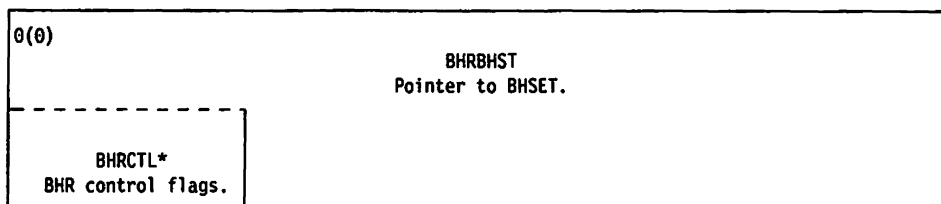
Offset/Field Name	Bit Pattern	Contents
0(0) BHDC1		Entry control byte 1.
	1... ..	End of table (last entry).
	.1.. ..	User BHR.
	...1 ..	Receive control if command is in error

Offset/Field Name	Bit Pattern	Contents
4(4) BHDC2		Entry control byte 2.
	1... ..	Receive control for Read.
	.1.. ..	Receive control for Invite.
	..1.	Receive control for Write.
	.... 1...	Receive control for Disconnect.
.... .1..	Receive control in terminator subtask for Read I/O.	

Offset/Field Name	Bit Pattern	Contents
7(7) BHDPARMB	1... .... .1.. .... ..1. .... ...1 1... .... .1.. .... .1.	Byte parameter (for date/time). Date desired. Calendar form of date desired. Julian format of date desired. Gregorian format 1 of date desired. Gregorian format 2 of date desired. Time desired. Date/time stamp first block of message.

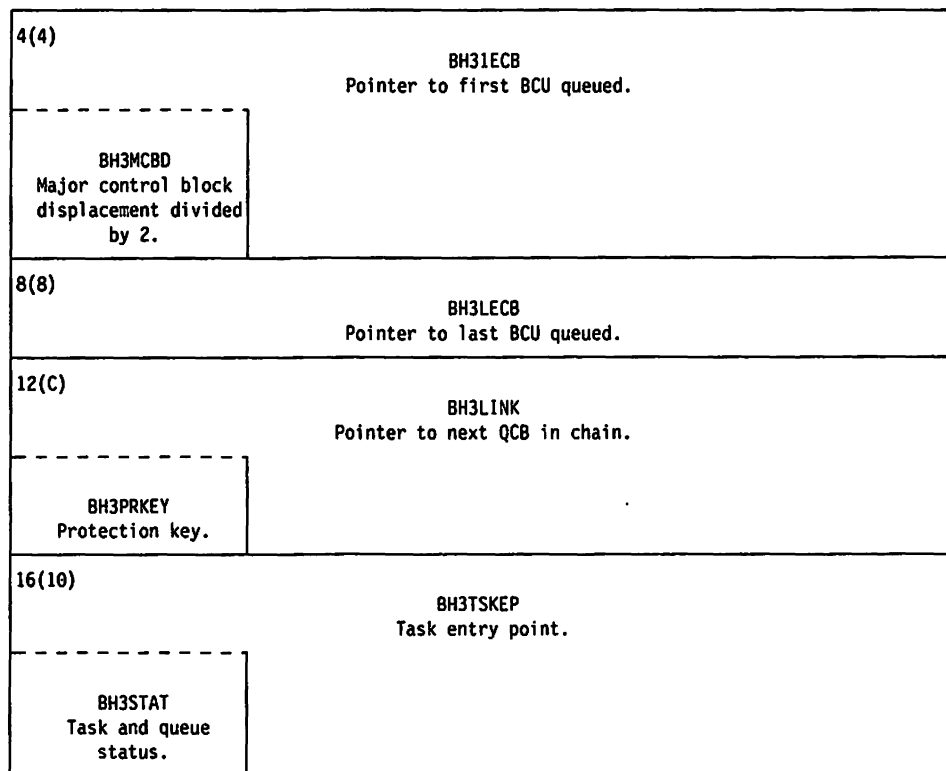
Block Handler Routine Extension to DVB

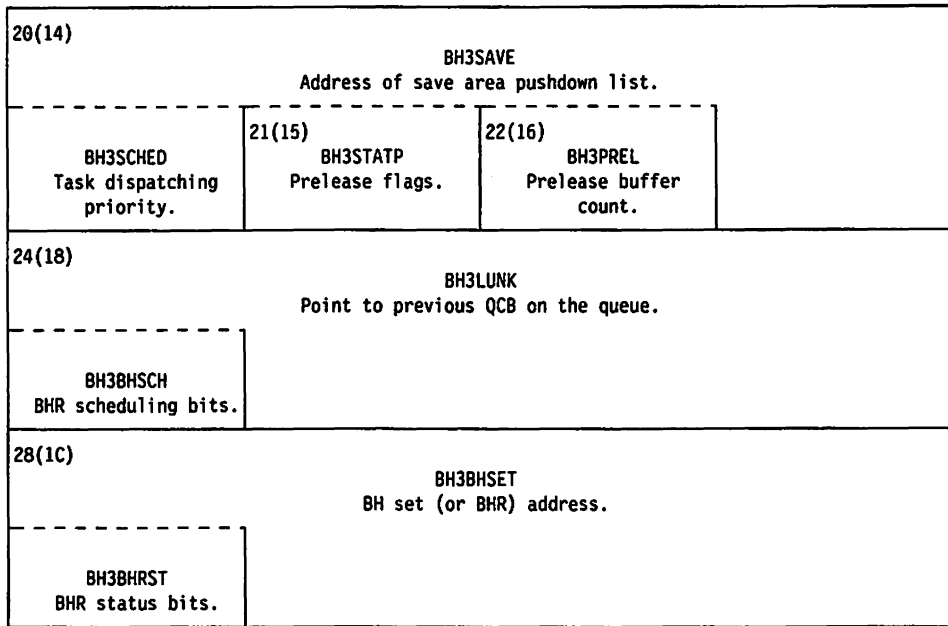
Program: NCP
Size in bytes: 32 (20)
Located in: DVB
Created by: NCP generation
Pointed to by: DVBBHRO field in DVB
Function: Associates block handler routines with a device
Note: Actual position of this block depends upon other extensions in the DVB.



* Indicates a byte expansion follows.

Point 3 QCB (BHRBH3Q)
 (See QCB for Input Queues for all bit definitions.)





Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) BHRCTL	1... .. .1. .... ..1. .... ...1 1...	BHR control flags. Execute BHR. If a BHR was specified as dynamic, specified initially as inactive, or deactivated by operator control, this bit will be off. Point 1—Specifies point 1 BHR execution. Point 2—Specifies point 2 BHR execution. Point 3—Specifies point 3 BHR execution. Point 3—Block Handler Routing queue control block exists for device. This QCB is created by defining PT3EXEC YES or BHEXEC ALL. For dynamic block handlers that have a point 3, there must be a point 3 BHRQCB.

Block Handler Set

Program: NCP
Size in bytes: 12(C)
Created by: NCP generation
Pointed to by: BSTBHSPT field in BST
Function: Points to the block handlers that are to be executed for the block handler set

0(0)	BHSP1 Pointer to point 1 block handler driver table (BHD).
4(4)	BHSP2 Pointer to point 2 BHD.
8(8)	BHSP3 Pointer to point 3 BHD.

Boundary Inbound Session Started Queue

Program: NCP
Size in bytes: 24(18)
Created by: NCP generation
Pointer to: QPBISQP field in the QPB
Function: Enqueues all inbound PIUs not destined for an active session
Format: Standard input QCB
Task entry point is CXDCBSI
Task priority is productive
Task is not reentrant

Basic Link Unit

Program: NCP
Size in bytes: PIU + 6 or 7 bytes
Function: This is the SDLC transmission block

SDLC Line Control (Modulo 8)

0(0)	1(1)	2(2)
Flag X'7E'.	Address of secondary station.	Control (See Note)

SDLC Line Control (Modulo 128)

0(0)	1(1)	2(2)
Flag X'7E'.	Address of secondary station.	Control (See Note)

PIU

3(3) or 4(4)
Path Information Unit (See PIU FID0, -1, -2, -3, -4, and -F for description.)

SDLC Line Control

n	n+2
Frame Check Sequence (2 bytes)	Flag X'7E'

Note: The control field is one byte long for modulo 8 and two bytes long for modulo 128 (except unnumbered format which is always one byte long regardless of modulo). See Section 6 for one-byte and two-byte descriptions and formats of SDLC commands and responses.

Boundary Out Queue

Program: NCP

Size in bytes: 24(18)

Created by: NCP generation

Pointer to: QPBBOQP field in the QPB

Function: Interface between INN and BNN. All BNN traffic is ENQUEUED to this queue.

Format: Standard input QCB
Task entry point is CXDCVRO
Task priority is immediate
Task is not reentrant

Boundary Outbound Session Started Queue

Program: NCP

Size in bytes: 24(18)

Created by: NCP generation

Pointer to: QPBOSQP field in the QPB.

Function: All outbound PIUs not destined for an active session are
enqueued on the BOSSQ.

Format: Standard input QCB
Task entry point is CXDCBSO
Task priority is productive
Task is not reentrant

Destination Boundary Pool (BPOOL) Block

Program: NCP
Size in bytes: 12(C)
Created by: NCP generation
Pointed to by: SYSBPBP field in HWE + 84 (54)
Function: Contains size of the destination boundary pool, destination boundary pool thresholds and boundary pool status

0(0) BPBSIZE Number of buffers in the BPOOL.	2(2) BPBCNT Number of allocated buffers.	
4(4) BPBTHRS1 BPOOL 62.5% threshold.	6(6) BPBTHRS2 BPOOL 75% threshold.	
8(8) BPBTHRS3 BPOOL 87.5% threshold.	10(A) BPBFLAGS* BPB status.	11(B) Reserved.

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
10(A) BPBFLAGS		BPOOL block status.
	1... ..	Reset window low priority (RWIL).
	.1.. ..	Reset window medium priority (RWIM).
	..1. ..	Reset window high priority (RWIH).
	...1 ..	BPOOL full.

Boundary Function Processor Address Table

Program: NCP
Size in bytes: 40(28)
Created by: NCP generation
Pointer to: CXTBPT in link-edit map
Function: Holds a list of all routines that are used by the boundary function as inbound, outbound, or session termination processors. Each entry consists of an index and a pointer to a routine.

0(0)	Pointer to SSCP-PU boundary function out routine.
SPLOUT Index X'01'	
4(4)	Pointer to SSCP-LU boundary function out routine.
SLUOUT Index X'02'	
8(8)	Pointer to LU-LU boundary function out routine.
LLUOUT Index X'03'	
12(C)	Pointer to SSCP-PU boundary function in routine.
SPUIN Index X'04'	
16(10)	Pointer to SSCP-LU boundary function in routine.
SLUIN Index X'05'	
20(14)	Pointer to LU-LU boundary function in routine.
LLUIN Index X'06'	

24(18)	Pointer to LU-LU session termination notification task.
LLUST Index X'07'	
28(1C)	Pointer to outboard primary LU (OPLU)-SLU inbound processor.
PLUIN Index X'08'	
32(20)	Pointer to OPLU-SLU outbound processor.
PLUOUT Index X'09'	
36(24)	Pointer to session inbound head task processor.
HELDIN Index X'0A'	

Boundary Session Block

Program: NCP

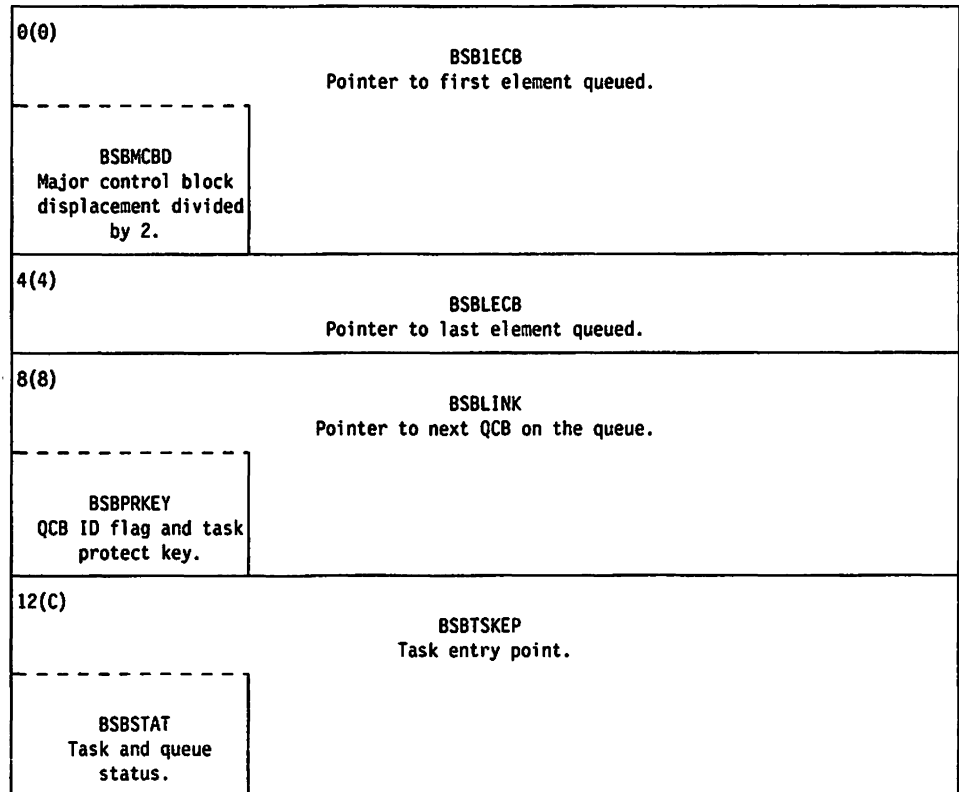
Size in bytes: 72(48) for a dependent LU (SSCP-LU);
 100(64) for a dependent LU (LU-LU);
 108(6C) for an independent LU (LU-LU)

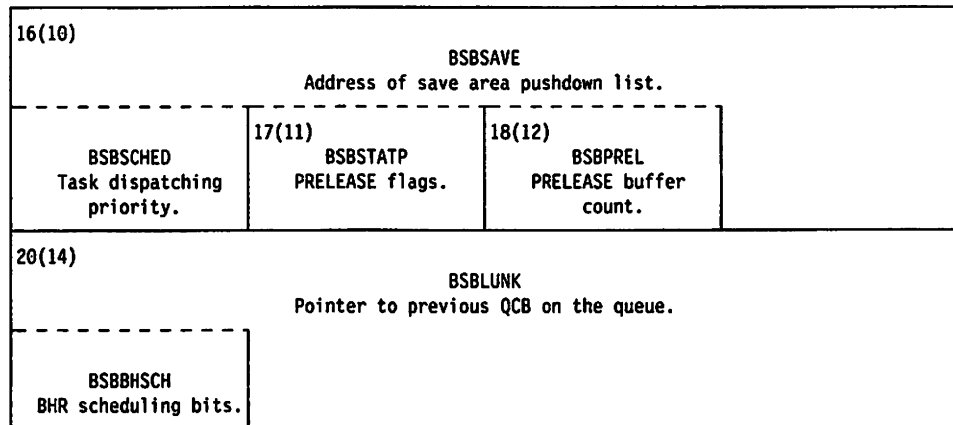
Created by: Initialization routine CXFPOOLI

Pointer to: LNBBBSF field in the LNB and NSCBSBP field in the NSC

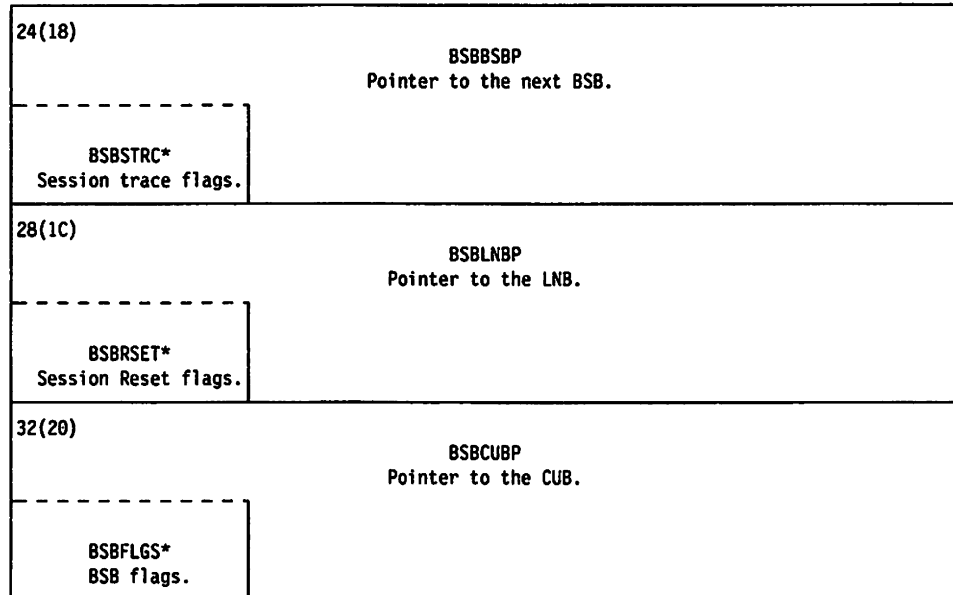
Function: Each BSB represents either an SSCP-LU session or an LU-LU session that is established through one of several possible addresses. A BSB for a dependent LU in an SSCP-LU session contains a session path control block (SPC) but does not contain a resource control block (RCB). A BSB for a dependent LU in an LU-LU session contains an SPC and a RCB but the RCB does not contain an imbedded search element control block (SEB). A BSB for an independent LU in an LU-LU session contains an SPC and a RCB that contains an imbedded SEB.

CPM Out Queue Control Block (BSBOUTQ)
 Common for SSCP-LU sessions or LU-LU sessions.
 (See QCB for input queues for bit definitions.)





Common



* Indicates a byte expansion follows.

BSB Format for a Dependent LU in an SSCP-LU Session

36(24) BSBSOSLU** Normal outbound identification.	38(26) BSBAOSLU** Expedited outbound identification.
40(28) BSBCPST* Session control primary status.	41(29) BSBRALU Field to store data for rebuilding ACTLU response.
44(2C) BSBCSSET* Session control secondary status.	45(2D) BSBSLFG* SSCP-LU flags.
	46(2E) BSBIDGN** Identification number generation.
48(30) BSBINC1 Last incoming sequence number.	50(32) BSBINC2 Next-to-last incoming sequence number.
52(34) BSBOUT1 Last outgoing sequence number.	54(36) BSBOUT2 Next-to-last outgoing sequence number.
56(38) - 71(47) Imbedded session path control block (SPC). (See SPC for format.)	

* Indicates a byte expansion follows.

** For LUs on Type 1 PU only.

BSB Format for a Dependent LU in an LU-LU Session

36(24) BSBSMAX Maximum send size of RU for session partner LU.	37(25) BSBLMAX Maximum send size of RU for LU.	38(26) BSBHSTAT* XRF session status.	39(27) BSBAPPS2* Primary status.
40(28) BSBAPPST* Application primary status.	41(29) BSBCVRC* Control vectors received bits.	42(2A) BSBUNBTP* UNBIND type.	43(2B) BSBBX10 Offset to BXI.
44(2C) BSBAPSST* Application secondary status.	45(2D) BSBNPAFG* NPM status flags.	46(2E) BSBIDGN** Identification number generation.	
48(30) BSBINC1 Last incoming sequence number.		50(32) BSBINC2 Next-to-last incoming sequence number.	
52(34) BSBOUT1 Last outgoing sequence number.		54(36) BSBOUT2 Next-to-last outgoing sequence number.	
56(38) - 71(47) Imbedded session path control block (SPC). (See the SPC for format.)			
72(48) - 99(63) Imbedded resource control block (RCB). The RCB does not have an imbedded SEB. (See the RCB for format.)			

* Indicates a byte expansion follows.

** For LUs on a Type 1 PU only.

BSB Format for an Independent LU in an LU-LU Session

36(24) BSBSMAX Maximum send size of RU for session partner LU.	37(25) BSBLMAX Maximum send size of RU for LU.	38(26) BSBHSTAT* XRF session status.	39(27) BSBAPPS2* Primary status.
40(28) BSBAPPST* Application primary status.	41(29) BSBCVRC* Control vectors received bits.	42(2A) BSBUNBTP* UNBIND type.	43(2B) BSBBX10 Offset to BXI.
44(2C) BSBAPSST* Application secondary status.	45(2D) BSBNPAFG* NPM status flags.	46(2E) BSBIDGN** Identification number generation.	
48(30) BSBINC1 Last incoming sequence number.		50(32) BSBINC2 Next-to-last incoming sequence number.	
52(34) BSBOUT1 Last outgoing sequence number.		54(36) BSBOUT2 Next-to-last outgoing sequence number.	
56(38) - 71(47) Imbedded session path control block (SPC). (See the SPC for format.)			
72(48) - 107(68) Imbedded resource control block (RCB). The RCB contains an imbedded search element control block (SEB). (See the RCB and SEB for formats.)			

* Indicates a byte expansion follows.

** For LUs on a Type 1 PU only.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
24(18) BSBSTRC	1... .. .1.. .. ..1. .... ...1 x... .... .1.. .... ..xx	Session trace and PIU priority flags. Last outgoing PIU was expedited. Next-to-last PIU was expedited. Last incoming PIU was expedited. Next-to-last PIU was expedited. Reserved Session trace for a specific resource. PIU priority. 00 = Low priority. 01 = Medium priority. 10 = High priority.

Offset/Field Name	Bit Pattern	Contents
28(1C) BSBRSET	1... .... .1.. .... ..1. .... ...1 1... .... .1.. .... ..1. .... ...1	Session reset flags. Session reset due to VR INOP. Pending session reset due to ANS. Session reset due to ANS= STOP. Session reset due to hierarchical/route extension (REX) reset. Session reset due to BFCLEANUP PIU. Session reset due to backup session failure. Session reset due to VR activation failure. Pending session reset due to a negative BIND response or an UNBIND from SLU; or active session reset due to an UNBIND or a response to an UNBIND.

Offset/Field Name	Bit Pattern	Contents
32(20) BSBFLGS	x... .... .1.. .... ..1. .... ...1 x... .... .1.. .... ..1. .... ...1	BSB flags. 1 = BSB allocated. 0 = BSB in pool. Awaiting pacing response with data; count has been incremented. Pseudo BID pending; count has been incremented. Inbound segmentation; count has been incremented. Session type: 1 = SSCP - LU 0 = LU - LU Segments may be received inbound. Segments may be received outbound. Dummy BIND status record pending.

Offset/Field Name	Bit Pattern	Contents
38(26) BSBHSTAT	1... .... .1.. .... ..1. .... ...1 1... .... ..1.	LU - LU Extended Recovery Facility (XRF) session status. Switch pending state. Dual backup state. NOTIFY delayed indicator. SWITCH FORCED received indicator. SWITCH CONDITIONAL received indicator. XRF backup BIND received indicator.

Offset/Field Name	Bit Pattern	Contents
39(27) BSBAPPS2		LU-LU primary status.
	1...	UNBIND response to LU required.
	.1..	UNBIND response to session partner LU required.
	..1.	LU understands extended BINDs.
	...1	Session partner LU understands extended BINDs.
	.... 1...	BFTERM required.
	.... .1..	Waiting for BFCINIT.
	.... ..1.	BFCINIT received; BIND not sent.
	..... 1	Processing BIND to session partner LU.

Offset/Field Name	Bit Pattern	Contents
40(28) BSBCPST		SSCP-LU session control primary status.
	1...	Primary Half Session Session established.
	.1..	Processing ACTLU.
	..1.	Processing DACTLU.
	...1	Secondary Half Session Session established.
	.... 1...	Processing ACTLU.
	.... .1..	Processing DACTLU.
	.... ..X.	Reserved
	..... 1	ACTLU response pending.

Offset/Field Name	Bit Pattern	Contents
40(28) BSBAPPST		LU-LU application primary status.
	1...	Primary Half Session Session established.
	.1..	Processing BIND to LU.
	..1.	UNBIND to LU pending.
	...1	UNBIND to LU required.
	.... 1...	BFSESSEND required.
	.... .1..	Secondary Half Session UNBIND to session partner LU pending.
	.... ..1.	UNBIND to session partner required.
	..... 1	BFSESST required.

Offset/Field Name	Bit Pattern	Contents
41(29) BSBCVRC	1... .. .1.. .. ..1. .... ...1 1... .... .1.. .... ..X. X	Control vectors received bits. Route selection control vector X'2B' received. Include Bind Image control vector X'31' in BFSESSST. Sense data saved. Control vector X'35' saved. RU information included in control vector X'35' Control vector X'60' saved. Sense origin name generated by: 1 = A node other than the sense origin. 0 = Sense origin. Sense origin name field contains: 1 = A local name for an adjacent link station along the path the RU was received on. 0 = The network name of the sense origin.

Offset/Field Name	Hex Value	Contents
42(2A) BSBUNBTP	X'01' X'02' X'03' X'04' X'05' X'06' X'07'* X'08'* X'09'* X'0A'* X'0B'* X'0C' X'0E' X'0F'* X'11' X'12' X'13' X'FE'	UNBIND type. Normal end of session. BIND forthcoming. Talk. Restart mismatch. LU not authorized. Invalid session parameters. Virtual route inoperative. Route extension inoperative. Hierarchical reset. SSCP gone. Virtual route deactivated. Fail. LU failure; recoverable. UNBIND cleanup. Gateway SSCP is cleaning up LU session (NOTIFY). XRF backup hierarchical reset. XRF primary hierarchical reset. Session fails; see sense codes.

* UNBIND types NCP can set.

Offset/Field Name	Bit Pattern	Contents
44(2C) BSBCSSET	1... ..	SSCP-LU session control secondary status. Processing CLEAR.

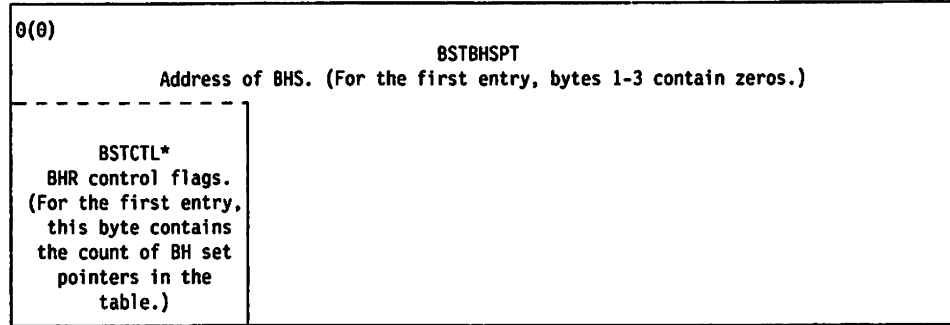
Offset/Field Name	Bit Pattern	Contents
44(2C) BSBAPSST	1... .. .1.. .. ..x. .... ...1 x... 1.. .... ..1. .....1	LU-LU application secondary status. Processing CLEAR. Inbound segmentation in progress. 1 = Session partner LU in immediate request mode. 0 = Delayed request mode. Null BB PIU pending. 1 = INB (In bracket state) 0 = BETB (Between brackets) BB PIU pending. PBID pending. Bracket state management mode.

Offset/Field Name	Bit Pattern	Contents
45(2D) BSBSLFG	1... ..	SSCP-LU flags. Network-qualified name supported.

Offset/Field Name	Bit Pattern	Contents
45(2D) BSBNPAFG	1... .. .1.. .. ..1. .... ...1 1... .... .1.. .....xx	NPM status flags. NPM Session Start required. NPM Session Start delayed. NPM Session End required. NPM Session End delayed. NSC allocated to BSB. Session checked for NPM collection already. Reserved

Block Handler Set Table

Program: NCP
Size in bytes: 4 bytes per entry; table can contain up to 256 entries
Created by: NCP generation
Pointed to by: SYSBST field in XDA
Function: Points to block handler sets (one entry per BHS)



* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) BSTCTL		BHR control flags.
	1... ..	Execute.
	.1.. ..	Point 1.
	..1. ..	Point 2.
	...1 ..	Point 3.

Branch Trace Table

- Program:** NCP, EP
- Size in bytes:** 24-byte header plus a variable number of 8-byte entries
 The user specifies the number of entries on the Branch operand of the BUILD macro; minimum of 100 entries or 800 bytes, and a maximum of 8K entries or 64K bytes.
- Created by:** NCP or PEP generation
- Pointed to by:** Address constant for CXTBTRC (NCP/PEP) located in the field at X'18' in CPIT
- Function:** Contains a 24-byte header and a table of 8-bytes entries. The hardware stores the originating storage address and the destination storage address and the program levels into the branch trace table under any one of the following circumstances:
- A conditional or unconditional branch instruction is executed.
 - An instruction modifies the IAR (Register 0 of the active program level).
 - A new program level is entered because the control program issued a PCI or EXIT instruction, or an adapter caused an interrupt.

Branch Trace Table Header

0(0) Length of the branch trace table in bytes (excluding header).	2(2) Reserved.
4(4) Lower-limit address of the CCU storage area to be traced.	
Options*	
8(8) Upper-limit address of the CCU storage area to be traced.	
Program levels traced*	
12(C) Wrap address (BTT address + X'18') used with Wrap option.	
16(10) Address of current (last) entry used.	

* Indicates a byte expansion follows.

20(14)	Address of end entry in table.
--------	--------------------------------

Branch Trace Table

24(18)	First 8-byte entry. Originating CCU storage address.
Originating program level.	
28(1C)	Destination CCU storage address.
Destination program level.	
n	Last 8-byte entry. Originating CCU storage address.
Originating program level.	
n+4	Destination CCU storage address.
Destination program level.	

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
4(4)	..1. .... ...1 1... .... .1.. .....1	Options Branch trace has been activated. Wrap option. Stop branch trace on address compare. Stop CCU. (Always set for 3720/3745).

Offset/Field Name	Bit Pattern	Contents
8(8)	.1.. .... ..1. .... ...1 1... 1..	Program levels traced. Level 1. Level 2. Level 3. Level 4. Level 5.

Basic Transmission Unit (BSC/SS)

Program: NCP

Size in bytes: 14(E) control bytes + variable-length text

Located in: BCU

Created by: An internal NCP routine

Pointed to by: None
 The starting byte is at displacement 48(30) into the BCU.

Function: Contains information for either a request for I/O or for a control operation, or a response for the same

48(30) BCUSID (BCHSID) Source name.		50(32) BCUDID (BCHDID) Destination name (resource ID).	
52(34) BCUSEQ (BCHSEQ) Request tag or sequence number identifying the BTU.		54(36) BCUSRES (BCHSRES) System response. See Section 8 for responses.	55(37) BCULRES (BCHLRES) Extended response. Contains status of I/O operation. See Section 8.
56(38) BCUCMD* (BCHCMD) Command.	57(39) BCUMOD (BCHMOD) Command modifiers. See Section 3 for a list of the BTU commands and their modifiers.	58(3A) BCUSFLAG* (BCHSFLAG) Function flags.	59(3B) BCHBDF* BTU flags.
60(3C) BCUTLEN (BCHTLEN) Text length.		62(3E) Text field. (Variable length)	

* Indicates a byte expansion follows.

Note: Displacements represent the offset into the BCU.

Byte Expansions

Offset/Field Name	Hex Value	Contents
56(38) BCUCMD (BCHCMD)		Command. (See Section 3 for descriptions.)
	X'00'	Null
	X'01'	Read (R).
	X'02'	Write (W).
	X'03'	Online test (T).
	X'05'	Invite (I).
	X'06'	Contact (C).
	X'07'	Disconnect (D).
	X'08'	Control (Z).
	X'77'	Unsolicited response.
	Any other	Invalid

Offset/Field Name	Bit Pattern	Contents
58(3A) BCUSFLAG (BCHSFLAG)		Function flags.
	1... ..	Checkpoint select (for control commands) or start of header.
	.1.. ..	Header prefix.
	..1.	Suppress Invite (for control commands) or leading graphics.
	...1	First block of message.
	.... 1...	Transparent data.
	.... .1..	Positive acknowledgment.
	.... ..1.	Negative acknowledgment.
..... 1	Alternate acknowledgment.	

Offset/Field Name	Bit Pattern	Contents
59(3B) BCHBDF		BTU flags.
	1... ..	Reset error lock.
	.1.. ..	3270 poll for status.
	.... .1..	Suppress write response.
	..... 1	Selective text return

Switched Backup Extension to DVB

Program: NCP
Size in bytes: 4(4)
Located in: DVB
Created by: NCP generation
Pointed to by: DVBBUO field in DVB
Function: Contains control information for devices that can be contacted over a separate line when the current line fails

0(0)	BUEFLAGS* Flag byte.	1(1)	BUEPLCBP Primary LCB pointer.
------	-------------------------	------	----------------------------------

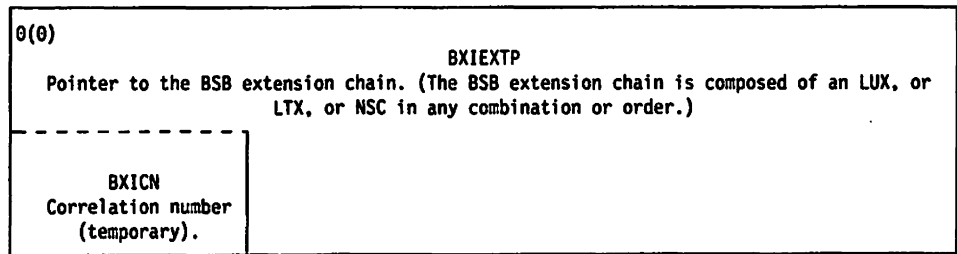
* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) BUEFLAGS		Flag byte.
	1...	Service-seeking skip when the device is on a multipoint line.
	.... .1..	Error occurred in dialing out.
	.... ..1.	Invite pending remembrance.
	.... ...1	Back up in progress.

Boundary Session Block Extension

Program: NCP
Size in bytes: 76(4C)
Created by: Initialization routine CXFPOOLI
Pointer to: BSBBXIO offset field in the BSB
Function: Contains additional data for LU-LU sessions and the session inbound held queue



Session Inbound Held Queue for Session Pacing (BXISIHQ)
 (See QCB for input queues for bit definitions.)

4(4)	BXIIECB Pointer to the first element queued.	
	BXIMCBD Major control block displacement divided by 2.	
8(8)	BXILECB Pointer to the last element queued.	
12(C)	BXILINK Pointer to the next QCB on the queue.	
	BXIPRKEY QCB ID flag and task protect key.	
16(10)	BXITSKEP Task entry point.	
	BXISTAT Task and queue status.	
20(14)	BXISAVE Address of save area pushdown list.	
	BXISCHED Task dispatching priority.	21(15) BXISTATP PRELEASE flags.
		22(16) BXIPREL PRELEASE buffer count.
24(18)	BXILUNK Pointer to the previous QCB on the queue.	
	BXIBHSCH BHR scheduling bits.	

28(1C) - 35(23)		
BXIPCID Procedure correlator ID (PCID).		
36(24)	BXINICPI Network names table (NNT) index for network ID portion of fully-qualified control point name.	38(26)
		BXICPCPI NNT index for control point name portion of full-qualified control point name.
40(28)	BXINISPI NNT index for network ID portion of network-qualified session partner LU name.	42(2A)
		BXIBSBO Offset to BSB.
		43(2B)
		BXIBSBID BSB extension identifier (X'16').
44(2C) - 51(33)		
BXISPSP Session partner LU (SPLU) name portion of network-qualified network session partner LU name.		
52(34)	BXIRRNWS Route extension (REX) stage received next window size.	54(36)
		BXIRTNWS REX stage transmit next window size.
BXIBIPC1* BIND pacing temporary field 1.		BXIBIPC3 BIND pacing temporary field 3.
56(38)		
BXISENC Sense code from PIU.		
BXISRNWS Subarea stage receive next window size.		
BXIBIPC2* BIND pacing temporary field 2.		58(3A)
		BXISTNWS Subarea stage transmit next window size.
		BXIBIPC4* BIND pacing temporary field 4.

* Indicates a byte expansion follows.

60(3C) BXIRXTPI* REX stage transmit pace indicators.	61(3D) BXIRXRPI* REX stage receive pace indicators.	62(3E) BXISATPI* Subarea stage transmit pace indicators.	63(3F) BXISARPI* Subarea stage received pace indicators.
64(40) BXIRTRPC REX stage transmit residual pace count.		66(42) BXIRRRPC REX stage receive residual pace count.	
BXIEAPLU Element address of primary LU (temporary field).		BXIEASLU Element address of secondary LU (temporary field).	
68(44) BXISTRPC Subarea stage transmit residual pace count.		70(46) BXISRRPC Subarea stage receive residual pace count.	
BXISAPLU Subarea of primary LU (temporary field).			
72(48) BXIINQL Length of session inbound held queue.	73(49) BXIOUTQL Length of BSB outbound queue.	74(4A) Reserved.	
BXISASLU Subarea of secondary LU (temporary field).			

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
52(34) BXIBIPC1	x... .. .x.. .. ..xx xxxx	BIND pacing temporary field 1. Secondary to primary staging indicator: 1 = More than one stage. 0 = 1-stage pacing. Reserved BIND secondary send window.

Offset/Field Name	Bit Pattern	Contents
54(36) BXIBIPC3	x... .. .x.. .. ..xx xxxx	BIND pacing temporary field 2. Primary to secondary staging indicator: 1 = 1-stage pacing. 0 = 2-stage pacing. Reserved. BIND primary send window.

Offset/Field Name	Bit Pattern	Contents
56(38) BXIBIPC2	1... .. .x.. .. ..xx xxxx	BIND pacing temporary field 2. Adaptive session pacing. Reserved BIND secondary receive window.

Offset/Field Name	Bit Pattern	Contents
58(3A) BXIBIPC4	xx.. .. ..xx xxxx	BIND pacing temporary field 4. Reserved BIND primary receive window.

Offset/Field Name	Bit Pattern	Contents
60(3C) BXIRXTPI	1... .. .1.. .. ..1. .... ...1 xxxx	REX stage transmit pace indicators. REX stage has adaptive session pacing. REX stage is held. REX pace response received. Set request-larger-window-indicator (RLWI) bit on next pace request set on REX stage. Reserved

Offset/Field Name	Bit Pattern	Contents
61(3D) BXIRXRPI	1... .. .1.. .. ..1. .... ...1 1... .... .1.. .... .1.	REX stage receive pace indicators. REX stage pace request received. REX stage withholding pace response. REX stage withheld previous pace response. REX stage received request for a larger window. REX stage is in batch mode. REX stage awaiting reset acknowledgement. REX storage received interactive mode request.

Offset/Field Name	Bit Pattern	Contents
62(3E) BXISATPI	1... .. .1.. .. ..1. .... ...1 1... .... .1..	Subarea stage transmit pace indicators. Subarea stage has adaptive session pacing. Subarea stage is held. Subarea stage received pace response. Set RLWI bit on next pace request sent on subarea stage. VREVENT has been set. BFEVENT has been set.

Offset/Field Name	Bit Pattern	Contents
63(3F) BXISARPI	1... .. .1.. .. ..1. .. ...1 1... .... .1.. .... ..1.	Subarea stage receive pace indicators. Subarea stage has received pace request. Subarea stage is withholding pace response. Subarea stage withheld previous pace response. Subarea stage received request for larger window. Subarea stage is in batch mode. Subarea stage awaiting reset acknowledgment. Subarea stage received interactive mode request.

Channel Adapter Control Block (Main)

Program: NCP

Size in bytes: 104(68) plus prefix

Created by: NCP generation

Pointed to by: SYSCAB field of HWE + 24(18), points to first CAB in timer chain, CABCHAIN of preceding CAB, CABMAINA of CAB (ext), or CAVTCABP of the associated CAVT entry

Function: Contains the parameters and control fields used by the channel adapter I/O supervisor. Each channel adapter has its own CAB.

-16(10) - -9(9)	CXCAECB** Event control block for leasing buffers. (For format, see Event Control Block.)
-8(8) - -1(1)	XXCXCAB Dump identifier characters. (XCXCABx, x = CA address)

* Indicates a byte expansion follows.

** On first main CAB only.

0(0) CABCND* Channel condition flags.		2(2) CABSEL* Channel adapter selection mask.	
4(4) CABICND Condition flags on entry. (See CABCND for flag definitions.)		6(6) CABCCMD* Current channel command.	
8(8) CABSTAT* Current status byte.		10(A) CABSTATE* Buffer information.	11(B) CABTRCF* CA trace flag.
12(C) CABTYPE Channel type. (Always X'00' to indicate a CAB.)	13(D) CABWSX Expected Write Start command.	14(E) CABSENSE* Sense byte to transfer for Sense command.	15(F) CABRSX Expected Read Start command.
16(10) CABXR77 Save area for external register X'77'		18(12) CABCA00 Save area for CA register X'00' Initial selection.	
20(14) CABCA01 Save area for CA register X'01' Initial selection address and command.		22(16) CABCA02I Input save area for CA register X'02'.	
24(18) CABCA02O Output save area for CA register X'02'.		26(1A) CABCA03 Save area for CA register X'03' ESC address and status.	

* Indicates a byte expansion follows.

28(1C)		
CABLKBP Pointer to the associated line control block (LKB) for a channel-link.		
CABCLRC* CLATO reason code.		
32(20)	CABCA06 Save area for CA register X'06' NCS status/control.	34(22)
		CABCA07I Input save area for CA register X'07' CA condition.
36(24)	CABCA070 Output save area for CA register X'07' CA condition.	38(26)
		CABCOND2* Channel condition flags. (Continued)
40(28)	CABCA0C Output save area for CA register X'0C' cycle-steal control.	42(2A)
		CABCA0D Save area for CA register X'0D' level 1 interrupt check.
44(2C)	CABCA0E Save area for CA register X'0E' level 1 interrupt requests.	46(2E)
		CABCA0F Save area for CA register X'0F' level 3 interrupt requests.
48(30)		
CABCACs Cycle steal data address save area.		
52(34)	CABENABL* CA enabled mask for CA register X'07'.	54(36)
		CABCOND2 Channel condition flags on entry (Continued). (See CABCOND2 for the byte expansion.)
56(38)	CABCASDT Timer decremented CA slowdown interval.	58(3A)
		CABHATOT Timer decremented 1/2 ATO timer value. (idle or second chance)
60(3C)		
CABCAVTE CABs associated CAVT entry.		
64(40)	65(41)	66(42)
CABCATYP* Channel adapter type.	CABTAB0* High byte of TA data.	CABCASDI Timer CA slowdown interval.

* Indicates a byte expansion follows.

68(44)	CABATDI Attention delay (tenths of a second).		70(46)	CABATDT Timer decremented attention delay interval.	
72(48)	CABHWM Attention delay PIU counter.		74(4A)	CABATD7I Attention Delay - Defined on BUILD or GROUP.	
76(4C)	CABAT07I Attention Time-out - Defined on BUILD or GROUP.		78(4E)	CABMMTO Channel monitor mode timer.	
80(50)	CABATOI Attention time-out (tenths of a second).		82(52)	CABATOT Timer decremented attention time-out.	
84(54)	CABCAPP Pointer to the associated channel adapter parameter table (CAP) control block.				
	CABTRCFE* CA trace field ext.				
88(58)	CABSMPM SSCP-NCP session mask.	89(59)	CABPIUO TH offset into PIU or link-header offset into link-header PIU.	90(5A)	CABCNL* Channel adapter contact control flags.
92(5C)	CABTGBP Pointer to transmission group control block (TGB).				
	CABDCKTR* Data check reason code.				
96(60)	CABEXTA Address of CAB extension.				
100(64)	CABCHAIN Address of the next CAB. (0-last CAB)				

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) CABCND	Byte 0	Channel condition flags
	1... ..	Attention status required.
	.1.. ...	Attention delay active.
	..1. ...	Monitoring suppress out.
	...1 ...	Channel monitor mode active
	.... 1..	Attention has been presented.
	.... .1..	Sense command flag.
	.... ..1.	CA slow down flag.
	.... ...1	3720 not initialized over this CA.
	Byte 1	
	1... ..	Host can write bit.
	.1.. ...	Channel adapter CWALL exit.
	...1 ...	Abort requested by level 4.
	.... 1..	Abort recognized.
.... .1..	Abort pending.	
.... ..1.	Channel is in disconnected state.	
.... ...1	Channel inoperative.	

Offset/Field Name	Hex Value	Contents
2(2) CABSEL**		Select mask for the CA.
	X'0000'	CA position 5 (IOC1) or 1 (IOC2) (for 3745) CA position 1 (for 3720).
	X'0200'	CA position 6 (IOC1) or 2 (IOC2) (for 3745) CA position 2 (for 3720).
	X'0400'	CA position 7 (IOC1) or 3 (IOC2) (for 3745)
	X'0600'	CA position 8 (IOC1) or 4 (IOC2) (for 3745)
	X'0800'	CA position 13 (IOC1) or 9 (IOC2) (for 3745)
	X'0A00'	CA position 14 (IOC1) or 10 (IOC2) (for 3745)
	X'0C00'	CA position 15 (IOC1) or 11 (IOC2) (for 3745)
X'0E00'	CA position 16 (IOC1) or 12 (IOC2) (for 3745)	

** To determine which channel position has been enabled, the bus on which the channel adapter resides can be identified by the field CABTAB0.

Offset/Field Name	Hex Value	Contents
6(6) CABCCMD	Byte 0	Initial selection subchannel address
	Byte 1	Current channel command.
	X'01'	Write.
	X'02'	Read.
	X'03'	NO-OP.
	X'04'	Sense.
	X'05'	Write IPL.
	X'09'	Write Break.
	X'31'	Write Start 0.
	X'32'	Read Start 0.
	X'51'	Write Start 1.
	X'52'	Read Start 1.
	X'61'	Write XID.
	X'62'	Read XID.
	X'93'	Restart Reset.
X'A3'	Discontact.	
X'C3'	Contact.	
X'E4'	Sense I/O.	

Offset/Field Name	Bit Pattern	Contents
8(8) CABSTAT	Byte 1	Current status byte.
	1...	Attention.
	.1..	Status mod.
	..1.	Control unit end.
	...1	Busy.
	.... 1...	Channel end.
	.... .1..	Device end.
	.... ..1.	Unit check.
	..... 1	Unit exception.

Offset/Field Name	Bit Pattern	Contents
10(A) CABSTATE		Buffer information.
	1...	Last buffer in PIU.
	.1..	End of host buffer unit.
	.... 1...	Needs suppressible status.
	..... 1	Sense I/O command flag.

Offset/Field Name	Hex Value	Contents
11(B) CABTRCF		CA trace flag.
	X'00'	No trace function.
	X'0F'	CA trace inactive but CADS trace requires deactivation. (3745 only)
	X'FF'	Trace function activated.

Offset/Field Name	Bit Pattern	Contents
14(E) CABSENSE		Sense byte to transfer for Sense command.
	1... ..	Command reject.
	.1.. ..	Intervention required.
	..1.	Bus out check.
	...1	Equipment check.
	.... 1...	Data check.
	.... .1..	Overrun.
	.... ..1.	Not initialized.
	.... ....1	Program abort.

Offset/Field Name	Hex Value	Contents
28(1C) CABCLRC		CLATO reason code.
	X'01'	Panel discontact.
	X'02'	Attention or activity time-out.
	X'04'	Force Deactivate processing.
	X'05'	XID negotiation failed.
	X'06'	Channel hardware error.
	X'09'	Channel discontact received.
	X'0A'	DISCONTACT PIU processing.
	X'0B'	CA slowdown timer expired.
	X'0C'	Channel Command received before XID exchange completed.

Offset/Field Name	Bit Pattern	Contents
38(26) CABCND2	Byte 0	Channel condition flags
	1... ..	Channel is in lock state.
	.1.. ..	End of the Run command requested.
	..1.	Unlock channel requested.
	...1	Asynchronous DE required.
	.... 1...	Blocked VR condition exited.
	.... .1..	Stop Write channel programs due to blocked VR status.
	.... ..1.	COMMIT has been satisfied.
	.... ...1	COMMIT outstanding for this channel.
	Byte 1	
	1... ..	Associated GCB has station statistics saved.
	.1.. ..	Current channel program is an ERP Read.
	..1.	Intervention required mode because CA is undefined or inactive for NCP.
	...1	CA active for NCP.
	.... 1...	CA in ANS due to switchback.
	.... .1..	Asynchronous status (without device end) has been requested but not presented. (3745 only)

Offset/Field Name	Hex Value	Contents
52(34) CABENABL		Enable mask for the CA.**
	X'00C0'	For 3745 CA position 5 (IOC1) or 1 (IOC2)
	X'0020'	CA position 6 (IOC1) or 2 (IOC2)
	X'000C'	CA position 7 (IOC1) or 3 (IOC2)
	X'0002'	CA position 8 (IOC1) or 4 (IOC2)
	X'9000'	CA position 13 (IOC1) or 9 (IOC2)
	X'2000'	CA position 14 (IOC1) or 10 (IOC2)
	X'4800'	CA position 15 (IOC1) or 11 (IOC2)
	X'0100'	CA position 16 (IOC1) or 12 (IOC2)
	X'00C0'	For 3720 CA position 1.
	X'0030'	CA position 2.

** The bus on which the channel adapter resides can be determined by the field CABTAB0 in order to determine which channel adapter position has been enabled.

Offset/Field Name	Hex Value	Contents
64(40) CABCATYP		Channel adapter type.
	X'05'	CA type 5. (3720)
	X'06'	CA type 6. (3745)

Offset/Field Name	Hex Value	Contents
65(41) CABTAB0		High byte of IOH TA data.
	X'08'	CA is on IOC 1. (for 3745)
	X'88'	CA is on IOC 2.
		Note: CABTAB0 is always X'08' on a 3720.

Offset/Field Name	Bit Pattern	Contents
84(54) CABTRCFE		CA trace field extension.
	1... ..	CA trace still on after initialization.
	.1.. ..	CA trace—recurrent entry (valid for a channel link only)
	..1.	CA trace deactivated due to level 5 processing (valid for a channel link only).
	...1	CA trace deactivated via MOSS console.
	.... 1...	Activate CADS trace on this channel adapter. (3745 only)
	.... ..1.	CADS trace is active on this channel adapter. (3745 only)

Offset/Field Name	Bit Pattern	Contents
90(5A) CABCNTL	Byte 0	Channel adapter Contact control flags.
	1... .. .1.. .. ..1. .. ...1 1.. .... .1.. .... ..1. .... ...1	Host XID expected. Read XID command expected. Read of NCP's XID pending. Contact command expected. FID4 contacted mode. FID2 contacted mode. Channel is a BNN resource. CLATO should be invoked after READ of NCP's XID is completed.
	Byte 1 xxxx xxxx	Reserved.

Offset/Field Name	Hex Value	Contents
92(5C) CABDCKTR		Data check reason code.
	X'01'	Unrecognized XID type.
	X'02'	Received XID2 length is incorrect.
	X'03'	PIU cannot be routed to INN path control.
	X'04'	PIU cannot be routed to BNN path control.
	X'05'	Transfer count exceeded.
	X'06'	Link header (LH) validation failed.
	X'07'	Set blocking delay LH length invalid.
	X'08'	Invalid LH function code.
	X'09'	Reserved.
	X'0A'	Input data buffer was empty.
X'0B'	Channel stop occurred.	

Channel Adapter Control Block (Extension)

Program: NCP
Size in bytes: 128(80)
Pointed to by: CABEXTA of CAB (main)
Function: Contains parameters and control fields used by the channel adapter I/Q supervisor. This block is an extension of the channel control block (CAB).

CABIQ Channel Intermediate Queue

0(0)		CABIQH Intermediate queue head pointer. (Blocks to be transmitted.)	
4(4)		CABIQT Intermediate queue foot pointer. (Blocks to be transmitted.)	
8(8)	CABCWLOW Low threshold to determine congestion of intermediate queue.	10(A)	CABCCWHI High threshold to determine congestion of intermediate queue.

CABHQ Channel Hold Queue

12(C)		CABHQH Hold queue head pointer. (Blocks that have transmitted.)	
16(10)		CABHQT Hold queue foot pointer. (Blocks that have transmitted.)	

Inbound Transfer Information
 (Host Write/Write Break)

20(14)		
CABIPIUA Address of first input buffer in current PIU.		
24(18)		
CABIPBF Address of previous buffer.		
28(1C)		
CABCPIU1 Address of the first buffer of completed PIU to pass to path control.		
32(20)		
CABCPIUN Address of the last buffer of the completed PIU to pass to path control.		
36(24)	38(26)	
CABPIUCT Number of PIUs passed to path control on the last write sequence.	CABSKPCT Number of PIUs to skip for retry.	
40(28)	42(2A)	43(2B)
CABSKPIU Number of PIUs skipped.	CABMLCNT SSCP buffer lease count for input data. (INBFRRS parameter)	CABLND Local network ID input control.
44(2C)		
CABIBUFA Address of current buffer received over channel.		
48(30)		
CABIDATA Address of current inbound data received over channel.		
52(34)	54(36)	55(37)
CABMDO Maximum data count at the current input buffer.	CABPIUXF Buffers used in this PIU.	CABHBFCT Buffers used in this Write channel program.
56(38)		
CABSCBP Pointer to the associated station control block (SCB).		
60(3C)		
Reserved.		
64(40)	66(42)	
CABACNT Inbound VRPRS count.	CABBCNT Outbound end bit count.	

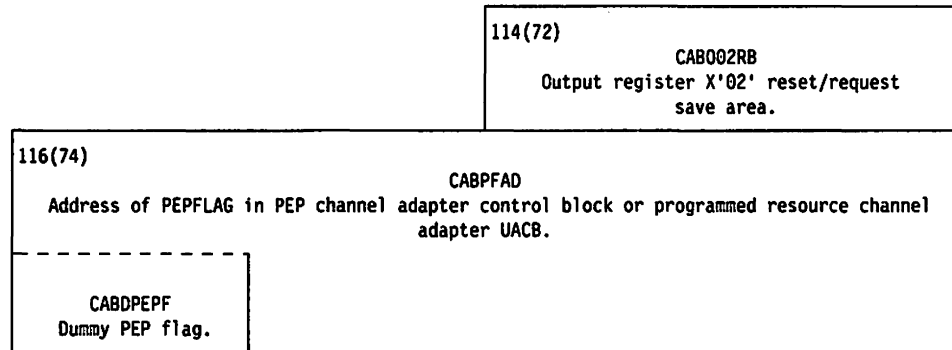
Outbound Transfer Information (Host Read)

68(44)		CABIQBS Address of last output block given to CXCAOUT from path control.	
72(48)		CABOXSV Save area for the output transfer routine.	
76(4C)		CABROTSV Refresh the output transfer save area.	
80(50)		CABOPIUA Address of output (to the channel) PIU.	
84(54)		CABOBUFA Address of output (to the channel) buffer.	
88(58)		CABODATA Address of output (to the channel) data.	
92(5C)	CABRDCNT Output buffer residual data count.	94(5E)	CABOXCNT Bytes in next output data service.
	CABRCCW Number of host read CCWs.		
96(60)	CABFHAC Host read buffer size. (UNITSZ parameter)	98(62)	CABRHAC Host read residual byte count. (UNITSZ parameter)
100(64)	CABFCCW Number of host read CCWs. (MAXBFRU parameter)	102(66)	Reserved.
104(68)	CABXCNT Inbound VRPRQ count.	106(6A)	CABYCNT Inbound end bit count.

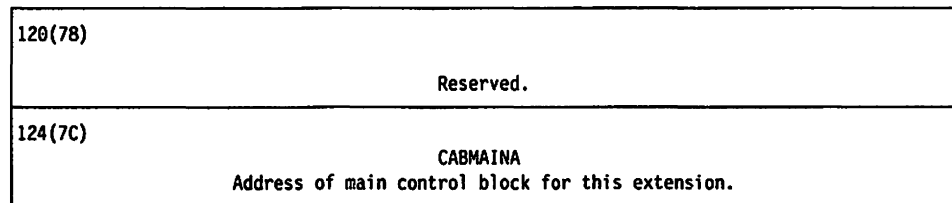
Host Buffer Pad Support

108(6C)		CABDUMBF Address of dummy data buffer.	
112(70)	CABPAD Pad size as control field. (BFRPAD parameter)	113(71)	Reserved.

PEP Option Interface Area



CAB Extension Chain Field Area



Channel Adapter Parameter Table

Program: NCP
Size in bytes: 8(8)
Created by: NCP Generation
Pointer to: CABCAPP field in the CAB
Function: Contains the NCP generated values for this channel adapter

0(0) CAPXFR Maximum (L) PIU buffer count.	1(1) CAPINBF Minimum number of buffers to get for Write command.	2(2) CAPTMOUT Attention time-out value.
4(4) CAPDELAY Attention delay value.		6(6) CAPCASDL Channel slowdown time-out value.

Channel Adapter Trace Select Table (3745)

Program: NCP, EP
Size in bytes: 96 (60)
Created by: NCP or PEP generation
Pointer to: CXTCAT in link edit map
Function: When the CA position indicator matches the panel switches, and the CA is installed, attached and defined, the CA trace console function can turn the CA trace on or off for the selected CA. The table consists of 17 eight-byte entries, one for each of the 16 possible CAs and an extra one to indicate the end of the table. NCP generation sets the initialized values and they do not have to change.

0(0)		CATCATE CA associated CAVT entry pointer.
4(4)	CATPOSI* CA position indicator.	6(6) Reserved.

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Hex Value	Contents
4(4) CATPOSI		CA position indicator.
	X'0080'	Indicator for CA position 1 (address 8).
	X'0040'	Indicator for CA position 2 (address 9).
	X'0020'	Indicator for CA position 3 (address 10).
	X'0010'	Indicator for CA position 4 (address 11).
	X'8000'	Indicator for CA position 5 (address 0).
	X'4000'	Indicator for CA position 6 (address 1).
	X'2000'	Indicator for CA position 7 (address 2).
	X'1000'	Indicator for CA position 8 (address 3).
	X'0008'	Indicator for CA position 9 (address 12).
	X'0004'	Indicator for CA position 10 (address 13).
	X'0002'	Indicator for CA position 11 (address 14).
	X'0001'	Indicator for CA position 12 (address 15).
	X'0800'	Indicator for CA position 13 (address 4).
	X'0400'	Indicator for CA position 14 (address 5).
	X'0200'	Indicator for CA position 15 (address 6).
	X'0100'	Indicator for CA position 16 (address 7).
	X'FFFF'	Indicator for last entry.

Channel Adapter Trace Select Table (3720)

Program: NCP
Size in bytes: 28(1C)
Created by: NCP generation
Pointed to by: CXTCAT in link edit map
Function: When the CA selection mask (CAT) matches the CABSEL mask (CAB), the CA trace console function can turn the CA trace on or off for the selected CA. The table contains seven full words; one for each of the two possible channel adapter positions, 4 reserved entries, and one entry to indicate the end of the table. NCP generation sets the initialized values and they do not change.

0(0) CATEOT* End-of-table indicator.	1(1) CATCAPOS* CA position indicator.	2(2) CATSELM* CA selection mask.
--------------------------------------------	---------------------------------------------	----------------------------------------

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Hex Value	Contents
0(0) CATEOT	X'00' X'FF'	End-of-table indicator. Not end of table. End of table.

Offset/Field Name	Hex Value	Contents
1(1) CATCAPOS	X'01' X'02'	CA position indicator. CA position 1 (address 0). CA position 2 (address 1).

Offset/Field Name	Hex Value	Contents
2(2) CATSELM	X'0000' X'0200'	CA selection mask. CA position 1 (address 0). CA position 2 (address 1).

Channel Adapter Vector Table (3745)

Program: NCP, EP

Size in bytes: 196(C4) for PEP;
 132(84) for NCP-only generation

Created by: NCP or PEP generation

Pointer to: SYSCAVTP in HWE and label CXTCAVT
 Labels CXTVTBS1 and CXTVTBS2 are the addresses of the BUS 1 and BUS 2 pointers.

Function: Contains pointers to CABs, CERs, and CHCBs for all 16 possible channel adapters whether generated or not. The CAB pointers contain a channel adapter number which is generated into the high order byte. The CER pointers contain a flag byte in the high order byte containing information about the availability of the channel adapter for processing. The CHCBs are used by EP only and the pointers will be included only if generated for EP.

BUS 1's pointers begin at label CXTVTBS1 and BUS 2's pointers begin at CXTVTBS2. The CAB, CER, and CHCB (if one exists) pointers can be addressed by using the labels CAVTCABP, CAVTCERP, and CABTCHBP once the offset (created by adding CA select mask x 2) is added to the appropriate bus label. CAVTCURP points to the CAVT entry of the CA currently being serviced in level 3.

CAVT Layout—CAVT current entry pointer

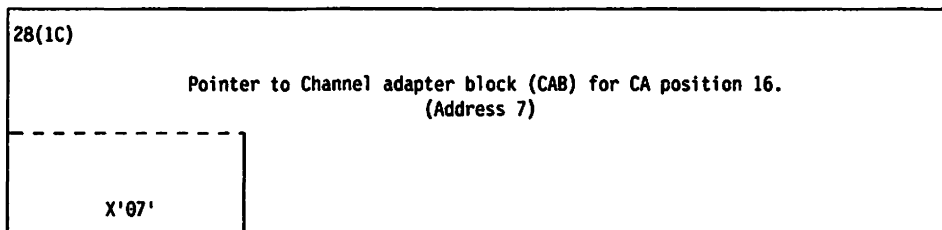
0(0)	CAVTCURP Pointer to current CAVT entry.
4(4) - 63(3F)	CAB, CER and CHCB pointers for IOC1.
64(40) - 123(7B)	CAB, CER and CHCB pointers for IOC2. (NCP only) Starts at offset 96(60) for PEP.

Note: CAVTCURP points to the CAVT entry of the CA currently being serviced in level 3.

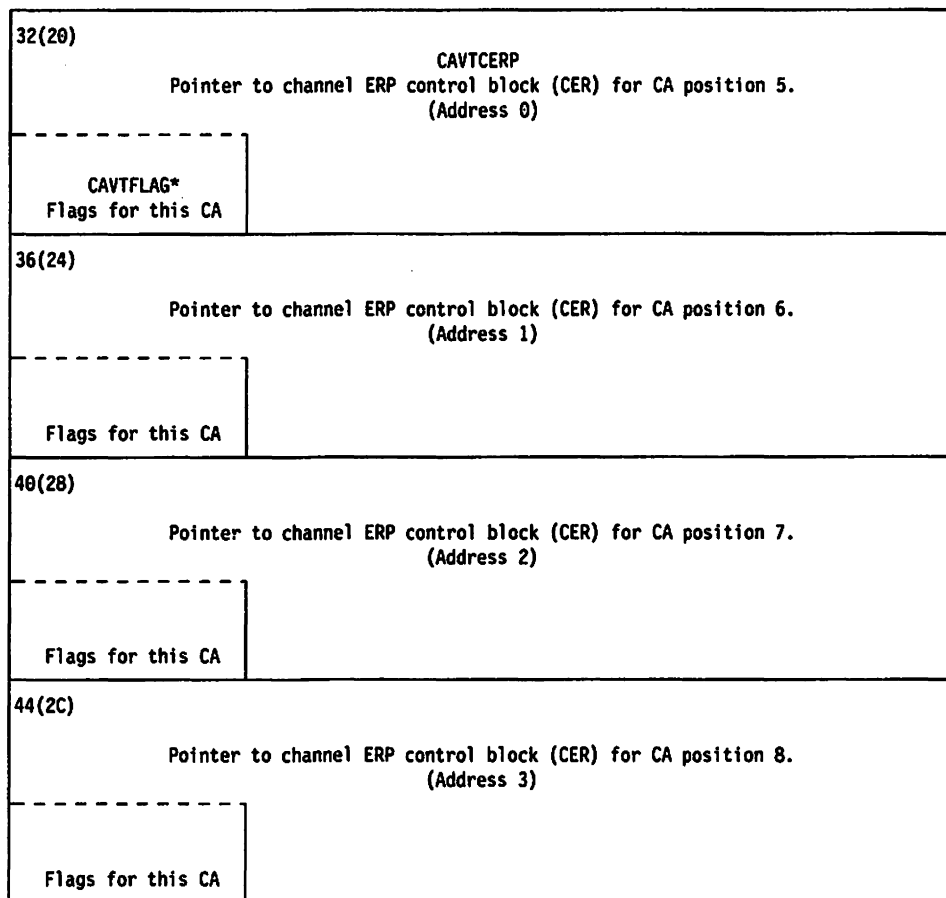
BUS 1 Pointers – CXTVTBS1

Note: Offsets are based on CXTVTBS1.
 CABs

0(0)	CAVTCABP Pointer to Channel adapter block (CAB) for CA position 5. (Address 0)
CAVTCAN0 Address for this CA. X'00'	
4(4)	Pointer to Channel adapter block (CAB) for CA position 6 (Address 1)
X'01'	
8(8)	Pointer to Channel adapter block (CAB) for CA position 7. (Address 2)
X'02'	
12(C)	Pointer to Channel adapter block (CAB) for CA position 8. (Address 3)
X'03'	
16(10)	Pointer to Channel adapter block (CAB) for CA position 13. (Address 4)
X'04'	
20(14)	Pointer to Channel adapter block (CAB) for CA position 14. (Address 5)
X'05'	
24(18)	Pointer to Channel adapter block (CAB) for CA position 15. (Address 6)
X'06'	



CERs



* Indicates a byte expansion follows.

48(30)	Pointer to channel ERP control block (CER) for CA position 13. (Address 4)
Flags for this CA	
52(34)	Pointer to channel ERP control block (CER) for CA position 14. (Address 5)
Flags for this CA	
56(38)	Pointer to channel ERP control block (CER) for CA position 15. (Address 6)
Flags for this CA	
60(3C)	Pointer to channel ERP control block (CER) for CA position 16. (Address 7)
Flags for this CA	

Note: This section ends after the CERs in an NCP-only generation. In PEP or EP, the CHCBs are included.

CHCBs

64(40)	CAVTCHBP** Pointer to EP channel control block (CHCB) for CA position 1. (Address 0)
68(44)	Pointer to EP channel control block (CHCB) for CA position 1. (Address 1)
72(48)	Pointer to EP channel control block (CHCB) for CA position 7. (Address 2)
76(4C)	Pointer to EP channel control block (CHCB) for CA position 8. (Address 3)
80(50)	Pointer to EP channel control block (CHCB) for CA position 12. (Address 4)
84(54)	Pointer to EP channel control block (CHCB) for CA position 13. (Address 5)
88(58)	Pointer to EP channel control block (CHCB) for CA position 14. (Address 6)
92(5C)	Pointer to EP channel control block (CHCB) for CA position 15. (Address 7)

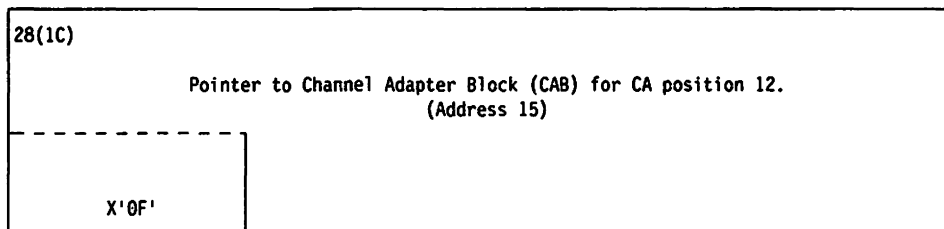
** These pointers are included if PEP only. If EP will not use a particular CA position, there is no CHCB and this pointer will be set to zeros.

BUS 2 Pointer—CXTVTBS2

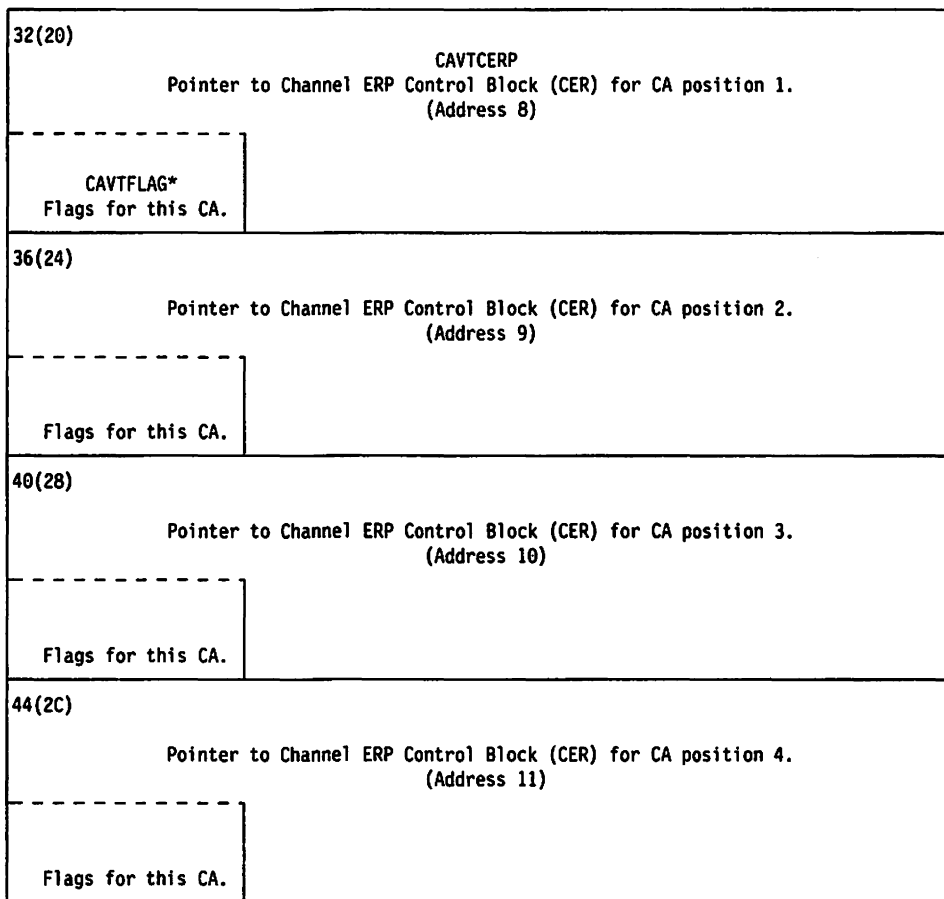
Note: Offsets are based on CXTVTBS2.

CABs

0(0)	CAVTCABP Pointer to Channel Adapter Block (CAB) for CA position 1. (Address 8)
CAVTCANO Address for this CA. X'08'	
4(4)	Pointer to Channel Adapter Block (CAB) for CA position 2. (Address 9)
X'09'	
8(8)	Pointer to Channel Adapter Block (CAB) for CA position 3. (Address 10)
X'0A'	
12(C)	Pointer to Channel Adapter Block (CAB) for CA position 4. (Address 11)
X'0B'	
16(10)	Pointer to Channel Adapter Block (CAB) for CA position 9. (Address 12)
X'0C'	
20(14)	Pointer to Channel Adapter Block (CAB) for CA position 10. (Address 13)
X'0D'	
24(18)	Pointer to Channel Adapter Block (CAB) for CA position 11. (Address 14)
X'0E'	



CERs



* Indicates a byte expansion follows.

48(30)	Pointer to Channel ERP Control Block (CER) for CA position 9. (Address 12)
	Flags for this CA.
52(34)	Pointer to Channel ERP Control Block (CER) for CA position 10. (Address 13)
	Flags for this CA.
56(38)	Pointer to Channel ERP Control Block (CER) for CA position 11. (Address 14)
	Flags for this CA.
60(3C)	Pointer to Channel ERP Control Block (CER) for CA position 12. (Address 15)
	Flags for this CA.

Note: This section ends after the CERs in an NCP-only generation. In PEP, the CHCBs are included.

CHCBs

64(40)	CAVTCBPP** Pointer to EP Channel Control Block (CHCB) for CA position 1. (Address 8)
68(44)	Pointer to EP Channel Control Block (CHCB) for CA position 2. (Address 9)
72(48)	Pointer to EP Channel Control Block (CHCB) for CA position 3. (Address 10)
76(4C)	Pointer to EP Channel Control Block (CHCB) for CA position 4. (Address 11)
80(50)	Pointer to EP Channel Control Block (CHCB) for CA position 9. (Address 12)
84(54)	Pointer to EP Channel Control Block (CHCB) for CA position 10. (Address 13)
88(58)	Pointer to EP Channel Control Block (CHCB) for CA position 11. (Address 14)
92(5C)	Pointer to EP Channel Control Block (CHCB) for CA position 12. (Address 15)

** These pointers are included in PEP only. If EP will not use a particular CA position, there is no CHCB and this pointer will be set to zeros.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
32(20) CAVTFLAG		CAVT flags byte.
	1... ..	CA not installed.
	.1.. ..	CA not operational.
	..1.	CA not attached to this CCU.
	...1	CA not defined.
	.... 1...	CA in ERP.
	.... .1..	CA is "install in progress."
	.....1.	CA is in CACM mode disconnected.

Channel Adapter Vector Table (3720)

Program:	NCP, EP, PEP
Size in bytes:	94(60) for PEP and EP standalone generation; 64(40) for NCP-only generation
Created by:	NCP or PEP generation
Pointer to:	SYSCAVTP in HWE and label CXTCAVT point to the CAVT current entry pointer. Label CXTVTBS1 is the address of the pointer.
Function:	Contains pointers to CABs, CERs, and CHCBs for both channel adapters. The CAB pointers contain a channel adapter number which is generated into the high order byte. The CER pointers contain a flag byte in the high order byte containing information about the availability of the channel adapter for processing. The CHCBs are used by EP only and the pointers will be included only if generated for EP.

CAVT Layout—CAVT current entry pointer

0(0)	CAVTCURP Pointer to current CAVT entry.
4(4) - 63(3F)	CAB, CER, and CHCB pointers.

Pointers—CXTVTBS1**Note:** Offsets based on CXTVTBS1.**CABS**

0(0)	CAVTCABP Pointer to Channel adapter block (CAB) for CA position 1 (Address 0)
	CAVTCAN0 Address for this CA. X'00'
4(4)	Pointer to Channel adapter block (CAB) for CA position 2. (Address 1)
	X'01'
8(8) - 31(1F)	Reserved

CERS

32(20)	CAVTCERP Pointer to channel ERP control block (CER) for CA position 1. (Address 0)
CAVTFLAG* Flags for this CA	
36(24)	Pointer to channel ERP control block (CER) for CA position 2. (Address 1)
Flags for this CA	
40(28) - 63(3F)	Reserved

* Indicates a byte expansion follows.

Note: This section ends after the CERS in an NCP-only generation. In EP, the CHCBs are included.

CHCBs

64(40)	CAVTCHBP** Pointer to EP channel control block (CHCB) for CA position 5. (Address 0)
68(44)	Pointer to EP channel control block (CHCB) for CA position 6. (Address 1)
72(48) - 95(5F)	Reserved

** These pointers are included if PEP only. If EP will not use a particular CA position, there is no CHCB and this pointer will be set to zeros.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
32(20) CAVTFLAG		CAVT flags byte.
	1... ..	CA not installed.
	...1	CA not defined.
	.... 1...	CA in ERP.
	..xx. .xxx	Reserved.

Committed Buffers Block

Program: NCP
Size in bytes: 18(12)
Created by: NCP generation
Pointed to by: LCBCBBP field in the LCB; SCBCBBP field in the SCB and CUBCBBP field in the CUB
Function: Maintains buffer commitment status on SDLC stations and BSC/SS lines

0(0)		CBBACBP Pointer to associated ACB.	
CBBFLGS* Committed buffers flag.			
4(4)	CBBCURC Current commitment.	6(6)	CBBMAXC Maximum commitment.
8(8)	CBBMINC Minimum commitment.	10(A)	CBBRBC Receive buffer count.
12(C)		CBBRESP Pointer to associated SCB, CUB, or LCB.	
CBBRTYP* Associated resource type.			
16(10)	CBBRNRC RNR control count.	17(11)	Reserved.

* Indicates a byte expansion follows.

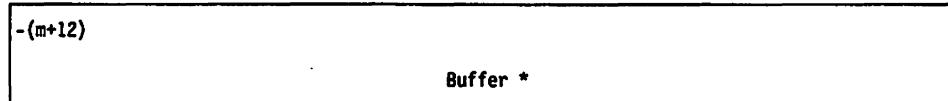
Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) CBBFLGS	x... ..	Committed buffers flag. Type request: 1 = No poll. 0 = Poll requested.

Offset/Field Name	Bit Pattern/ Hex Value	Contents
12(C) CBBRTYP	X'80' X'60' X'40'	Resource type. BSC of SS line control. PU type 1 or 2. PU type 4.

Character Control Block (EP)

Program: EP
Size in bytes: Variable, depending upon the extensions added
Located in: \$LVL2 (PEP)
Created by: PEP generation
Pointed to by: LNVT
Function: Contains current information on the physical operation of a line. One CCB is generated for each line specified.



* Indicates that a byte expansion follows.

Set Mode Data for Normal Mode BSC Tributary

-12(C) Disable time-out.		-10(A) Line control 1 parameters.	-9(9) Line control 2 parameters.
-8(8) LCD and buffer prefix size.	-7(7) Line control 3 parameters.	-6(6) EP buffer size.	-5(5) Selection address.
-4(4) Group selection address.	-3(3) Poll address.	-2(2) Reserved.	-1(1) Reserved.

Set Mode Data for Start-Stop Burst Mode

-12(C) Disable time-out.		-10(A) Line control 1 parameters.	-9(9) Line control 2 parameters.
-8(8) LCD and buffer prefix size.	-7(7) Line control 3 parameters.	-6(6) EP buffer size.	-5(5) NEORCHRS Number of EOR characters.
-4(4) EORCHAR1 First EOR character in EOR list.	-3(3) EORCHAR2 Second EOR character in EOR list.	-2(2) EORCHAR3 Third EOR character in EOR list.	-1(1) EORCHAR4 Fourth EOR character in EOR list.

Notes:

1. The 5th through 8th end-of-reception (EOR) characters (if any) are located in the PSA in this EP CCB.
2. The parity bit (bit 0) for the EOR characters is always 0.

Set Mode Data for Other Than Normal Mode Tributary or Burst Mode

-12(C) Disable time-out.		-10(A) Line control 1 parameters.	-9(9) Line control 2 parameters.
-8(8) LCD and buffer prefix size.	-7(7) Line control 3 parameters.	-6(6) EP buffer size.	-5(5) X'00'
-4(4) X'00'	-3(3) X'00'	-2(2) X'00'	-1(1) X'00'

Character Mode (BSC High Priority)

-32(20) - -13(D) Buffer
-12(C) - -1(1) Set mode data. (See Normal Mode for format)

Character Mode (SS High Priority)

-(n+12)	Buffer*
-12(C) - -1(1)	Set mode data. (See Normal Mode for format)

* Indicates that a byte expansion follows.

Character Mode (Normal)

-12(C) - -1(1)	Set mode data. (See Normal Mode for format)
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Scanner Interface Trace

-1024(400) - -1(1)	Buffer
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Parameter Status Area (PSA)

Common Parameter Area

0(0) PSATCC Trace correlation counter.	1(1) PSAMOD* Command modifier.	2(2) PSAOFSET Data area buffer offset.	3(3) Reserved.
4(4) PSAPBPTR Pointer to data area.			
PSACNT Cycle steal character count.	5(5) PSACHGST Change start.	6(6) PSACHG1 Change byte 1.	7(7) PSACHG2 Change byte 2.
8(8) PSALID Line ID.		10(A) PSARLID Receive line ID.	
PSACHG3 Change byte 3.	9(9) PSACHG4 Change byte 3.		
12(C) Reserved.			

Common Status Area

16(10) PSASSCF* Secondary control field.	17(11) PSACCMD* Current command.	18(12) PSASES* Secondary status.	19(13) PSALCS* Line communication status.
20(14) PSARCNT Residual count.	21(15) Reserved.	22(16) PSAMDIN* Modem-in.	23(17) PSAMDOUT* Modem-out.
24(18) Reserved.			

* Indicates that a byte expansion follows.

Character Mode Parameter Area

0(0) PSATCC Trace correlation counter.	1(1) PSAMOD* Command modifier.	2(2) PSAPSCF Secondary control field.	3(3) PSAPPDF Parallel data field.
4(4) PSAPPCF* Primary control field.	5(5) PSAPSDF Serial data field.	6(6) PSALQCNT Line quiesce count for Write ICW.	7(7) Reserved.
8(8) Reserved.			
12(C) Reserved.			

* Indicates that a byte expansion follows.

Character Mode Status Area

16(10) PSASSCF* Secondary control field.	17(11) PSASPDF Parallel data field.	18(12) Reserved.	19(13) PSALCS* Line communication status.
20(14) PSASPCF** Primary control field.	21(15) PSASSDF Serial data field.	22(16) PSAMDIN* Modem-in.	23(17) PSAMDOUT* Modem-out.
24(18) Reserved.			

* Indicates that a byte expansion follows.

** High-order 4 bits contain the high-order 4 bits of the CCBLCD field. (See the expansion of CCBLCD.) Low-order 4 bits contain the low-order 4 bits of the PSAPPCF field. (See the expansion of PSAPPCF.)

Start-Stop Burst Mode Parameter Area

0(0) PSATCC Trace correlation counter.	1(1) PSAMOD* Command modifier.	2(2) PSAPSCF Secondary control field.	3(3) PSAPPDF Parallel data field.
4(4) PSAPPCF* Primary control field.	5(5) PSAPSDF Serial data field.	6(6) PSALQCNT Line quiesce count.	7(7) PSACCNT* Sec control field extension and character count.
8(8) PSAPPDF1 Parallel data field no. 1.	9(9) PSAPPDF2 Parallel data field no. 2.	10(A) PSAPPDF3 Parallel data field no. 3.	11(B) PSAPPDF4 Parallel data field no. 4.
12(C) EOREXT5 Fifth EOR character in EOR list.	13(D) EOREXT6 Sixth EOR character in EOR list.	14(E) EOREXT7 Seventh EOR character in EOR list.	15(F) EOREXT8 Eighth EOR character in EOR list.

* Indicates that a byte expansion follows.

Note: First four end-of-reception (EOR) characters are located in the set mode data area for burst mode in this EP CCB.

Start-Stop Burst Mode Status Area

16(10) PSASSCF* Secondary control field.	17(11) PSASPDF Parallel data field.	18(12) Reserved.	19(13) PSALCS* Line communication status.
20(14) PSASPCF Primary control field.	21(15) PSAPCNT Processed character count.	22(16) PSAMDIN* Modem-in.	23(17) PSAMDOUT* Modem-out.
24(18) PSASPDF1 Parallel data field no. 1.	25(19) PSASPDF2 Parallel data field no. 2.	26(1A) PSASPDF3 Parallel data field no. 3.	27(1B) PSASPDF4 Parallel data field no. 4.

* Indicates that a byte expansion follows.

Trace Parameter Area

0(0) Reserved.	1(1) PSAMOD* Command modifier.	2(2) PSAOFSET Data area buffer offset.	3(3) PSATMR Timer.
4(4) PSAPBPTR Pointer to first buffer in chain.			
PSACNT Cycle steal character count.			
8(8) PSASLID TLNVT slot ID.		10(A) PSADCNT* Bytes of data to trace.	11(B) PSACSPIA Interface address to trace.
12(C) Reserved.			

* Indicates that a byte expansion follows.

Trace Status Area

16(10) PSASSCF* Secondary control field.	17(11) PSACCMD* Current command.	18(12) PSASES* Secondary status.	19(13) PSALCS* Line communication status.
20(14) PSASBPTR Pointer to last buffer in chain.			
PSARCNT Residual count.			
24(18) Reserved.	25(19) PSARTMR Residual timer.	26(1A) Reserved.	

* Indicates that a byte expansion follows.

Wrap Parameter Area (Normal Mode)

0(0)	PSATCC Trace correlation counter.	1(1)	PSAMOD* Command modifier.	2(2)	PSAOFSTT Transmit data area buffer offset.	3(3)	PSAOFSTR Receive data area buffer offset.
4(4)							
PSAFTBPT First transmit buffer pointer. (modem out)							
PSACNTT Transmit count.							
8(8)				10(A)			
Reserved.				PSARLID Receive line ID.			
12(C)							
PSAFRBPT First receive buffer pointer. (modem in)							
PSACNTR Receive count.							

* Indicates that a byte expansion follows.

Wrap Status Area (Normal Mode)

16(10)	PSASSCF* Secondary control field.	17(11)	PSACCMD* Current command.	18(12)	Reserved.		19(13)	PSALCS* Line communication status.
20(14)								
PSALRBPT Last receive buffer used pointer.								
PSARCNT Residual count.								
24(18)								
Reserved.								

* Indicates a byte expansion follows.

Wrap Parameter Area (Character Mode)

0(0) PSATCC Trace correlation counter.	1(1) PSAMOD* Command modifier.	2(2) Reserved.
4(4) Reserved.		
8(8) Reserved.		10(A) PSARLID Receive line ID.
12(C) Reserved.		

* Indicates that a byte expansion follows.

Wrap Status Area (Character Mode)

16(10) PSASSCF* Secondary control field.	17(11) PSACCMD* Current command.	18(12) Reserved.	19(13) PSALCS* Line communication status.
20(14) PSASPCF** Primary control field.	21(15) PSASSDF Serial data field.	22(16) PSAMDIN* Modem-in.	23(17) PSAMDOUT* Modem-out.
24(18) Reserved.			

* Indicates that a byte expansion follows.

** High-order 4 bits contain the high-order 4 bits of the CCBLCD field. (See the expansion of CCBLCD.) Low-order 4 bits contain the low-order 4 bits of the PSAPPCF field. (See the expansion of PSAPPCF.)

Transient Line Error Status Area

16(10) PSASSCF Secondary control field.	17(11) PSACCMD* Current command.	18(12) PSASES* Secondary status.	19(13) PSALCS* Line communication status.
20(14) Reserved.	21(15) PSAELCS* Valid when transient line error bit is on in PSASES.	22(16) Reserved.	23(17) Reserved.
24(18) Reserved.			

* Indicates that a byte expansion follows.

Common to All Modes

28(1C)	CCBSPTR Pointer to the start of a CCB.
--------	-------------------------------------------

CCB Proper Common Area

32(20)	CCBTROPT* Trace option flag.	33(21)	CCBPEPFL* PEP flags.	34(22)	CCBOPT3* CCB Option Byte 3.	35(23)	Reserved.
36(24)		CCBL2 Level 2 interrupt address.					
40(28)		CCBDATA Data buffer 0.					
		CCBL2NCA** Level 2 character address.					
		CCBL2PTR*** S/S high priority data store address.					
		CCBSITB1 SIT buffer 1 address.					
		CCBSBF1* SIT buffer flag 1.					
44(2C)		CCBDATA1 Data buffer 1.					
		CCBL3SCA** Level 3 character address.					
		CCBL3PTR*** S/S high priority data service address.					
				46(2E)			
CCBTLINK Link register save area.				CCBTBADR Current transmit buffer address.			

- * Indicates a byte expansion follows.
- ** Character mode BSC priority lines only
- *** Character mode S/S priority lines only.

44(2C)			
CCBSITB2 SIT buffer 2 address.			
CCBSBF2*** SIT buffer flag 2.			
CCBRADR MSLA unassigned CCB1.			
48(30)			
CCBSVLNK Data service queue forward chain pointer.			
CCBSQC* Sense ID.			
52(34)			
CCBSOLNK Status out queue forward chain pointer.			
CCBTMFAC Timer Read command.			
56(38)	57(39)	58(3A)	59(3B)
CCBSUBCH Multiplexer subchannel address.	CCBCFLG* Configuration flag.	CCBSTAT* Final line status.	CCBSENSE* Final line sense.
60(3C)		62(3E)	
CCBL1STN Level 1 status/sense.		CCBL1FLG Level 1 error flags.	
CCBL1STA Status byte.	61(3D) CCBL1SEN Sense byte.	CCBL1CSP* CSP error flags.	63(3F) CCBL1CAF* CA error flags.
64(40)	65(41)	66(42)	67(43)
CCBCMD Current command for CCB (See Section 7)	CCBLRI* Line request information.	CCBCSTAT** Current status.	CCBSENS** Current sense.
Reserved.		Reserved.	
	CCBLECS* Line error check/control byte.		

- * Indicates a byte expansion follows.
- ** For CCBCSTAT expansion, see CCBSTAT.
For CCBCSENS expansion, see CCBSENSE
- *** For CCBSBF2 expansion, see CCBSBF1.

68(44) CCBCAC* Character address counter.	69(45) CCBSVSTC* Service/status flag.	70(46) CCBCLOCK Timer control field.	71(47) CCBTMADR Time-out routine displacement into branch table.
CCBNQCNT Data service count.	CCBTEST Line active byte for console test.	Reserved.	
Reserved.			
72(48) CCBACADR Autocall address.	74(4A) CCBOPT* CCB option byte 1.	75(4B) CCBOPT2* CCB option byte 2.	
76(4C) CCBSTMOD* Mode flag byte.	77(4D) CCBLCD* Line control definition.	78(4E) CCBLIADR*** Line interface address. (Low-order 9 bits)	
80(50) CCBTD IOH TD information.	82(52) CCBTA IOH TA information.		
CCBTDCMD* CSP command.	81(51) CCBCSPIA* CSP interface address.	CCBSLPAC* Encoded CSPA.	83(53) CCBOPIO* Type of I/O instruction.
CCBDDFLG* Dynadump flag.**	Reserved.		
CCBDSCUR** Dump storage current.			

- * Indicates a byte expansion follows.
- ** Used only by Dynadump.
- *** To compute the relative line number, divide by two.

84(54) CCBLNVT CCB line vector table address.		86(56) CCBTLNVT CCB trace line vector table address.	
Reserved.		CCBORCGM** Dynadump orig. command.	87(57) CCBCMREM** Dynadump command remember.
88(58) CCBDS02 D/S control.	89(59) CCBCSPA* CSP address.	90(5A) CCBLSTAT* Line initialization state.	
CCBSEND** Dump storage end.			
92(5C) CCBXPTR Pointer to general purpose extension. (CCBX)			
CCBLNTCL* Line test control.	93(5D) Reserved.		
96(60) CCBCHCB Pointer to channel control block (CNCB).			

* Indicates a byte expansion follows.

** Used only by Dynadump.

Start-Stop Extension

100(64) CCBLRC S/S longitudinal redundancy check.	101(65) CCBSSC* S/S control flag.	102(66) CCBSSCX* S/S control flag extension.	103(67) CCBHPCNT S/S high priority buffer count.
104(68) CCBLGT Pointer to the start/stop line group table.			
108(6C) CCBSBUFF Start address of the start/stop high-priority buffer.			
CCBPCNTI* Processed character count image. (Burst mode)			
112(70) CCBRCVCT Number of receive characters expected.			

* Indicates that a byte expansion follows.

Binary Synchronous Extension (Character Mode)

100(64) CCBFLGB1* Flag byte 1. (status)	101(65) CCBFLGB2* Flag byte 2. (terminal type)	102(66) CCBSYN BSC EBCDIC or USASCII SYN character.	103(67) CCBEOT BSC EBCDIC or USASCII EOT character.
104(68) CCBL2A1 CCBL2 save area			
108(6C) CCBBCC BSC block check character.		110(6E) Station select feature. (optional)	
CCBBCC1 BSC block check character 1.	109(6D) CCBBCC2 BSC block check character 2.	CCBSADR Poll or select address.	111(6F) CCBGADR Group selection address.
112(70) CCBDLCOM Line address if Dual Communications Feature is installed (2701 emulation only).		114(72) CCBTMSR Data set ready control count.	115(73) Reserved.

* Indicates that a byte expansion follows.

Binary Synchronous Extension (Normal Mode)

100(64) CCBFLGB1* Flag byte 1. (status)	101(65) CCBFLGB2* Flag byte 2. (terminal type)	102(66) CCBCNT Second buffer count.	103(67) CCBTCNT First buffer count.
104(68) CCBTBUF First cycle steal buffer address. or Pointer to ACU buffer.			
108(6C) CCBBBUF Second cycle steal buffer address.			
112(70) CCBDLCOM Dual communications feature.		114(72) CCBCAB* Channel adapter flags.	115(73) CCBBUFSZ Buffer size or autocall dial digits.

* Indicates that a byte expansion follows.

Dynadump Extension 1

100(64)		CCBDYPTR Pointer to dynamic CDDO.	
CCBDYTYP* Dynamic pointer type.			
104(68)			
CCBDYLNP Pointer to dynamic line trace.			
108(6C)		110(6E)	
CCBDYTLN Dynamic TLNVT pointer.		Reserved.	
112(70)			
Reserved.			

* Indicates that a byte expansion follows.

Dynadump Extension 2 (CSP/MOSS Dump)

100(64)		CCBPNXTB Pointer to the next byte of the PIU.	
CCBPRCNT PIU residual count.			
104(68)			
CCBMPIU1 Pointer 1 to the MOSS PIU buffer.			
108(6C)			
CCBMPIU2 Pointer 2 to the MOSS PIU buffer.			
112(70)			
CCBHPIU Pointer to the host PIU buffer.			
CCBDSICT DSI request count.			

SIT Extension

100(64) CCBSCNT1 SIT count 1.	102(66) CCBSCNT2 SIT count 2.
104(68) CCBPTCCB Pointer to a real CCB.	
108(6C) CCBDDCCB DYNADUMP CCB address.	
CCBSITFL* SIT flag.	
112(70) CCBTRCST SIT trace count.	114(72) CCBTRCLN Line trace count.

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents	BSC	SS
-(m + 12)		Length of buffer is determined at EP generation with the BUFSIZE operand of the GROUP of LINE definition statement. The <i>m</i> specifies the number of bytes to be defined for each of two buffers. The 8 bytes added to the offset are for set mode data. Valid values for <i>m</i> are 4 to 255. Length is $-(2m + 8)$.		

Offset/Field Name	Bit Pattern	Contents	BSC	SS
-10(-A)	0... ..	Line control 1 parameters Always 0 for EP/PEP.	X	X
	..1.	Line is in 270X emulation mode.	X	X
	...1	Auto answer on switched line.	X	
	.... xx..	ITB mode set bits. Received Operation: 00 Check BCC; do not generate EIB 01 Treat ITB as data. 1x Check BCC; generate EIB after ITB, ETB, and ETX.	X	
	.... ..1.	Transmit Operation: 00 Compute BCC and send after ITB, ETB, and ETX. 01 Treat ITB as data. 1x Compute BCC and send after ITB, ETB, and ETX. Do not skip character after ITB. Data Set Ready permanently active.	X	X
.... ..1	2703 emulation.	X	X	

Offset/Field Name	Bit Pattern	Contents	BSC	SS
-9(-9)	1... ..	Line control 2 parameters. Generate answer tone/TWX.	X	X
	.1..	Switched line.	X	X
	..1.	Ring indicator mode.	X	X
	...1	Secures line.		X
	.... 1...	Turnaround with RTS on (duplex line).	X	X
	.... .1..	Transmit with New Sync.	X	
	.... ..1.	Ignore bad pad.	X	
.... ..1	Swift support.	X		

Offset/Field Name	Bit Pattern	Contents	BSC	SS
-8(-8)	xxxx	LCD and buffer prefix size. Line control definer field (See CCBLCD bits 0-3 for expansion).	X	X
	.... xxxx	Buffer prefix size (X'0' thru X'F'; normally X'8')	X	X

Offset/Field Name	Bit Pattern	Contents	BSC	SS
-7(-7) SMDBYTE5	For 3270	Line control 3 parameters.		
	1...	Synchronous line.	X	
	.xxx x...	Line speed if 3720 supplies clock.	X	X
		Synchronous Line 0001 = 50 bps 0010 = 110 bps 0100 = 134.5 bps 0111 = 200 bps 1000 = 300 bps 1011 = 600 bps 1101 = 1200 bps 1110 = Special (non-standard).		
		Start Stop Line 0000 = 50 bps 0011 = 110 bps 0101 = 134.5 bps 0110 = 200 bps 1001 = 300 bps 1010 = 600 bps 1100 = 1200 bps 1111 = Special (non-standard).		
	.... .x..	Clocking 1 = Modem 0 = 3720	X	X
	.... ..x.	Modem data rate: 1 = High 0 = Low	X	X
	..... 1	Medium speed local attach.	X	X

Offset/Field Name	Bit Pattern	Contents
1(1) PSAMOD	<p>..1.</p> <p>.... .1..</p> <p>.... ...1</p> <p>1...</p> <p>.1..</p> <p>..1.</p> <p>.... .1..</p> <p>.... ..1.</p> <p>.... ...1</p> <p>.... x...</p> <p>.... .x..</p> <p>.... ..x.</p> <p>1...</p> <p>.x..</p>	<p>Command modifier.</p> <p>Normal Mode</p> <p>Second transparent Write.</p> <p>Data chain.</p> <p>Line Dump (X'F5') command bit.</p> <p>Character mode</p> <p>Set SCF and PDF.</p> <p>Set SDF.</p> <p>Set PCF.</p> <p>Character delay.</p> <p>Set SCF.</p> <p>CCU L2 interrupt required.</p> <p>Wrap</p> <p>Wrap type:</p> <p>0 = Data wrap.</p> <p>1 = Control leads wrap.</p> <p>Wrap level:</p> <p>0 = LIC (internal).</p> <p>1 = External.</p> <p>External level type:</p> <p>0 = Cable.</p> <p>1 = Modem.</p> <p>Trace</p> <p>Not NCP buffer.</p> <p>SIT mode—start trace on.</p> <p>1 = Duplex line.</p> <p>0 = Half-duplex line.</p>

Offset/Field Name	Hex Value	Contents
4(4) PSAPPCF		Primary control field BSC NO-OP. Monitor phase DSR check off. Monitor phase DSR check on. Receive in phase. Transmit initial. Transmit normal. Transmit normal with new sync. Transmit turn—RTS off. Transmit turn—RTS on. Transmit initial and turn (Not used). Transmit initial and turn—RTS on (Not used). Start Stop NO-OP Receive. Transmit initial. Transmit normal. Transmit break. Transmit turn—RTS off. Transmit turn—RTS on. Transmit initial and turn (Not used). Transmit initial and turn—RTS on (Not used).
	X'00'	
	X'04'	
	X'05'	
	X'07'	
	X'08'	
	X'09'	
	X'0A'	
	X'0C'	
	X'0D'	
	X'0E'	
	X'0E'	
	X'00'	
	X'07'	
	X'08'	
	X'09'	
	X'0A'	
	X'0B'	
	X'0D'	
	X'0E'	
	X'0F'	

Offset/Field Name	Bit Pattern	Contents
7(7) PSACCNT	1... .. .1.. .. ..1. .. ...x xxxx	Secondary control field extension and character count. Perform end-of-reception (EOR) checking. Multiple pad flag. Perform receive break detection. Reserved. Character count field.

Offset/Field Name	Hex Value	Contents
10(A) PSADCNT	X'00' X'FF' X'nn'	Bytes of data to trace. No data to be traced. All data to be traced. nn bytes of data to be traced.

Offset/Field Name	Bit Pattern	Contents
16(10) PSASSCF	1... .. .1.. .. ..1. .. ...1 1.. .... .1.. .... ...1 1... .. .1.. .. ..1. .. ...1 1.. .... .1.. .... ..1. .... ...1	Secondary control field. Normal mode. Halt/abort. Service request. CSP under/overrun. Modem check. Data stored. EOM. RCV sequence. Character and Burst mode. Stop bit check. Service request. Character overrun/underrun. Modem check. Receive line signal detect. Start bit detected. Program flag. Pad flag.

Offset/Field Name	Hex Value	Contents
17(11) PSACCMD		Current command.
	X'20'	Normal Mode Commands EP BSC Transmit Initial.
	X'21'	EP BSC Transmit SYN.
	X'22'	EP BSC Transmit Data.
	X'23'	EP BSC Poll.
	X'24'	EP BSC Receive.
	X'25'	EP BSC Receive Continue.
	X'26'	EP BSC Prepare.
	X'27'	EP BSC Monitor for Phase.
	X'28'	EP BSC Adprep.
	X'29'	EP BSC Search.
		Common Commands
	X'01'	Set Mode.
	X'02'	Enable.
	X'03'	Disable.
	X'04'	Monitor Incoming Call.
	X'05'	Dial.
	X'06'	Change.
	X'08'	Raise DTR.
	X'09'	Flush Data.
	X'0B'	Reset—D.
	X'0C'	Reset—N.
	X'2C'	Start Trace.
	X'2D'	Stop Trace
	X'2E'	Wrap.
	X'F0'	Halt.
	X'E5'	Line Dump.

Offset/Field Name	Hex Value	Contents
18(12) PSASES		Secondary status.
	.1..	Format exception.
	..1.	Transient line error check.
	...1	Data check.
	.... .1..	In phase.
	x... x.xx	Not used.

Offset/Field Name	Hex Value	Contents
19(13) PSALCS		Line communications status.
		Initial Status
	X'80'	Special status.
	X'C0'	Internal box error.
	X'E0'	Hardware error.
		Special status (Initial status = 100)
	X'80'	Time out (nothing received).
	X'82'	End-of-reception (EOR) received (SS only).
	X'86'	LPDA test control active.
	X'88'	DLE—EOT disconnect sequence.
	X'8A'	Lost data.
	X'8C'	Poll entry too large.
	X'98'	EOT transmitted.
	X'9A'	X21 connection not ready.
	X'9C'	Disconnected.
	X'9E'	Connected.
		Internal box error (initial status = 110)
	X'C0'	AIO error.
	X'C2'	Adapter interface error.
	X'C4'	CSP interface error.
	X'C6'	FES failing to answer.
	X'C8'	FES internal error.
	X'CA'	LIC driver check/ICC int error.
	X'CC'	LIC interface error.
	X'CE'	LIC/ICC interface error.
	X'D0'	No interrupt from FES.
	X'D2'	Command rejected.
	X'D4'	Trace already active.
	X'D6'	Scanner error reporting path
	X'D8'	Invalid Level 2 interrupt check
		Hardware error status (Initial status = 111)
	X'E2'	CTS dropped during command.
	X'E6'	RLSD failed to drop on Disable command.
	X'EE'	DSR dropped during command.
	X'F2'	CTS failed to come up.
	X'F4'	DSR failed to come up.
	X'F5'	Line Dump (X'F5') status.
	X'F6'	No cable installed (on Set Mode command).
	X'F8'	DST/CTS failed to drop (on Disable command).
	X'FA'	Dial.
	X'FC'	Autocall check.

Offset/Field Name	Bit Pattern	Contents
21(15) PSAELCS	.... ...0	Valid only when transient line error bit is on in PSASES. MUX/LIC error.
	.... ...1	FESA error.
	.... ..0.	Error in receive path.
	.... ..1.	Error in transmit path.
	1... ...0	MUX/LIC Error (Bit 7 = 0) Reserved.
	.1.. ...0	LIC driver check.
	..1. ...0	LIC transmit data check.
	...1 ...0	CTS drop time-out.
	.... .1.0	FESA transmit data check.
	1... ...1	FESA Error (Bit 7 = 1) Reserved.
	.1.. ...1	Line interrupt register errors.
	..1. ...1	LIC receive data check.
	...1 ...1	MUX error register.
	.... 1..1	FESA error register.
.... .1.1	FESA data check.	

Offset/Field Name	Bit Pattern	Contents
22(16) PSAMDIN	1...	Modem—in.
	.1..	Data set ready (DSR).
	..1.	Clear to send (CTS).
	...1	Ring indicator.
	.... 1...	Receive line signal detector (RLSD).
	.... .1..	Test indicator (TI). Receive data (RVDT).

Offset/Field Name	Bit Pattern	Contents
23(17) PSAMDOUT	1...	Modem — out.
	.1..	Data terminal ready (DTR).
	..1.	Request to send (RTS).
	...1	New sync.
	.... 1...	High data rate for modem.
	.... .1..	Modem test.

Offset/Field Name	Bit Pattern	Contents
32(20) CCBTROPT	1... .. .1.. .. ..1. .. ...1 1.. .... .x.. 1. .... ...x	Trace option flag. SIT active even interface. SIT active odd interface. Trace active for level 2. Trace active for level 2 odd. Trace active for level 3. SIT remember—started on: 1 = Duplex line. 0 = Half-duplex line. Trace data option flag. Trace data option flag for odd: 0 = No data on line trace. 1 = Data on line trace.

Offset/Field Name	Bit Pattern	Contents
33(21) CCBPEPFL	x... ..	PEP flags. 0 = NCP ACB. 1 = EP CCB.

Offset/Field Name	Bit Pattern	Contents
34(22) CCBOPT3	1.....	Option Byte 3. Integrated modems supported.

Offset/Field Name	Bit Pattern	Contents
40(28) CCBSBF1	1... .. .1.. .. ..1.	SIT buffer flag 1. Buffer ready to be enqueued. Buffer enqueued. CSP waiting on buffer.

Offset/Field Name	Hex Value	Contents
48(30) CCBSQC	X'00' X'03'	Sense ID. Data count for sense data. Data count for sense ID data.

Offset/Field Name	Bit Pattern	Contents
57(39) CCBCFLG		Configuration flag.
	1... ..	Stacked status operation being timed.
	.1.	I/O error alert sent on this ESC.
	..1.	Start stop high priority.
	...x x...	Reserved.
	.... .1..	Unhang active.
	.... ..1.	Normal mode (hi-level).
	..... 1	MSLA USCCB.

Offset/Field Name	Hex Value	Contents
58(3A) CCBSTAT		Final line status.
	X'00'	Reset status byte.
	X'01'	Set UE.
	X'02'	Set UC.
	X'04'	Set DE.
	X'08'	Set CE.
	X'0C'	Set CE, DE.
	X'0D'	Set CE, DE, UE.
	X'0E'	Set CE, DE, UC.
	X'10'	Set CU busy.
	X'20'	Set control unit end.
	X'40'	Set SM.
	X'4C'	Set CE, DE, SM.
	X'80'	Set attention.

Offset/Field Name	Hex Value	Contents
59(3B) CCBSENSE		Final line sense.
	X'00'	Reset sense byte.
	X'01'	Time out.
	X'02'	Set lost data.
	X'04'	Set overrun.
	X'08'	Set data check.
	X'10'	Set equipment check.
	X'20'	Set bus out parity check.
	X'40'	Set intervention required.
	X'80'	Set command reject.
X'FF'	Unhang in progress.	

Offset/Field Name	Bit Pattern	Contents
62(3E) CCBL1CSP		Level 1 EP scanner error flags.
	1... ..	EP L1 CSP error on data interface.
	.1.. ..	EP L1 CSP error on ACU interface.
	..xx xxxx	Reserved.

Offset/Field Name	Bit Pattern	Contents
63(3F) CCBL1CAF		Level 1 EP CA error flags.
	1... ..	EP L1 AIO error.
	..1.	EP L1 initial selection error.
	...1	EP L1 data/status error.
	.... xxxx	Reserved.

Offset/Field Name	Bit Pattern	Contents
65(41) CCBLRI	1... 1... ... .yxx	Line request information. Set interface disconnect flag. Set data end flag. y = Buffer (0 or 1). xx = Number of bytes requested from or presented to the channel.

Offset/Field Name	Bit Pattern	Contents
65(41) CCBLECS	1... .. .1.. .. ..1. .... ...1 1... .... .1.. .... ..1. 1	Line error check/control byte (defined in CYKTST module). Interface disconnect flag. Data check indicator. Line is in transmit mode. Line is in receive mode. Prepare to transmit specified buffer. Prepare to transmit buffer 3. Prepare to transmit buffer 2. Prepare to transmit buffer 1.

Offset/Field Name	Bit Pattern/ Hex Value	Contents
68(44) CCBCAC	X'07' 1...	Character address counter. Reset CAC. Set BSC inhibit store flag.

Offset/Field Name	Bit Pattern	Contents
69(45) CCBSVSTC	1... .. .1.. 1...	Service/status flag. Set data service (buffer 0). Set data service (buffer 1). Set data end.

Offset/Field Name	Bit Pattern	Contents
74(4A) CCBOPT	1... .. .1.. .. ..x. .. ...1 1.. .... .x.. 1. .....1	CCB option byte 1. Auto call option installed. Long disable time out. Dualcom interface (BSC). 1 = B 0 = A Ring option installed. Switched line installed. Duplex line installed. 1 = Duplex. 0 = Half-duplex. Not unit exception on EOT (IBM SS). ACU CCB.

Offset/Field Name	Bit Pattern	Contents
75(4B) CCBOPT2	1... .. .1.. .. ..1. .... ...1 1.. .... .1.. .... ..1. .....1	CCB option byte 2. Channel decode IBM type 1 and type 2 EOB. Swift support (FEATURE = STXBSC). Channel decode IBM type 3 ETX. 2702 or 2703. S/S no DCD security monitor. World Trade telegraph. Not long line quiet time-out. Option 1 modem.

Offset/Field Name	Bit Pattern	Contents
76(4C) CCBSTMOD	1... .. .1.. .. ..1. .... ...1 1.. .... .x.. 1. .....1	Mode flag byte. (Previously set mode byte.) Disable in CCBCMD when sense ID received. Reset issued. Data terminal ready. Binary sync clock. Modem clocking (external). Data rate select: 1 = High rate. 0 = Low rate. Inhibit reset of DTR. Poll entry too long.

Offset/Field Name	Hex Value	Contents
77(4D) CCBLCD		Line control definition.
	X'00'	Start stop 9/6.
	X'20'	Start stop 8/5.
	X'30'	Autocall.
	X'40'	Start stop 9/7.
	X'50'	Start stop 10/7.
	X'60'	Start stop 10/8.
	X'70'	Start stop 11/8.
	X'C0'	BSC EBCDIC.
	X'D0'	BSC USASCII.
X'E0'	BSC USASCII transparent.	

Offset/Field Name	Hex Value	Contents
80(50) CCBTDCMD		CSP command.
	X'25'	Normal mode BSC Receive Continue.
	X'40'	BSC Character mode Write ICW.
	X'41'	Start Stop Transfer.

Offset/Field Name	Bit Pattern	Contents
80(50) CCBDDFLG		Dynadump flag.
	.1..	Dynadump channel stop bit.
	.... 1...	CSP/MOSS dump in progress.
	.... .1..	Host PIU Read command pending.
	..... 1	Level 1 ERP.

Offset/Field Name	Bit Pattern/ Bit Pattern/	Contents
81(51) CCBCSPIA	For 3720	CSP interface address.
	000x xxxx	Last five bits of the line interface address.
	For 3745 X'(RLN x2)'	RLN = Relative line number.

Offset/Field Name	Bit Pattern	Contents
82(52) CCBSLPAC	<p>For 3720</p> <p>00xx 0...</p> <p>.... 0xxx</p> <p>For 3745</p> <p>x...</p> <p>..xx</p> <p>.... .xxx</p>	<p>Encoded CSPA.</p> <p>Scanner (select):</p> <p>01 = First scanner. 10 = Second scanner.</p> <p>LAB board (PAC):</p> <p>000 = LAB board 0. 001 = LAB board 1. 010 = LAB board 2. 011 = LAB board 3. 100 = LAB board 4. 101 = LAB board 5. 110 = LAB board 6. 111 = LAB board 7.</p> <p>Bus bit:</p> <p>1 = Bus 2 0 = Bus 1</p> <p>Slot bits:</p> <p>01 = Slot 1. 10 = Slot 2.</p> <p>Group bits:</p> <p>000 = Group 0 001 = Group 1. 010 = Group 2. 011 = Group 3. 100 = Group 4. 101 = Group 5. 110 = Group 6. 111 = Group 7.</p>

Offset/Field Name	Hex Value	Contents
83(53) CCBOPIO	X'00' X'02'	Type of I/O instruction. Normal mode Start line. Character mode Start line.

Offset/Field Name	Bit Pattern/ Hex Value	Contents
89(59) CCBCSPA	For 3720 xxxx For 3745 X'00'–X'1F'	CSP address. First 4 bits of the line interface address. LA address.

Offset/Field Name	Bit Pattern	Contents
90(5A) CCBLSTAT	Byte 0 1... .. .1.. .. ..1. .. ...1 1... 1.. .... ..1. .... ...1 Byte 1 1... .. .1.. .. ..1.	Line initialization state. Set mode in progress. Reset command in progress. Set mode required. Reset command required. Line Dump (X'F5') command processing in progress. Postponed processing. Bypass level 2 error handling. System reset processing deferred. LA not installed. Scanner disconnected/not operative. LA not attached.

Offset/Field Name	Bit Pattern	Contents
92(5C) CCBLNTCL	1... .. .1.. .. ..1. .... ...x xxxx	Line test control. Receive initiated by GROUP2. Transparent mode. Multiple buffer mode. Reserved.

Offset/Field Name	Bit Pattern	Contents
100(64) CCBFLGB1	1... .. .1.. .. ..1. .... ...1 1... .... .1.. .... ..1. .... ...1	BSC flag byte 1 (status). Channel priority. EIB mode. Not new sync. Interrupt mode. EIB data check. EIB overrun. Code B selected. ITB mode.

Offset/Field Name	Hex Value	Contents
100(64) CCBDYTYP	X'00' X'01'	Dynadump dynamic pointer type. Scanner interface trace (SIT). Line trace.

Offset/Field Name	Bit Pattern	Contents
101(65) CCBSSC	000. 001. 010. 100. 110. .... ...1 1... .... .1.. .... ..1. .... ...1	Start stop control flag. TTY2 type line. 2848 line. TTY1 type line. IBM type 1 line. IBM type 2 line. Bypass LRC (IBM types 1 or 2) or not upshift (TTY 1 or 2). Not immediate end (no line quiet pad check). Lower case remember. Not text in (IBM types 1 or 2) or not figs H (TTY type 2). Not text out (IBM types 1 or 2) or not first character (2848 or TTY).

Offset/Field Name	Bit Pattern	Contents
101(65) CCBFLGB2	1... .. .1.. .. ..xx 1... .... .1.. .... ..1. .... ...1	BSC flag byte 2 (terminal type). Dualcom installed. Station select installed. Dual code mask. Transparent mode (wait for second write). Second write accepted. Multipoint address remember flag. No trailing pad check.

Offset/Field Name	Bit Pattern	Contents
102(66) CCBSSCX	xxxx 1... .... .1.. .... ..1. .... ...1	Start stop control flag extension. Stop bit error counter. Receive break detected. Circle C received. Delay required. Half-duplex link on which break is allowed.

Offset/Field Name	Bit Pattern	Contents
108(6C) CCBSITFL	1... .... .1.. .... ..1. .... .... ...x	Scanner interface trace flag. Stop SIT pending. Host initiated request. MOSS initiated request. SIT interface: 1 = odd. 0 = even.

Offset/Field Name	Bit Pattern	Contents
108(6C) CCBPCNTI	1... .... .... .xxx	Processed character count image. Processing multiple characters. Working image of the PSAPCNT field.

Offset/Field Name	Bit Pattern	Contents
114(72) CCBCAB	x... .... ..1. .... ..1. .... ...1....	Channel adapter flags. Sync monitor latch. 1 = Sync character detected in inbound CA transfer. 0 = Non-sync character detected in inbound data. DLE remember latch. ASCII monitor control latch. EBCDIC monitor control latch.

Character Control Block General Purpose Extension

Program: EP
Size in bytes: 16(10)
Created by: PEP generation
Pointed to by: CCBXPTR in CCB
Function: Contains current information on the physical operation of a line

0(0)			
CCBXADDR Pointer to the beginning of the CCB.			
4(4)	5(5)	6(6)	
CCBXUTIL* Utility byte.	CCBXSQC* Sense count.	CCBXTLNO CCB odd trace line vector table address.	
8(8)			
CCBXRSM Resume routine address.			
12(C)		14(E)	
CCBXSVM0 Save area.		CCBXSVM1 Save area.	
	13(D)		15(F)
CCBXSVM0	CCBXSVM1	CCBXSVM2	CCBXSVM3
16(10)			
CCBLINK1 Panel line test save area.			
20(14)			
CCBLINK2 Panel line test save area.			
24(18)			
CCBF5RSM F5 level 2 resume routine pointer.			
28(1C)			
CCBLCBPT Line control block pointer.			

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
4(4) CCBXUTIL		Utility byte.
	.1..	Wrap in progress.
	..1.	Console test in progress.
	.....1	CSP in wrap mode.

Offset/Field Name	Hex Value	Contents
5(5) CCBXSQC	X'00' X'03'	Sense count. Enqueued for sense data. Enqueued for sense ID data.

Character Control Block (Line Test)

Program: EP
Size in bytes: 30(1E)
Located in: \$LVL2
Created by: PEP generation
Updated by: LCP, ICP
Pointed to by: LNVT
Referenced by: LCP, ICP, CHVT
Function: Contains current information on the physical operation of a line and shows the revised format of the CCB while line test is active

0(0) CCBDATA Receive data buffer.			
4(4) CCBTLINK Return link address save area.		6(6) CCBTBADR Transmit buffer address.	
8(8) CCBSVLNK Data service queue forward chain pointer.		10(A) CCBSOLNK Status out queue forward chain pointer.	
12(C) CCBSUBCH Multiplexer subchannel address.	13(D) CCBCFLAG** Configuration flags.	14(E) CCBSTAT** Final line status byte.	15(F) CCBSSENSE** Final line sense byte.

** Refer to CCB (EP) for byte expansions.

16(10) CCBCMD Current command for CCB. (See Section 7)	17(11) CCBLECS* Line Error Check.	18(12) CCBCSTAT*** Current status.	19(13) CCBCSENS*** Current sense.
20(14) CCBCAC Buffer Index.	21(15) CCBTEST Active Test Function.	22(16) CCBCLOCK Timer control field.	23(17) CCBTMADR Time-out routine displacement into branch table.
24(18) CCBACADR Auto-call address.		26(1A) CCBOPT** CCB option byte 1.	27(1B) CCBOPT2** Option byte 2.
28(1C) CCBSTMOD** Set mode byte.	29(1D) CCBLCD** Line control definition (LCD) field. (High 4 bits contain line control definer; low 4 bits contain 0.)		

- * Indicates a byte expansion follows.
- ** Refer to CCB (EP) for byte expansions.
- *** For byte expansion of CCBCSTAT, refer to CCBSTAT in CCB (EP). For byte expansion of CCBCSENS, refer to CCBSense in CCB (EP).

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
17(11) CCBLECS		Line error check.
	1...	Reserved for interface disconnect.
	.1..	Data check.
	..1.	Transmit mode.
	...1	Receive mode.
	.... 1...	Normal compare set.
	.... .1..	Swap 3 set.
	.... ..1.	Swap 2 set.
..... 1	Swap 1 set.	

Character Control Block (NCP)

Program: NCP
Size in bytes: 92(5C)
Located in: ACB
Created by: NCP generation
Function: Contains line control information

36(24) CCBL2* Address of current level 2 character service routine.	38(26) CCBSTATE* Pointer to character service state address table. (See note.)
40(28) CCBTACB (CTBACB) Pointer to the next ACB in the timer chain.	
CCBCCNT* S/S burst mode flags and character count.	
44(2C) CCBTWORK (CTBWORK) Timer work entry for this ACB.	46(2E) CCBTIME* Time-out interface.
48(30) CCBBAR Pointer to LNVT entry. (backward pointer)	47(2F) CCBTOREM Time-out remembrance.
	50(32) CCBBC CRC check character (BSC). Frame check sequence (SDLC).
	CCBBC1 First BCC/CRC character.
	51(33) CCBBC2 CCBRC1 Second BCC/CRC character.
	CCB LRC LRC character (S/S).
	CCB CASE* Shift-case history (S/S).

* Indicates a byte expansion follows.

Note: Initially, CCBSTATE contains the address of the beginning of the state address table. The masks shown in the byte expansion are used to set the low-order byte of CCBSTATE by the character service routines. They change the value of CCBSTATE so that it points to the entry in the state address of the routine to handle the line state indicated.

52(34)		CCBLGTP Pointer to line group table (LGT) for group.	
CCBXTPCF Transmit turn around PCF.			
56(38)		58(3A)	
CCBSTAT1 Current operational status of the line.		CCBEND1*** Line status at completion of a level 2 operation. The level 2 routine moves the status from CCBSTAT1 to CCBEND1 at the end of an operation.	
		57(39)	59(3B)
		CCBCMPCD Completion codes. (first, final)	CCBEND1C Completion codes (first, final)
60(3C)			
CCBDATA** Address of the data byte being sent or received. (character mode)			
CCBEND2 Record descriptor flags moved from CCBSTAT2 at end of level 2 operation.			
64(40)			
CCBSTART Current buffer address.			
CCBFLAGS* General flags.			

* Indicates a byte expansion follows.

**

Normal mode receive Address of one character beyond the last character received.

Normal mode transmit Address of the next buffer in the write chain (zero if none).

*** Level 3 translates status to ending format of LXBEXTST, LXBSTAT, and LXBSTATC of the Link XIO control block.

68(44) CCBRLAT Address of receive translate decode table.	70(46) CCBTXLAT High-order byte of transmit translate decode table address. (The low-order byte of the address if the character to be translated.)	71(47) CCBSTAT2 Record descriptor flags. If any bit in this field is on, it indicates that the corresponding character was scanned.
CCBCPCNT Contact poll cycle count. (SDLC)	69(45) CCBCPRAT Contact poll rate. (SDLC)	CCBRBLUC* Received SDLC BLU command field (level 3). CCBNEXT Buffer for next character to be transmitted.
72(48) CCBHDBUF Address of first buffer in a block. CCBBUFACT Buffer maximum for a receive operation.		
76(4C) CCBL3 Address of next level 3 routine to be executed.	78(4E) CCBERTRY Error retry limit. (Set by RETRIES=m)	79(4F) CCBERCNT Retry counter. (BSC/SS) CCBPASCT Pass counter - number of BLUs sent. (SDLC)

* Indicates a byte expansion follows.

80(50) CCBCNTS Character count/buffer count field.		82(52) CCBCTL* Control flags/line type.	
CCBCHAR Buffer character count.	81(51) CCBCUT Buffer maximum for a receive operation.	CCBRSPON* Control flags.	83(53) CCBTYP* Line type.
84(54) CCBESTAT* Expected ending status of the level 2 operation.		86(56) CCBL2REM Save area for CCBL2 (SDLC)	
		CCBLPND1 Save area for CCBEND1 during LPDA test. (SDLC)	
		CCBICCT Initial control character count.	87(57) CCBNEGPD BSC negative poll wait time-out.
		CCBVTABD Vertical tab delay. (number of idles sent after a verticle tab. S/S only)	

* Indicates a byte expansion follows.

<p>88(58) CCBCRTN Number of print positions carriage will return in time it takes to send one idle character. (S/S only)</p>	<p>89(59) CCBLCNT Length of print line. (S/S only)</p>	<p>90(5A) CCBLTCRP Number of data positions since last carriage return.</p>	<p>91(5B) CCBNTCRP Net carriage return value.</p>
<p>CCBAFLD Secondary station address. (received)</p>	<p>CCBFLAG2* Mode control flags.</p>	<p>CCBETBLT Consecutive ETB limit. (BSC 3270 only)</p>	
<p>CCBXTICH Character position of ITB mode transparent text. (BSC only)</p>	<p>CCBBSCFL* Special flags. (BSC only)</p>	<p>CCBCFLD Command field. (Transmit/Receive) (SDLC)</p>	
<p>92(5C) CCBLQTC Line quiet test character count. (S/S)</p>	<p>93(5D) CCBLQTC Line quiet test interrupt counter. (S/S)</p>	<p>94(5E) CCBNCFL* Flags to control operations between IOB commands.</p>	<p>95(5F) CCBOFSET At start of a receive operation, set to the offset into the buffer of the first data character (BSC/SS); after first character if received, set to 0, indicating that data was stored.</p>
<p>CCBLATO Link activity time-out. (SDLC secondary)</p>		<p>CCBFLAG1* Flags for control of SDLC link with an active LXB command.</p>	
<p>CCBETBCT Valid ETB counter. (BSC 3270 only)</p>			

* Indicates a byte expansion follows.

96(60) CCBPOLL Address of the entry in the service order table for the next station to be polled minus 2, used when the communications controller is the master station. CCBPOLL is equated to IOBPOLL. Pointer to current SOT entry being polled. (Half-duplex and duplex receive leg, primary stations only). CCBPOLL is equated to LXB POLL.			

CCBRACBP Pointer to receive leg of a duplex link. (transmit leg only)			

CCBSSCB Service seeking control byte.	97(61) CCBMTASA MTA 1050 station address byte.	98(62) CCBTRADR Station select address for the communications controller when it is a tributary station.	

CCBPCMD Contact poll command executed.			
100(64) CCBSEL Address of the station to be selected by the communication controller. CCBSEL is equated to IOBSEL. Output SOT pointer: pointer to current station that I-format data was sent to (primary stations only). CCBSEL is equated to LXBSEL.			

CCBXACBP Pointer to transmit leg of a duplex link. (receive leg only)			

CCBRTNP Carriage position.	101(65) CCBTWXFL* TWX special flags.	102(66) CCBASCNT Auto speed detect recognition count. (TWX only)	103(67) CCBTASPD Auto speed detect line speed. (TWX only)

CCBPOLL Value multiplied by 4 is contact poll offset into SOT.			
104(68) CCBLINK Next ACB in level 2/3 chain.			

CCBTYPEC* Dial control flags.			

* Indicates a byte expansion follows.

108(6C)		CCBAXBP Pointer to ACB extension (AXB).
CCBSETYP* Extended type.		
112(70)		CCBCHNP Pointer to next commit request. (when in CRB)
CCBCMFL* COMMIT flags.		
116(74)	CCBPREC Precommit request count.	118(76) CCBCOMC Committed buffers count.
120(78)		CCBCBBP Pointer to associated CCB.
CCBSSF* Start-stop special flags.		
CCBPOLLI* Minimum poll cycle time interval. (Modulo 8)		
124(7C)		CCBGCBP Used for compatibility only.
CCBSSF2* Start-stop dynamic bit.		
CCBPOLL2 Minimum poll cycle time interval. (Modulo 128)		

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
36(24) CCBL2	.... .x	Level 2 routine address. Check receive break: 1 = Break signal valid if detected. 0 = Ignore break signal if detected.

Offset/Field Name	Hex Value	Contents
38(26) CCBSTATE		Pointer to character service state address table. State masks used by BSC character service Receive not text. Receive phase. Receive BCC. Receive first not text. Receive end pad. Queue received sub-block. Receive text. Receive intermediate BCC. Transmit not text. Transmit BCC. Transmit syn insertion. Transmit end pad. Transmit initial. Transmit text. Transmit intermediate BCC. Receive idle. Receive enable. Receive DLE in text. Receive disconnect. Receive DLE in not text. Transmit DLE in not text. Receive transparent text. Receive first transparent text. Receive DLE in transparent text. Transmit Diagnostic. Transmit Dial. Transmit DLE in text. Transmit syn insert-transparent. Transmit transparent text. Transmit first transparent text. Transmit DLE in transparent text.
	X'00'	Receive not text.
	X'02'	Receive phase.
	X'04'	Receive BCC.
	X'06'	Receive first not text.
	X'08'	Receive end pad.
	X'0A'	Queue received sub-block.
	X'0C'	Receive text.
	X'0E'	Receive intermediate BCC.
	X'10'	Transmit not text.
	X'14'	Transmit BCC.
	X'16'	Transmit syn insertion.
	X'18'	Transmit end pad.
	X'1A'	Transmit initial.
	X'1C'	Transmit text.
	X'1E'	Transmit intermediate BCC.
	X'20'	Receive idle.
	X'22'	Receive enable.
	X'24'	Receive DLE in text.
	X'26'	Receive disconnect.
	X'28'	Receive DLE in not text.
	X'29'	Transmit DLE in not text.
	X'2A'	Receive transparent text.
	X'2C'	Receive first transparent text.
	X'2E'	Receive DLE in transparent text.
	X'30'	Transmit Diagnostic.
	X'32'	Transmit Dial.
	X'34'	Transmit DLE in text.
	X'36'	Transmit syn insert-transparent.
	X'3A'	Transmit transparent text.
	X'3C'	Transmit first transparent text.
	X'3E'	Transmit DLE in transparent text.

Offset/Field Name	Hex Value	Contents
38(26) CCBSTATE (continued)		Miscellaneous masks used by BSC
	X'02'	Transmit INT-BCC to text.
	X'03'	RCV phase to not text.
	X'05'	DLE-in-not-text to RCV XTEXT.
	X'06'	Transmit first XTEXT to XTEXT.
	X'06'	RCV text to post the queue.
	X'06'	RCV XTEXT to DLE-IN-XTEXT.
	X'08'	Transmit INT-BCC to SYN insert.
	X'0A'	Transmit text to transmit syn.
	X'0C'	Transmit BCC to transmit end pad.
	X'0D'	Transmit BCC to transmit end pad.
	X'0F'	End pad test.
	X'25'	DLE-in-not-text to text.
	X'26'	Transmit XTEXT to text.
	X'28'	Text to DLE-in-text.
	X'28'	Set DLE in text or not text.
	X'C4'	Text to RCV BCC.
	X'D4'	Transmit text to transmit BCC.
	X'D7'	Transmit DLE-in-not-text to not text.
	X'DF'	Transmit DLE-in-not-text to end pad.
	X'F0'	Transmit initial to transmit not text.
	X'F7'	Transmit text to transmit BCC.
	X'FA'	Transmit DLE-IN-XTEXT to XTEXT.
	X'FC'	Transmit INTMED BCC to transmit text.
	X'FD'	RCV INT-BCC to text.
	X'FD'	DLE-in-XTEXT to XTEXT.
		State masks used by start-stop character service
	X'00'	Receive control.
	X'02'	Receive lost data.
	X'04'	Receive LRC.
	X'06'	Receive response.
	X'0E'	Line turnaround.
	X'10'	Transmit control with repetition.
	X'12'	Transmit pad.
	X'14'	Transmit LRC.
	X'16'	Transmit reply.
	X'1A'	Transmit control with address.
	X'1E'	Line turnaround.
	X'24'	Receive first character MTA.
	X'28'	Receive post sense byte.
	X'2A'	Post the ACB queue.
	X'2C'	Receive line quiet test (1).
	X'2E'	Receive line quiet test (2).
	X'32'	Receive line quiet test (3).
	X'34'	Transmit carriage idles.
	X'36'	Transmit 1030 text idles.
	X'38'	Transmit reset pad flag.
	X'3C'	Transmit sub-block end.
	X'3E'	Transmit break.

Offset/Field Name	Hex Value	Contents
38(26) CCBSTATE (continued)		Miscellaneous state masks used by start-stop
	X'02'	RCV CTL to lost data.
	X'02'	Line turn to transmit CTL with address.
	X'02'	Transmit CTL with address to turnaround.
	X'04'	Transmit text to line turnaround.
	X'08'	RCV text to RCV LRC.
	X'08'	Transmit text to transmit LRC.
	X'0A'	OLT RCV reply to RCV text.
	X'0C'	RCV CTL to RCV text.
	X'0E'	RCB text to lost data.
	X'10'	Idle to transmit CTL with address.
	X'1A'	Turnaround to RCV CTL or reply.
	X'20'	RCV CTL to idle.
	X'20'	RCV text to line quiet (1).
	X'22'	RCV text to line quiet (2).
	X'24'	Transmit text to reset pad flag.
	X'26'	RCV text to post queue.
	X'28'	Transmit text to transmit carriage idle.
	X'2A'	Shoulder tap time-out.
	X'30'	Transmit CTL with count to idle.
	X'3C'	Transmit text to idle.
		State masks used by SDLC character service
	X'00'	RCV idle.
	X'0E'	Shoulder tap time-out.
	X'1E'	Shoulder tap time-out.
	X'20'	RCV idle.
	X'22'	Enable.
	X'26'	Disconnect.
	X'2E'	Shoulder tap time-out.
	X'3F'	Shoulder tap time-out.

Offset/Field Name	Hex Value	Contents
38(26) CCBSTATE (continued)		Miscellaneous state masks
	X'0F'	Response mask.
	X'2A'	Diagnostic write state.
	X'C1'	General state reset.
	X'DF'	Zero state DLE bit.
	X'FE'	Reset state first flag bit.
	X'20'	State bits and definitions DLE mask. 1 = DLE encountered. 0 = No DLE encountered.
	X'10'	Transmit/Receive mask. 1 = Transmit. 0 = Receive.
	X'04'	CLT or text out test mask. 1 = SS state is receive reply. 0 = SS state is receive control.
	X'02'	Send EOA mask. 1 = Send pad in place of EOA. 0 = Send EOA.
	X'01'	First flag mask. 1 = First non SYN or DLE. 0 = No first non SYN or DLE.

Offset/Field Name	Bit Pattern	Contents
40(28) CCBCCNT	x... .. .1.. .... ..1. .... ...1 xxxx	SS burst mode flags and character count. End-of-reception detection to be done by: 1 = CSP (EOR characters passed during Set Mode command). 0 = NCP (no 4-character bursts). Only multiple pad characters transmitted in a given burst. CSP to perform receive-break detection. Change command has been issued for an 'identifier' terminal on an MTA line. Burst character count: Transmit Number of characters to be transmitted via PSAPPDFX. Receive Number of characters received before getting a level 2 interrupt.

Offset/Field Name	Bit Pattern	Contents
46(2E) CCBTIME	The bits in position 0 of both bytes of CCBTIME are used together for time-out control. When these bits have different values in the 2 bytes of CCBTIME, a new timer command is present.	Time-out interface.

Offset/Field Name	Bit Pattern	Contents
51(33) CCBCASE	x... ..	Shift-case (SS). 1 = Upper case. 0 = Lower case.

Offset/Field Name	Bit Pattern	Contents
56(38) CCBSTAT1	Byte 0	Current operation status of line.
	1... ..	Character overrun/underrun.
	.1... ..	Format error (abnormal line control sequence for a receive operation).
	..1... ..	Stop bit error (start-stop only). Abort frame (SDLC). Seven ones in a row have been received.
	...1... ..	Data check (VRC, LRC, or CRC error). SDLC flags received.
	.... 1...	Block overrun occurred (SDLC). End pad failure (BSC point to point). Line quiet time-out (SS only).
	.... .1..	Reset command in process.
	.... ..1.	Invalid DLE sequence (BSC only). DCE clear indication detected (X.21 switched lines only).
	.... ...1	Transmit length check (BSC/SS).
	Byte 1	Completion codes indicating how the I/O operation ended. Status masks are the same as those for IOBSTAT + 1 (BSC/SS lines) or LXBSTATC (SDLC links).

Offset/Field Name	Bit Pattern	Contents
64(40) CCBFLAGS		General flags.
	1... ..	Tab preceded CR/LF (start-stop), or No time-out (BSC), or Initial time-out interval (SDLC).
	.x... ..	Control mode indication. 1 = Control mode is response to text, or NCP polled or selected (BSC), or Enable/Dial abort when level 2 ends. 0 = Control mode if from polling or addressing, or NCP not polled or selected (BSC), or Normal Enable/Dial.
	..1... ..	Post ACB to the queue after turnaround.
	...1... ..	One character of break signal received (start-stop), or Next event is ITB (BSC), or Modem retrain in progress on a SNA duplex link, or Not the first time through "Huntflag" processing (SDLC).
	.... 1...	Line is in diagnostic mode.
	.... .1..	Wrap test in progress.
	.... ..1.	Panel line test active.
	.... ...1	Line is disabled or set mode issued.

Offset/Fieldname	Byte 0	Byte 1	Contents/Description
70(46) CCBRBLUC			Received SDLC BLU command field (level 3).
	RRRP SSS0	0000 0000	One-Byte Control Format Information Transfer command/response.
	RRRP MM01	0000 0000	Supervisory Command/Response.
	RRRP 0001	0000 0000	RR—Receive Ready command/response.
	RRRP 0101	0000 0000	RNR—Receive Not Ready command/response.
	RRRP 1001	0000 0000	REJ—Reject command/response.
	MMMP MM11	0000 0000	Unnumbered Command/Response.
	0001 0111	0000 0000	SIM—Set Initialization Mode command.
	0001 0111	0000 0000	RIM—Request Initialization Mode response (old RQI).
	0001 1011	0000 0000	LPDA command/response.
	0001 1111	0000 0000	DM—Disconnect Mode response (old ROL).
	0101 0011	0000 0000	DISC—Disconnect command.
	0101 0011	0000 0000	RD—Request Disconnect response (old RQD).
	0111 0011	0000 0000	UA—Unnumbered Acknowledgement response (old NSA).
	1001 0011	0000 0000	SNRM—Set Normal Response Mode command.
	1001 0111	0000 0000	FRMR—Frame Reject response (old CMDR).
	1011 1111	0000 0000	XID—Exchange Identification command/response.
	1101 1111	0000 0000	SNRME—Set Normal Response Mode Extended command.
	1111 0011	0000 0000	TEST command/response.

P = Poll/Final: Poll (command/request from primary)
 Final (response from secondary).

RRRR = N(R)—Receive sequence count.

SSSS = N(S)—Send sequence count.

M = Modifier bits.

Note: NCP transmits and receives only one byte (byte 0) when the frame is in unnumbered format.

Offset/Fieldname	Byte 0	Byte 1	Contents/Description
70(46) CCBRBLUC			Received SDLC BLU command field (level 3).
	SSSS SSS0	RRRR RRRR	Two-Byte Control Format
	0000 MM01	RRRR RRRP	Information Transfer command/response.
	0000 0001	RRRR RRRP	Supervisory Command/Response.
	0000 0101	RRRR RRRP	RR—Receive Ready command/response.
	0000 1001	RRRR RRRP	RNR—Receive Not Ready command/response.
	MM01 MM11	0000 0000	REJ—Reject command/response.
	0001 0111	0000 0000	Unnumbered Command/Response. (See Note)
	0001 0111	0000 0000	SIM—Set Initialization Mode command.
	0001 1111	0000 0000	RIM—Request Initialization Mode response (old RQI).
	0101 0011	0000 0000	DM—Disconnect Mode response (old ROL).
	0101 0011	0000 0000	DISC—Disconnect command.
	0111 0011	0000 0000	RD—Request Disconnect response (old RQD).
	1001 0011	0000 0000	UA—Unnumbered Acknowledgement response (old NSA).
	1001 0111	0000 0000	SNRM—Set Normal Response Mode command.
	1011 1111	0000 0000	FRMR—Frame Reject response (old CMDR).
	1101 1111	0000 0000	XID—Exchange Identification command/response.
	1111 0011	0000 0000	SNRME—Set Normal Response Mode Extended command.
			TEST command/response.

P = Poll/Final: Poll (command/request from primary)
Final (response from secondary).

RRRR = N(R)—Receive sequence count.

SSSS = N(S)—Send sequence count.

M = Modifier bits.

Note: NCP transmits and receives only one byte (byte 0) when the frame is in unnumbered format.

Offset/Field Name	Bit Pattern	Contents
82(52) CCBCTL CCBRSPO	Byte 0 1.. .... ..1. 1... .. .1.. .. ..x. .. ...1 x...	Control flags/Line type. Control Flag Definitions for Wrap Transmit leg has not received L2 interrupt. Receive leg has not received L2 interrupt. Control Flag Definitions for Replies Send NAK reply/delay after autodial. Send ACK reply. Alternating ACK bit for BSC (valid only if bit 1 is also on). 1 = Send ACK1. 0 = Send ACK0. Last text reply was WACK (BSC), or TTD received when ACK outstanding, or Last reply outstanding (SS). Expected receive alternate ACK bit (BSC). 1 = ACK1 expected reply. 0 = ACK0 expected reply.

Offset/Field Name	Bit Pattern	Contents
82(52) CCBCTL CCBRSPO (Continued)	<p>Byte 0</p> <p>x... ..</p> <p>.1..</p> <p>..1.</p> <p>...x</p> <p>.... x...</p> <p>.... .xx.</p> <p>.... ...x</p> <p>1...</p> <p>.1..</p> <p>..x.</p> <p>...1</p> <p>.... xx..</p> <p>.... ..1.</p> <p>.... ...1</p> <p>1...</p>	<p>Control Flag Definitions for Polling Operations</p> <p>SDLC poll wait:</p> <p>1 = Wait. 0 = No wait.</p> <p>or Service-seeking skip bit.</p> <p>1 = Terminate if at end of service order table. 0 = Continue service seeking.</p> <p>or</p> <p>1 = Single poll. 0 = No single poll.</p> <p>SDLC transmit leg busy.</p> <p>BSC/SS service-seeking polling, or SDLC SOT poll pointer not incremented this pass, or service-seeking.</p> <p>Orderly link stop bit level 3:</p> <p>1 = End Run when both transmit and receive legs idle (SDLC). 0 = Continue Run command execution.</p> <p>SDLC receive leg busy:</p> <p>1 = Cannot poll now (primary). 0 = Can poll now.</p> <p>or</p> <p>1 = No increment to poll pointer. 0 = Increment poll pointer.</p> <p>Phase bits for SDLC operations:</p> <p>00 = No command active. 01 = SDLC I-format sent or SDLC RR-sent. 10 = SDLC RNR-sent. 11 = SDLC NS-command sent.</p> <p>SDLC poll loop control:</p> <p>1 = At end of list no active station found. 0 = Active station found in list.</p> <p>Control flags/Line type.</p> <p>Control Flag Definitions for Enable/Dial Operations</p> <p>Abort enable/dial.</p> <p>Abort when level 2 processing ends.</p> <p>Duplex enable second pass through ender (SDLC):</p> <p>1 = Second pass through enable end. 0 = First pass through enable end.</p> <p>Send ENQ after ID.</p> <p>Reserved.</p> <p>Dial pending.</p> <p>Connection pending.</p> <p>Control Flag Definitions for Text Operations</p> <p>Insert data before text.</p>

Offset/Field Name	Bit Pattern	Contents
	.xxx xxxx	Reserved.

Offset/Field Name	Bit Pattern	Contents
82(52) CCBCTL CCBRESPON (Continued)	<p>Byte 0</p> <p>1... .... .x..</p> <p>..1. .... ...x 1... xx.</p> <p>.... ..x. 1</p>	<p>Control Flag Definitions for Multiple Terminal Access</p> <p>MTA retry in process. MTA 3767/2741 bit: 1 = Tested for 3767. 0 = Tested for 2741. MTA 2741 retry in progress. Reserved. MTA line enabled. Phase bits for BSC/SS: 00 = Idle. 01 = Receive text. 10 = Receive text reply. 11 = Receive control.</p> <p>or Special phase bits for ID exchange: 00 = No command active. 01 = Receive ID phase. 10 = Receive ID reply. 11 = Connect and Command Reject.</p> <p>or SDLC operations: 00 = No command active. 01 = RR send or I-format sent. 10 = RNR sent. 11 = NS command sent.</p> <p>or Level 2 interrupt received by MOSS Wrap command: 10 = Set to expect level 2 interrupts from transmit leg only. 11 = Set to expect level 2 interrupts from transmit and receive legs. 0. = Resets bit 5 for transmit leg. .0 = Resets bit 6 for receive leg. 00 = Condition for PCI L3. 1 = Leading graphics being sent (BSC/SS). 0 = Text being sent if transmitting. Sub-blocking occurred (BSC/SS), or No active SOT entries (SDLC).</p>

Offset/Field Name	Bit Pattern	Contents
83(53) CCBTYPE	Byte 1	Line Type.
	1... ..	Line is in normal mode.
	.x... ..	Duplex adapter: 1 = Line has 2 line adapter addresses. 0 = 1 line adapter address.
	..x... ..	Half duplex ACB or duplex transmit leg ACB: 1 = Half duplex leg or duplex transmit leg ACB. 0 = Duplex receive leg ACB.
		or Duplex adapter transmit leg ACB: 1 = Transmit leg. 0 = Receive leg.
		or Start-stop(WTTY) strip FIGS/LTRS: 1 = Strip FIGS/LTRS in received text. 0 = Leave FIGS/LTRS in received text.
	...1 ...	Use data set new-sync feature (BSC/SDLC), or Half-duplex line on which break is allowed (SS).
	.... x...	Line type bit (See note): 1 = BSC. 0 = Start-stop or SDLC (see bit 7).
	.... .1..	<ul style="list-style-type: none"> Link-attached station can receive error message (BSC). Time-out valid reply for negative poll (start-stop). The station is currently a configurable station (SDLC).
	.... ..x.	Point-to-point contention bit (BSC/SDLC): 1 = Point-to-point contention secondary station (BSC). 0 = Point-to-point contention primary station (BSC).
		or 1 = SDLC secondary station. 0 = SDLC primary station
		or 1 = Upshift on space character (WTTY only). 0 = No upshift on space.
	.... ..x	SDLC link bit (see note): 1 = Line type is SDLC (Bit 4 = 0) 0 = Line type is not SDLC.

Note: Bits 4 and 7 may have the following combinations:

- | | |
|------|---------------|
| 0..0 | Start-stop. |
| 0..1 | SDLC. |
| 1..0 | BSC. |
| 1..1 | Channel link. |

Offset/Field Name	Hex Value	Contents
84(54) CCBESTAT	X'0000' X'00FF' X'9934' X'D614' X'FB1C' X'FF00' X'FF06' X'FF1C' X'FF98'	Expected ending status of the level 2 operation. BSC/SS—expect any status. SDLC—expect any status. Block received. SDLC—accept RR or I-format only. ACK reply. Time-out. ENQ sent. ACK reply. EOT sent.

Offset/Field Name	Bit Pattern	Contents
89(59) CCBFLAG2	x... .. .x.. .. ..1. 1... x.. x	Mode control flags. Control field operation mode: 1 = 2-byte control. 0 = 1-byte control. Set Normal Response Mode: 1 = Transmit SNRME (extended). 0 = Transmit SNRM. Do not exit level 4 for XIO LINE and IMMED commands (SDLC only). Send reject indicator. PU priority support. 1 = PU priority supported. 0 = PU priority not supported. Link priority support. 1 = Use SOQ for scheduling. 0 = Use SOT for scheduling.

Offset/Field Name	Bit Pattern	Contents
89(59) CCBBSCFL	1... .. ..1.	Special flags—BSC only. Conversational Write. ACK response to ACK flag.

Offset/Field Name	Bit Pattern	Contents
94(5E) CCBNCFL	xxx. .... ...x ..x. 1... .... .1.. .... ..1. .... ...1 .........1.	Flags to control operations between IOB commands. Restricted to CCBNCFL. May be used by either CCBNCFL or CCBFLAG1. Command initialization delay required. Special ender procedure when no command is up. Send TTD bit. Send WACK. Send EOT.

Offset/Field Name	Bit Pattern	Contents
94(5E) CCBFLAG1	.... xx.x ...x ..x. ...1 ........ ........ .1.. .... ..1. .....1.	Flags for control of SDLC link with an active LXB command. Restricted to CCBFLAG1. May be used by either CCBNCFL or CCBFLAG1. Echo defeat supported. Outstanding poll indicator (SDLC duplex line only). 1 = Reply to poll is outstanding. 0 = Final received in response to poll. Need update to CSP set mode data. Change command required before SNRM/SNRME is transmitted. Suppress level 2 processing.

Offset/Field Name	Bit Pattern	Contents
101(65) CCBTWXFL	1... .... .x..	TWX special flags. TWX auto speed detect. TWX auto speed detect default line speed: 1 = 1200 bps. 0 = 2400 bps.

Offset/Field Name	Bit Pattern	Contents
104(68) CCBTYPED		Dial control flags.
	1... ..	Switched line.
	.1... ..	Line has auto-dial unit (switched only) or X.21 line has dial capability.
	..1.	Recognize ring indicator lead or X.21 (1984 version).
	...x	TTY DC telegraph loop: 1 = Line has DC telegraph loop. 0 = Line has modem.
		or Special dial Modem (BSC/SDLC): 1 = Non-LPDA2 line has a 4941 modem that accepts LPDA2 dial and disconnect commands for switched connections. 0 = Not a modem of the above type.
	.... x...	Answer Tone: 1 = Generate answer tone after call-in. 0 = Answer tone is automatic.
		or X.21 CCLID support: 1 = CCLID supported. 0 = CCLID not supported.
	.... .1..	Not NRZI mode (SDLC) or Monitor carrier on receive (start-stop).
	.... ..1.	Delay issued after incoming call.
	.....1	X.21 switched line.

Offset/Field Name	Bit Pattern	Contents
108(6C) CCBSETYP	1... .. .1. .... ..1. .... ...x 1... .... .1.. .... ..x. .....x	Extended type. HDX send priority. HPTSS line (3745). Link Problem Determination Aid (LPDA1 or LPDA2) test active Reserved ** Test in progress on channel A (LPDA1) or Disruptive test in progress. "Forced deactivation" is in progress. 1 = User-written line control (UACB or GCB). 0 = IBM-supported line control. Must be 0 in a CCB. Reserved for GCB compatibility.

** This bit is defined in the GCB, field name GCBFLAGS. See the byte expansion for GCBFLAGS for more information.

Offset/Field Name	Bit Pattern	Contents
112(70) CCBCMFL	x... .. .1. .... ..x. .... ...1 1... .... .1.. .... ..1. .....1	COMMIT flags. 1 = Conditional type request. 0 = CWALL type request. Chain to CRB. Poll type definition: 1 = RNR sent. 0 = RR sent. Duplex poll in progress. RNR exception state. COMMIT request satisfied. COMMIT in progress. DECOMMIT ALL operand requested.

Offset/Field Name	Bit Pattern	Contents
120(78) CCBSSF	<p>...x</p> <p>xxx.</p> <p>0...</p> <p>1xx.</p> <p>.... 1...</p> <p>.... .xxx</p> <p>.... .0..</p> <p>.... .1xx</p>	<p>Start-stop special flags.</p> <p>Immediate end on input:</p> <p>1 = End Read immediately on receiving the end character.</p> <p>0 = End Read after line quiesce.</p> <p>TWX only</p> <p>Control of TWX receive parity checking.</p> <p>No parity checking.</p> <p>Parity checking:</p> <p>00 = Space parity.</p> <p>01 = Odd parity.</p> <p>10 = Even parity.</p> <p>11 = Mark parity.</p> <p>Suppress TWX prompting sequence.</p> <p>Control of TWX transmit parity generation.</p> <p>No parity generation (controlled by XLTBL).</p> <p>Parity generated:</p> <p>00 = Space parity.</p> <p>01 = Odd parity.</p> <p>10 = Even parity.</p> <p>11 = Mark parity.</p>

Offset/Field Name	Hex Value	Contents
120(78) CCBPOLLI	X'FF'	<p>Poll cycle time.</p> <p>All stations address.</p>

Offset/Field Name	Bit Pattern	Contents
124(7C) CCBSSF2	<p>1...</p> <p>.1..</p> <p>..x.</p> <p>...x</p> <p>.....1</p>	<p>Start-stop dynamic bit.</p> <p>TWX read ahead is active.</p> <p>Monitor mode is active.</p> <p>WTTY only, EOB possible:</p> <p>1 = EOB possible.</p> <p>0 = EOB not possible.</p> <p>WTTY only, EOT possible:</p> <p>1 = EOT possible.</p> <p>0 = EOT not possible.</p> <p>Allow storing of data (Character mode).</p>

Configuration Data Set (3720)

Program: NCP, EP

Size in bytes: 72(48)

Created by: NCP or EP generation

The shared-code module CXASCB calls the generating macro CXTCDS to reserve the area. MOSS cycle steals information into the CDS at initialization time.

Pointed to by: SYSCDSP field in HWX

Function: Contains identification information on all boards in the controller and also contains identification and installation information on all adapters

Identification Information on 10 Possible Board Positions
 (Each board position has the same 4-byte format.)

0(0) CDSBDAD* CLAB1 board address.	1(1) CDSBDTYP* CLAB1 board type. (X'01')	2(2) CDSBDID* CLAB1 board identifier. (X'01')	3(3) CDSBDCA* CAs installed on CLAB1 board.
4(4) CLAB2 board address.	5(5) CLAB2 board type. (X'01')	6(6) CLAB2 board identifier. (X'02')	7(7) CAs installed on CLAB2 board.
8(8) LAB3 board address.	9(9) LAB3 board type. (X'04')	10(A) LAB3 board identifier.	11(B) Always X'00'.
12(C) Frame-redrive board address.	13(D) Frame-redrive board type. (X'80')	14(E) Frame-redrive board identifier. (X'00')	15(F) Always X'00'.
16(10) LAB6 board address.	17(11) LAB6 board type. (X'04')	18(12) LAB6 board identifier.	19(13) Always X'00'.
20(14) LAB5 board address.	21(15) LAB5 board type. (X'04')	22(16) LAB5 board identifier.	23(17) Always X'00'.

* Indicates a byte expansion follows.

24(18) LAB4 board address.	25(19) LAB4 board type. (X'04')	26(1A) LAB4 board identifier.	27(1B) Always X'00'.
28(1C) LAB7 board address.	29(1D) LAB7 board type. (X'04')	30(1E) LAB7 board identifier.	31(1F) Always X'00'.
32(20) LAB8 board address.	33(21) LAB8 board type. (X'04')	34(22) LAB8 board identifier.	35(23) Always X'00'.
36(24) CAB board address.	37(25) CAB board type. (X'02')	38(26) CAB board identifier. (X'00')	39(27) CAs installed on CAB board.

CSP Identifier Group – Same format for all 16 bytes

40(28) CDSCSPID* Identifier for CSP 0.	41(29) Identifier for CSP 1.	42(2A) Identifier for CSP 2.	43(2B) Identifier for CSP 3.
44(2C) Identifier for CSP 4.	45(2D) Identifier for CSP 5.	46(2E) Identifier for CSP 6.	47(2F) Identifier for CSP 7.
48(30) Identifier for CSP 8.	49(31) Identifier for CSP 9.	50(32) Identifier for CSP A.	51(33) Identifier for CSP B.
52(34) Identifier for CSP C.	53(35) Identifier for CSP D.	54(36) Identifier for CSP E.	55(37) Identifier for CSP F.

* Indicates a byte expansion follows.

CA Identifier Group—Same format for all six bytes

56(38) CDSCAID* Identifier for CA position 1. (address 0)	57(39) Identifier for CA position 2. (address 1)	58(3A) Identifier for CA position 3. (address 2)	59(3B) Identifier for CA position 4. (address 3)
60(3C) Identifier for CA position 5. (address 4)	61(3D) Identifier for CA position 6. (address 5)		

* Indicates a byte expansion follows.

		62(3E) Plant ID and first two digits of box serial number.
64(40) Last four digits of box serial number.	66(42) CDSBLKID MOSS block ID.	
68(44) CDSMLM* Multiple load module support.	69(45) Reserved.	

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) CDSBDAD (Applies to 11 bytes)	10.. .... ..xx x... xxx	Board installed and address Board not installed. Primary (frame) redrive address. 000 = Frame 1 boards. 001 = Frame 2 boards. Secondary (board) redrive address. Frame #1 000 = CLAB1/C2LB/TRLA-1 001 = CLAB2/C2LB-2/TRLA-2 010 = LAB-3/LAB 011 = CAB Frame #2 000 = FDRV 011 = LAB4 100 = LAB5 101 = LAB6 110 = LAB7 111 = LAB8

Offset/Field Name	Hex Value	Contents
1(1) CDSBDTYP (Applies to 11 bytes)	X'01' X'02' X'04' X'08'	Board type. CLAB/C2LB/TRLA CAB. LAB. Frame redrive.

Offset/Field Name	Hex Value	Contents
2(2) CDSBDID (Applies to 11 bytes)	X'01' X'02' X'03' X'04'	Board identifier CLAB1/TRLA-1 if CDSBDTYP = X'01'. LAB type A if CDSBDTYP = X'04'. CLAB2/TRLA-2 if CDSBDTYP = X'01'. LAB type B if CDSBDTYP = X'04'. C2LB if CDSBDTYP = X'01'. C2LB2 if CDSBDTYP = X'01'.

Offset/Field Name	Bit Pattern/ Hex Value	Contents
3(3) CDSBDCA (Applies to 11 bytes)	X'00' 1.... ..1. .... .1.. 1... ...1 ......1. 1....	CAs installed on a board. No CAs installed. CA position 1 (address 0) installed. CA position 2 (address 1) installed. CA position 3 (address 2) installed. CA position 4 (address 3) installed. CA position 5 (address 4) installed. CA position 6 (address 5) installed. If multiple CAs are installed on a board, the values are ORed. CSP installed on board.

Offset/Field Name	Bit Pattern	Contents
40(28) - 55(37) CDSCSPID	1... .... .x.. .... .01. .... ...x 1... .... .1.. .... ..01	CSP identifier. CSP/TRA not installed. 1 = CSP/TRA installed on LAB/TRLA Type B. 0 = CSP installed on LAB Type A or CLAB. C2LB installed. 1 = CSP 2/TRA installed on LAB. 0 = CSP 1 is installed on LAB. CSP IPL successful. Token-Ring Adapter installed. CSP load module identifier.

Offset/Field Name	Bit Pattern	Contents
56(38) - 61(3D) CDSCAID	1... .. .1.. .. ..0. .... ...x xxxx	CA Identifier. CA not installed. CA has Two Processor Switch. Always zero. Reserved.

Offset/Field Name	Hex Value	Contents
68(44) CDSMLM	X'00' X'02'	Multiple load module support. MOSS does not support multiple load modules. MOSS supports 2 load modules.

Configuration Data Set (3745)**Program:** NCP, PEP**Size in bytes:** 448(1C0)**Created by:** NCP or PEP generation

The shared-code module CXASCBA calls the generating macro CXTCDS to reserve the area. MOSS cyclesteals information into the CDS at initialization time.

Pointed to by: SYSCDSP field in HWX**Function:** Contains identification information about the CCU and identification and installation information about each adapter**CDS Header**

0(0) CDSFMT* Format of CDS.	1(1) CDSLVL* Level of CDS.	2(2) CDSPTID0 Plant ID byte 0.	3(3) CDSPTID1 Plant ID byte 1.
4(4) CDSMSN0 Machine serial number byte 0.	5(5) CDSMSN1 Machine serial number byte 0.	6(6) CDSMSN2 Machine serial number byte 0.	7(7) CDSMSN3 Machine serial number byte 0.
8(8) CDSMSN4 Machine serial number byte 0.	9(9) CDSMDLN0 Model number.	10(A) CDSBLCK0 Block ID byte 0.	11(B) CDSBLCK1 Block ID byte 1.
12(C) - 23(17) CDSSECL Microcode EC level.			
24(18) - 31(1F) CDSMCFID Microcode fix ID. form = PxxxMnnn where P is for patch, xxx relates to EC microcode, M is for MOSS, nnn is microcode fix number (MCF number).			
32(20) - 39(27) CDSCHSUD Date of last update of CDS. form = yy/mm/dd where yy=year, mm=month, dd=day.			
40(28) - 44(2C) CDS CDSUT Time of last update of CDS. form = hh, mm where hh=hours, mm=minutes			
	45(2D) CDSOPDTA* Operating data.	46(2E) CDSMBSZ* Mailbox/MOSS workspace size.	47(2F) CDSPIO* Retry threshold PIO errors.

* Indicates a byte expansion follows.

48(30) CDSAIO* Retry threshold AIO errors.	49(31) CDSADAP* Retry threshold adapter detected.	50(32) CDSUL1* Retry threshold unresolved level 1.	51(33) CDSUPCI2* Retry threshold PCI to level 2.
52(34) CDSUL3* Retry threshold unresolved level 3.	53(35) CDSUL4* Retry threshold unresolved level 4.	54(36) Reserved.	55(37) CDSWA1* Switch address TA of SWAD IOC1.
56(38) CDSWA2* Switch address TA of SWAD IOC2.	57(39) CDSMLMA* Multiple load module support.	58(3A) - 63(3F) Reserved. (6 bytes)	

* Indicates a byte expansion follows.

Adapter Entry

n CDSADID* Adapter ID.	n+1 CDSATYPE* Adapter type.	n+2 CDSSTAT* Adapter status.	n+3 CDSINFO* Adapter information.
n+4 CDSFRLN* First relative line number.		n+6 CDSLNRG* Line range.	n+7 Reserved.

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Hex Value	Contents
0(0) CDSFMT	X'01'	CDS format. Header 64 bytes; entry 8 bytes.

Offset/Field Name	Hex Value	Contents
1(1) CDSLVL	X'02'	CDS level. Size of CDS = 448 (64 + (48x8))

Offset/Field Name	Bit Pattern	Contents
45(2D) CDSOPDTA	X... .. .xxx xx.. .... ..xx	Operating data. Reserved. Operating mode: 001 = Operating mode is single. 010 = Operating mode is twin-standby. 100 = Operating mode is twin-backup. 101 = Operating mode is twin-dual. Reserved. 01 = CDS is for CCU A. 10 = CDS is for CCU B.

Offset/Field Name	Hex Value	Contents
46(2E) CDSMBSZ	X'00' X'01'–X'xx'	Mailbox/MOSS workspace size. Interpreted as one 4K block. Number of 4K blocks of memory.

Offset/Field Name	Bit Pattern	Contents
47(2F) CDSPIO	xxxx xxxx	Retry thresholds—PIO errors. PIO CA threshold for level 1. PIO LA threshold for level 1.

Offset/Field Name	Bit Pattern	Contents
48(30) CDSAIO	xxxx xxxx	Retry threshold—AIO errors. AIO threshold for level 1. Reserved.

Offset/Field Name	Bit Pattern	Contents
49(31) CDSADAP	xxxx xxxx	Retry threshold—adapter detected errors. CA adapter level 1 threshold. LA adapter level 1 threshold.

Offset/Field Name	Bit Pattern	Contents
50(32) CDSUL1	xxxx xxxx	Retry threshold—unresolved level 1. Unresolved level 1 threshold. Reserved.

Offset/Field Name	Bit Pattern	Contents
51(33) CDSUPC12	xxxx xxxx	Retry thresholds—unresolved level 2 and level 2 PCI. Unresolved level 2 threshold. Level 2 PCI threshold.

Offset/Field Name	Bit Pattern	Contents
52(34) CDSUL3	xxxx xxxx	Retry threshold—unresolved level 3. Unresolved level 3 threshold. Reserved.

Offset/Field Name	Bit Pattern	Contents
53(35) CDSUL4	xxxx xxxx	Retry threshold—unresolved level 4. Unresolved level 4 threshold. Reserved.

Offset/Field Name	Bit Pattern	Contents
55(37) CDSSWA1	0... .... .1.. .... ..00 0000	Switch adapter TA bus 1. 0 = BUS 1. Always on. Always 0.

Offset/Field Name	Bit Pattern	Contents
56(38) CDSSWA2	1... .. .1.. .. ..00 0000	Switch adapter TA bus 2. 1 = Bus 2. Always on. Always 0.

Offset/Field Name	Hex Value	Contents
57(39) CDSMLMA	X'00' X'02'	Multiple load module support. MOSS does not support multiple load modules. MOSS supports 2 load modules per CCU.

Offset/Field Name	Hex Value	Contents
<i>n</i> CDSADID	X'01'—X'20' X'01'—X'10'	Adapter ID. IDs for line adapters. IDs for channel adapters.

Offset/Field Name	Hex Value	Contents
<i>n+1</i> CDSATYPE	X'00' X'01' X'10' X'20' X'30'	Adapter type. Adapter is not installed. Channel adapter. TSS HPTSS TRA

Offset/Field Name	Bit Pattern	Contents
<i>n+2</i> CDSSTAT	1... .. .1.. .. ..1. .... ...1 x...	Adapter status. Adapter not installed. Adapter not operative. Adapter not attached to this CCU. Adapter not switched to this CCU. 1 = Adapter uses modem integrated couplers only. 0 = Adapter uses line integrated couplers only.

Offset/Field Name	Bit Pattern	Contents
$n+3$ CDSINFO	1... .. ..1.....	Adapter information. TPS not installed. Host doesn't support I/O error alerts.

Offset/Field Name	Hex Value	Contents
$n+4$ CDSFRLN	$X'0+10n'$ $X'200+2n'$ $X'240+2n'$	First relative line number. If $<X'200'$, where $n=0$ to $X'1F'$ (maximum LIC modules = 32) If from $X'200'$ to $X'23F'$ $n=0$ to $X'7'$ (maximum HPTSSs = 8) If from $X'240'$ to $X'24F'$ $n=0$ to $X'3'$ (maximum TRAs = 4)

Offset/Field Name	Hex Value	Contents
$n+6$ CDLNRG	$X'00'$ $X'02'$ $X'10'$ or $X'20'$	Line range (maximum number of lines that can be connected). Range when spare adapter. Range when adapter is TRA or HPTSS. Range when adapter is TSS.

CA ERP Control Block

Program: NCP, EP
Size in bytes: 40(28) Version 5 Release 1; 44(2C) V5R2 and later releases
Created by: NCP or PEP generation
Pointed to by: CAVTCERP in CAVT entry
Function: Serves as a communications area between levels 1, 3, and 4 and also between level 3 interrupts when a CA is to be disabled as a result of level 1 errors. CER contains information on the current state of the disable sequence on the CA, and stores external registers for use by the ERP processing in level 3.

0(0) CERSEL* CA select mask.	1(1) CERCCW Current CCW.	2(2) CERENAB* CA enable mask.	
4(4) CERCA00 CA initial select bits.		6(6) CERCA01 CA CCW and subchannel address.	
8(8) CERCA02 CA data status inputs.		10(A) CERCA03 ESC subchannel address and status.	
12(C) CERCA07 CA enable/disable indicators.		14(E) CERCA0B ESC TIO address and status.	
16(10) CERCA0F Level 3 interrupt and CA select.		18(12) CERSTATE* Current state of ERP sequence.	
20(14) CERCA0P1 OUT X'2' operations to be performed.		22(16) CERCA0P2 OUT X'7' operations to be performed.	
24(18) CERSENSE Sense byte.	25(19) CERDST Disabled attempted count.	26(1A) CERTAB0* High byte of TA.	27(1B) CERCPIP* CACM function in progress. (3745 only) (V5R2 and later only) ----- Reserved. (3720 only)
28(1C) CERCABP Pointer to CAB associated with CER by select bits (NCP).			
----- CERFLGS* CER flag byte.			

* Indicates a byte expansion follows.

32(20)		CERCHCBP Pointer to CHCB associated with CER by select bits (EP).	
CERCATYP* Channel adapter type.			
36(24)	CERERPT ERP timer. (3745)	38(26)	CERDSBT CACM disable timer. (3745)
Reserved. (3720)		Reserved. (3720)	
40(28)	CERINS7** Input Register X'57' (3745)	42(2A)	CEROUT57** Output Register X'57' (3745)
Reserved (3720)		Reserved (3720)	

* Indicates a byte expansion follows.

** These fields are in V5R2 and later releases only.

Byte Expansions

Offset/Field Name	Hex Value	Contents
0(0) CERSELM**		Select mask for channel adapter.
	X'00'	For 3745 CA position 1 (IOC2) or 5 (IOC1).
	X'02'	CA position 2 (IOC2) or 6 (IOC1).
	X'04'	CA position 3 (IOC2) or 7 (IOC1).
	X'06'	CA position 4 (IOC2) or 8 (IOC1).
	X'08'	CA position 9 (IOC2) or 13 (IOC1).
	X'0A'	CA position 10 (IOC2) or 14 (IOC1).
	X'0C'	CA position 11 (IOC2) or 15 (IOC1).
	X'0E'	CA position 12 (IOC2) or 16 (IOC1).
		For 3720
	X'00'	CA 1.
	X'02'	CA 2.

** To determine which channel adapter has been selected or enabled, the bus on which the channel adapter resides can be determined by the field CERTAB0.

Offset/Field Name	Hex Value	Contents
2(2) CERENAB**		Enable mask for channel adapter.
	X'00C0'	For 3745 CA position 1 (IOC2) or 5 (IOC1). CA position 2 (IOC2) or 6 (IOC1). CA position 3 (IOC2) or 7 (IOC1). CA position 4 (IOC2) or 8 (IOC1). CA position 9 (IOC2) or 13 (IOC1). CA position 10 (IOC2) or 14 (IOC1). CA position 11 (IOC2) or 15 (IOC1). CA position 12 (IOC2) or 16 (IOC1).
	X'0020'	
	X'000C'	
	X'0002'	
	X'9000'	
	X'2000'	
	X'4800'	
	X'0100'	
	X'00C0'	For 3720 CA 1. CA 2.
	X'0020'	

** To determine which channel adapter has been selected or enabled, the bus on which the channel adapter resides can be determined by the field CERTAB0.

Offset/Field Name	Bit Pattern	Contents
18(12) CERSTATE	Byte 0	Current state of ERP sequence.
	1...	Wait for command to clear.
	.1..	Stacked status.
	..1.	Sense transferred.
	...1	Attempted disable.
	.... 1...	Disabled.
	.... .1..	CA is in ERP inoperative state.
	.... ..1.	MOSS CACM time-out detected.
	.... ...X	Reserved.
	Byte 1	
	1...	Need TGs inhibited.
	.1..	TGs inhibited.
	..1.	EP requires control.
	...1	NEO requires control.
	.... xxxx	Reserved.

Offset/Field Name	Hex Value	Contents
26(1A) CERTAB0		High byte of TA
	X'08'	For 3745 Channel adapter is on IOC1. Channel adapter is on IOC2.
	X'88'	
		Note: For the 3720 X'08' is the only value.

Offset/Field Name	Bit Pattern	Contents
27(1B) CERCFIP	1... .... .1.. .... ..1. .... ...1 1... .... .1.. .....xx	CACM function in progress. Disconnect CA in progress. CDS update insert in progress. CA chain update in progress. CDS update delete in progress. Connect CA in progress. Connect CA recovery required—IOH failed. Reserved.

Offset/Field Name	Bit Pattern	Contents
28(1C) CERFLGS	1... .... .1.. .... ..1. .... ...1 1... .... .1.. .... ..1. .....1	CER flag byte. I/O error alert attempted. I/O error alert can be attempted. MOSS I/O error alert requested. Reset ESC address active attempted. CADS bypassed from auto-selection chain. CADS bypassed from cycle steal grant chain. Power block failure pending. Power block failure.

Offset/Field Name	Hex Value	Contents
32(20) CERCATYP	X'05' X'06'	Channel adapter type Type 5 channel adapter. (3720) Type 6 channel adapter. (3745)

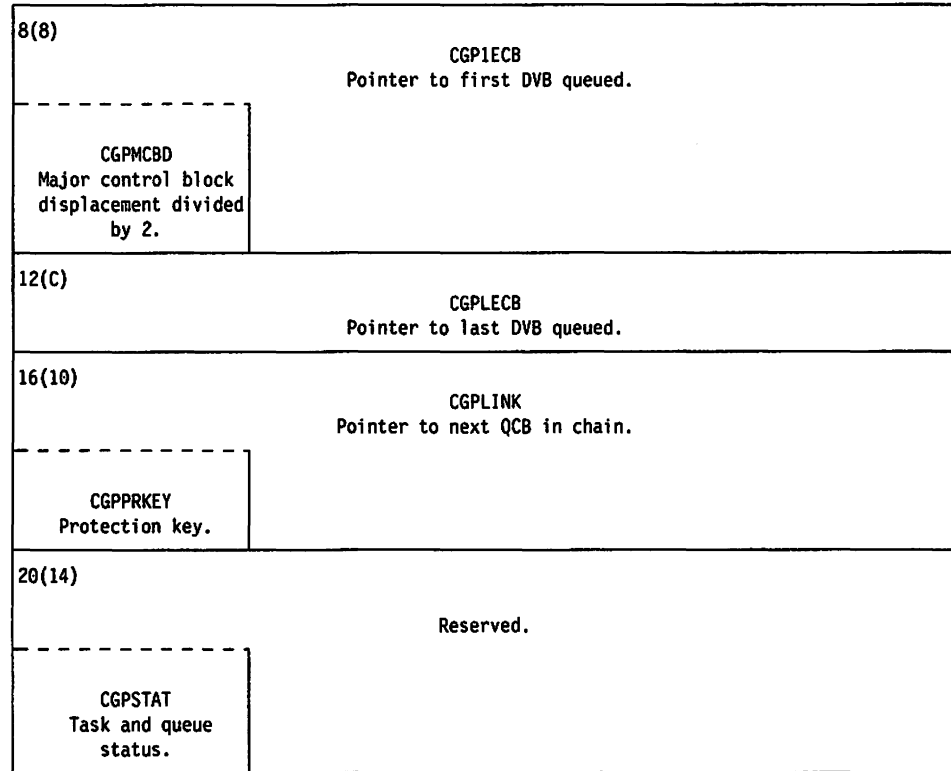
Cluster General Poll Extension to DVB

Program: NCP
Size in bytes: 24(18)
Located in: DVB
Created by: NCP generation
Pointed to by: DVBCLSO field in DVB
Function: Contains information necessary to reinitiate suspended sessions of general polled devices

0(0) CGPRVTE Pointer to RVT entry.			
CGPFLGS* Flags.			
4(4) CGPSSC Suspended sessions count.	5(5) CGPSSS Suspended session serviced.	6(6) CGPSSRC Suspended sessions remembrance count.	7(7) Reserved.

* Indicates a byte expansion follows.

Cluster Suspended Sessions QCB
(See QCB for Work Queues for all bit definitions.)



Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) CGPFLGS	x... ..	Flags 1 = Use table lookup for next terminal address for poll. 0 = Use next sequential terminal address for poll.

Channel Control Block

Program: EP

Size in bytes: 108(6C) + CHVT

Created by: PEP generation

Pointed to by: CAVTCHBP of CAVT entry for associated channel adapter

Function: Contains the queues, CHVT and other data unique to a particular channel adapter

0(0)	CASEL* Channel select bits and PEP flags.	2(2)	CAIMSK* CA interface mask.
4(4)	DCCBADR Dynamic subchannel CCB address.		
	CHCBTA0* High byte of TA.		
8(8)	NSCCBADR Native subchannel CCB address.		
	CHCBOPST* Option and status bits.		
12(C)	TERMADR Terminator address.		
	ACCOUNT Active command count.		
16(10)	PDSOFRST Priority data service out queue first pointer.		
20(14)	PDSOLAST Priority data service out queue last pointer.		
24(18)	PCDSOFST Priority cycle steal data service out queue first pointer.		
28(1C)	PCDSOLST Priority cycle steal data service out queue last pointer.		
32(20)	DSOFRST Data service out queue first pointer.		

* Indicates a byte expansion follows.

36(24)	DSOLAST Data service out queue last pointer.
40(28)	CDSOFRST Cycle steal data service out queue first pointer.
44(2C)	CDSOLAST Cycle steal data service out queue last pointer.
48(30)	CDDOFRST Cycle steal dynadump out queue first pointer.
52(34)	CDDOLAST Cycle steal dynadump out queue last pointer.
56(38)	DSIFRST Data service in queue first pointer.
60(3C)	DSILAST Data service in queue last pointer.
64(40)	CDSIFRST Cycle steal data service in queue first pointer.
68(44)	CDSILAST Cycle steal data service in queue last pointer.
72(48)	SOFRST Status out queue first pointer.
76(4C)	SOLAST Status out queue last pointer.
80(50)	CPSIFRST Poll data service in queue first pointer.
84(54)	CPSILAST Poll data service in queue last pointer.
88(58)	SNOFRST Sense out queue first pointer.
92(5C)	SNOLAST Sense out queue last pointer.

96(60)	SSFRST Stacked status queue first pointer.
100(64)	SSLAST Stacked status queue last pointer.
104(68)	L1L3CCB Error recovery processing field.
108(6C)	CHCBCAVT CAVT entry pointer.
112(70)	Reserved.
116(74) - n	CHVT Channel vector table.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) CASEL ¹	Byte 0	
	1... ..	PEP flag—Bit on indicates that EP is busy or that a CCB is queued indicating pending EP operation.
	.1... ..	No PI flag—Bit on indicates that a PI is not required to give control to the queue scanner.
	...1 ...	Perform output in CA as indicated by bits 0.4-0.6 (Bit is always on).
	.... xxx.	CA selection bits—Same as bits 0.4-0.6 of Output X'7'. 000 = CA address 0 (IOC1) or 8 (IOC2). 001 = CA address 1 (IOC1) or 9 (IOC2). 010 = CA address 2 (IOC1) or A (IOC2). 011 = CA address 3 (IOC1) or B (IOC2). 100 = CA address 4 (IOC1) or C (IOC2). 101 = CA address 5 (IOC1) or D (IOC2). 110 = CA address 6 (IOC1) or E (IOC2). 111 = CA address 7 (IOC1) or F (IOC2).
	Byte 1	
	.1... ..	Set PI same as bit 1.1 of Output X'7'. (Bit is always on.)

¹ The SETPI macro checks byte 0 bit 1 to determine if the Output X'7' instruction should be issued.

Offset/Field Name	Hex Value	Contents
2(2) CAIMSK	3745 only	Channel adapter interface mask—used to check CA interface A bits in Input X'7'.
	X'00C0'	CA address 0 (Bus 1) or 8 (Bus 2) mask.
	X'0020'	CA address 1 (Bus 1) or 9 (Bus 2) mask.
	X'000C'	CA address 2 (Bus 1) or A (Bus 2) mask.
	X'0002'	CA address 3 (Bus 1) or B (Bus 2) mask.
	X'9000'	CA address 4 (Bus 1) or C (Bus 2) mask.
	X'2000'	CA address 5 (Bus 1) or D (Bus 2) mask.
	X'4800'	CA address 6 (Bus 1) or E (Bus 2) mask.
	X'0100'	CA address 7 (Bus 1) or F (Bus 2) mask.
	3720 only	
	X'00C0'	CA address 0
X'0030'	CA address 1	

Offset/Field Name	Hex Value	Contents
4(4) CHCBTA0		
	X'08'	CA on IOC1 (3720 or 3745)
	X'8B'	CA on IOC2 (3745 only)

Offset/Field Name	Bit Pattern	Contents
8(8) CHCBOPST		Option and status bits.
	x... ..	CA type: 1 = Type 6. 0 = Type 5.
	.1..	I/O error alert supported.
	.... ..1.	Ground fault counter expired.
	.....1	Reset processing in progress.

Channel Vector Table

Program: EP
Size in bytes: Variable, depending on the number of subchannels specified
Located in: CHCB
Created by: PEP generation
Referenced by: Level 1 and level 3 routines
Function: Allows the level 3 routines to find a line's CCB when only the subchannel address is shown and allows level 1 routines to initialize the CCU hardware defined during generation

0(0) CYACHVT Subchannel addresses.		2(2) CHVTFLGS* CHVT flags.	3(3) Reserved.

Lowest subchannel address.	1(1) Highest subchannel address.		
4 - n** CYACHEND Address of the associated LNVT entry for each of the line adapter interfaces (each address occupies 4 bytes). If even, it points to an active LNVT entry. If odd, it points to a USCCB (formerly dummy CCB).			
n+1 X'0000 0001' Delimiter.			
n+5 CHVTPRT Pointer to the next CHVT or the first CHVT if this is the last.			

* Indicates a byte expansion follows.

** n = then number of line adapter interfaces multiplied by 2, plus 1.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
2(2) CHVTFLGS		CHVT flags.
	1... ..	CA not installed.
	.1... ..	CA not operative.
	..1... ..	CA not attached to this CCU.
	.... ..1.	CACM mode disconnected (V5R2 and later releases only).
	...x xx.x	Reserved.

Call-In Extension (CIE) to DVB

Program: NCP
Size in bytes: Variable
Created by: NCP generation
Pointed to by: DVBDIAL field in DVB
Function: Contains optional data required for servicing calls originated by a terminal on a switched line

Note: Actual position of the CIE depends on the extensions that are present. The CIE follows any polling, addressing, or input extensions to the DVB.

0(0) CIEIDL Pointer to ID list (IDL). Included only if ID verification is used on the associated line.	
CIEFLAGS* Flags. The bit definitions in this field must be identical to those in the COEFLAGS of the callout extension (COE).	3(3) CIEMTAP Offset to MTA list. (Included only if the device type is multiple terminal access.)
4(4) CIEIDCT** Count of send ID.	5(5) CIEIDPTR** Pointer to the ID to be sent.

- * Indicates a byte expansion follows.
- ** These fields are present in the CIE only if sending of the control unit's identification is required for this device.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) CIEFLAGS		Flags.
	1... ..	Send hardware ID is required.
	.1.	Receive hardware ID is expected.
	..1.	Dial digits are resident.
	...1	Call-in device. (This bit is always one for CIE).
	.... 1...	Send IDSEQ on enable.
	.... .1..	A dial request is pending for this device.
	.... ..1.	Disconnect when End of Call has been received.
	.... ...1	Set Mode is required at telephone connection with this device to set up proper physical line characteristics.

Callout Extension (COE) to DVB

Program: NCP
Size in bytes: Variable, depending on length of dial digits
Created by: NCP generation
Pointed to by: DVBDIAL field in DVB
Function: Contains optional data required to call a terminal on a switched line

0(0)			
COESGTP Address of device's switched group table (SGT).			
COEFLAGS* Flags. The bit definitions of this field must be identical to those in the CIEFLAGS field of the CIE.			
4(4)	5(5)	6(6)	7(7)
COELCSTI Index to LCST. (MTA only)	COEMAX Maximum field length of dial digits.	COECUR Current number of dial digits.	COEDIAL Dial digits. (Variable length)

* Indicates a byte expansion follows.

Note: The actual position of the COE depends on other extensions that are present.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) COEFLAGS		Flags.
	1... ..	Send hardware ID is required.
	.1.. ..	Receive hardware ID is expected.
	..1. ..	Dial digits are resident.
	...1 ..	Call-in device. This bit is always zero for COE.
	.... 1..	Send IDSEQ on enable.
	.... .1.	A Dial request is pending for this device.
	.... ..1.	Disconnect with End of Call has been received.
	.... ...1	Set mode is required at telephone connection with this device.

Channel Adapter IOH Trace Table

Program: NCP
Size in bytes: 4(4) plus 1000 fullword entries (3720); 4(4) plus 2000 fullword entries (3745)
Created by: NCP generation
Pointed to by: SYSCIOTP field in FAX
Function: Holds the trace data for channel adapter IOHs

0(0)	CIOTNTRY Current entry.
4(4)-n	Variable length table. (8 bytes per entry) (See trace entry for format.)

Trace Entry

0(0)	CIOTTA TA data.	2(2)	CIOTTD TD data.
4(4)	CIOTIAR Address where IOH issued.		

Control Program Information Table (CPIT)

Program: NCP, EP
Size in bytes: 60(3C) plus prefix
Created by: The Call produced by the stage 1 macro NGEN2 for NCP and PEP
 The CPIT is found in the tables assembly.
Pointed to by: SYSCPITP field in FAX
Function: Contains all the control program parameters needed by the MOSS microcode

-4(4) Reserved.		-2(2) CPIT length. (from 0 offset)	
0(0) CPITECL1 Level 1 CRP entry count.	1(1) CPITECL2 Level 2 CRP entry count.	2(2) CPITECL3 Level 3 CRP entry count.	3(3) CPITECL4 Level 4 CRP entry count.
4(4) CPITSL1P Pointer to start of the level 1 CRP subpool.			
CPITELL1 Level 1 CRP entry length.			
8(8) CPITSL2P Pointer to start of the level 2 CRP subpool.			
CPITELL2 Level 2 CRP entry length.			
12(C) CPITSL3P Pointer to start of the level 3 CRP subpool.			
CPITELL3 Level 3 CRP entry length.			
16(10) CPITSL4P Pointer to start of the level 4 CRP subpool.			
CPITELL4 Level 4 CRP entry length.			

20(14)	CPITATCP Pointer to the address trace control block.
CPITBLEN Buffer length. A	
24(18)	CPITBTTP Pointer to the branch trace table header. (CXTBTRC for NCP or PEP).
CPITBPL Buffer prefix length. B	
28(1C)	CPITMATP Pointer to the MOSS alert text table.
CPITBPOD Offset to BP data offset. C	
32(20)	CPITBTFP Offset of binary time field in XDH.
CPITBDO Offset to buffer data. D	
36(24)	CPITDFTP Pointer to the EBCDIC time and date field.
CPITFTUM FID type used by MOSS. (FID1)	
40(28)	CPITELMP Pointer to EBCDIC load module ID in the PSB (NCP or PEP).
CPITCPT* Control program type.	
44(2C)	CPITCATP Pointer to the CA trace select table.
CPITBDOF0 Offset from start of buffer to data field. E	

48(30)	CPITMOQP Address of the MOSS outbound queue head pointer.
Reserved.	
52(34)	CPITCCLP Address of the control-code level in the PSB (NCP or PEP) or at CYKEPCCL (EP-only).
Reserved.	
56(38)	CPITLIBP Pointer to the level 1 control block (LIB).
CPITFLGS* Flags byte.	
60(3C)	CPITCDSP Pointer to configuration data set (CDS) (3745 only).
64(40)	CPITMITP Pointer to MOSS interface table (3745 only).

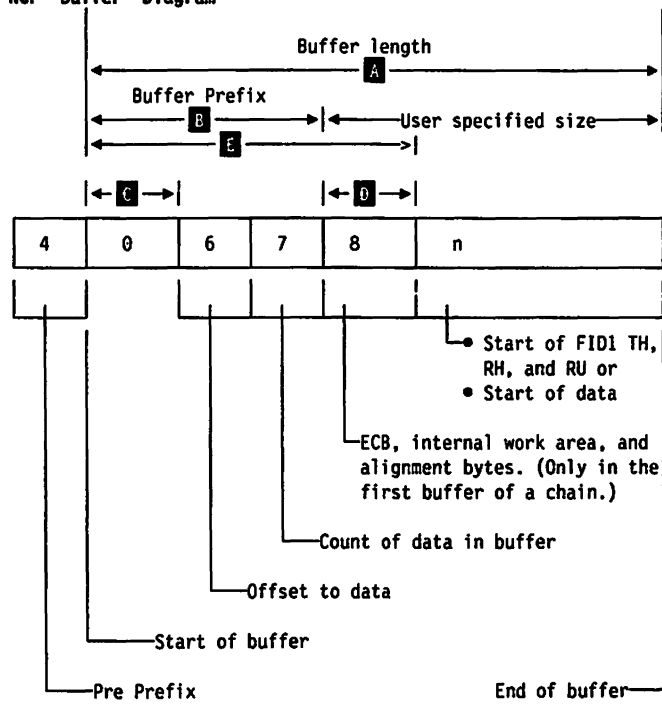
* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Hex Value	Contents
40(28) CPITCPT	X'01'	EP
	X'02'	NCP
	X'03'	PEP
	X'04'	NCP link-attached.

Offset/Field Name	Bit Pattern	Contents
56(38) CPITFLGS	x... ..	Flag byte.
	1... ..	1 = Tells MOSS to init as Type 6 CA 0 = Tells MOSS to init as Type 5 CA Tells MOSS that CACM is supported (3745 only).

NCP Buffer Diagram



Control Point Notification Queue

Program: NCP

Size in bytes: 24(18)

Created by: NCP generation

Pointed to by: QPBCPNP field in the QPB

Function: Causes the enqueued PIU to be sent to the SSCP

Note: If an NC.ER.TEST.REPLY PIU is enqueued, then an ER.TESTED PIU is sent.

Format:

Standard input QCB.
Task—CXDBCPN, CXDBTSD, CXDVRIS, or CXDKICP
Priority—Appendage
Reentrant—No

Commit Request Block

Program: NCP
Size in bytes: 16(10)
Created by: NCP generation
Pointed to by: PSBCRBP field in PSB and SYSCRBP field in HWX + 52 (34)
Function: Processed in level 3 or 4 after buffer release or decommit that causes the available buffer total to be above the indicated threshold. Unsatisfied commit requests cause the request (stored in ACB) to be chained here if POST = YES.

0(0)	CRBCWHP First commit request pointer. (CWALL)
4(4)	CRBCWTP Last commit request pointer. (CWALL)
8(8)	CRBSDHP First commit request pointer. (Slowdown)
12(C)	CRBSDTP Last commit request pointer. (Slowdown)

Check Record Pool

- Program:** NCP, EP
- Size in bytes:** 6230(1856) for all four sub-pools
- The CRP contains a header, a level 1 sub-pool, level 2 sub-pool, level 3 sub-pool, and a level 4 sub-pool. Each sub-pool contains a control block and eleven unit entries. Each entry has a header and a box event record (BER) data area. The length of each BER area depends upon the program level: level 1 = 132 (84); level 2 = 194 (C2); level 3 = 190 (BE); level 4 = 38 (26).
- Location:** CXASCB or CXASCBA
- Created by:** CXASCB or CXASCBA calling macro CXTCRP to generate the CRP
- Referenced by:** CXACRPP and CXACRPM
- Pointed to by:** SYSCKRP field in HWE
- Function:** Contains check records that have not yet been processed. Program levels 1, 2, 3, and 4 error-handling routines fill in these check records and level 4 module CXACRPP transforms them into BERs for transfer to MOSS.

Header

0(0)	CRPPTL1 Pointer to level 1 sub-pool control block.
4(4)	CRPPTL2 Pointer to level 2 sub-pool control block.
8(8)	CRPPTL3 Pointer to level 3 sub-pool control block.
12(C)	CRPPTL4 Pointer to level 4 sub-pool control block.

Subpool Control Block

0(0) CRPLCRCT Lost check-record count.	1(1) CRPNAPTR Pointer to the next available unit for this level to use.
4(4) CRPSIZE CRP unit size.	5(5) CRPNSPTR Pointer to the next unit in this level needing service.

Unit Entry Format

0(0) CRPFLG* CRP flag.	1(1) Reserved.
------------------------------	-------------------

* Indicates a byte expansion follows.

Start of BER Data (CRPDATA)

	2(2) - n
Formatted information. See the BER control block for the types of BERs for each program level.	

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) CRPFLG	1... .. .xxx xxx. .... ..1	CRP flag. End of check-record sub-pool. Reserved. Check-record unit has been used (filled) and requires service.

Command Table

Program: EP
Size in bytes: 48(30)
Located in: Routine CYAIS of module CYKSVC/CYLSVC
Created by: PEP generation
Referenced by: ICP
Function: Contains the CCB command codes used for translating the 8-bit host command code into the 5-bit EP CCB command code

0(0) - 47(2F)

CMDTABLE
CCB command codes.
(See Section 7.)

Communication Line Timer and RAS Control Table

Program: NCP
Size in bytes: 11(B)
Created by: NCP generation
Pointed to by: TIMCTBAD field in the XDA
Function: Indicates end of timer resolution queues. This table must be located at least 25 bytes from start of a CSECT.

0(0) CTBACB Pointer to the next ACB.	
CTBDCCB Dummy CCB address.	
4(4) Reserved.	6(6) CTBWORK Timer work entry for this ACB.
CTBDWORK Dummy work entry.	
8(8) CTBUXREM Dummy CCBTOREM.	9(9) Reserved.

Common Physical Unit Block

Program: NCP

Size in bytes: 128(80) plus prefix

Created by: Physical unit specification at NCP generation

One CUB is generated for each physical unit.

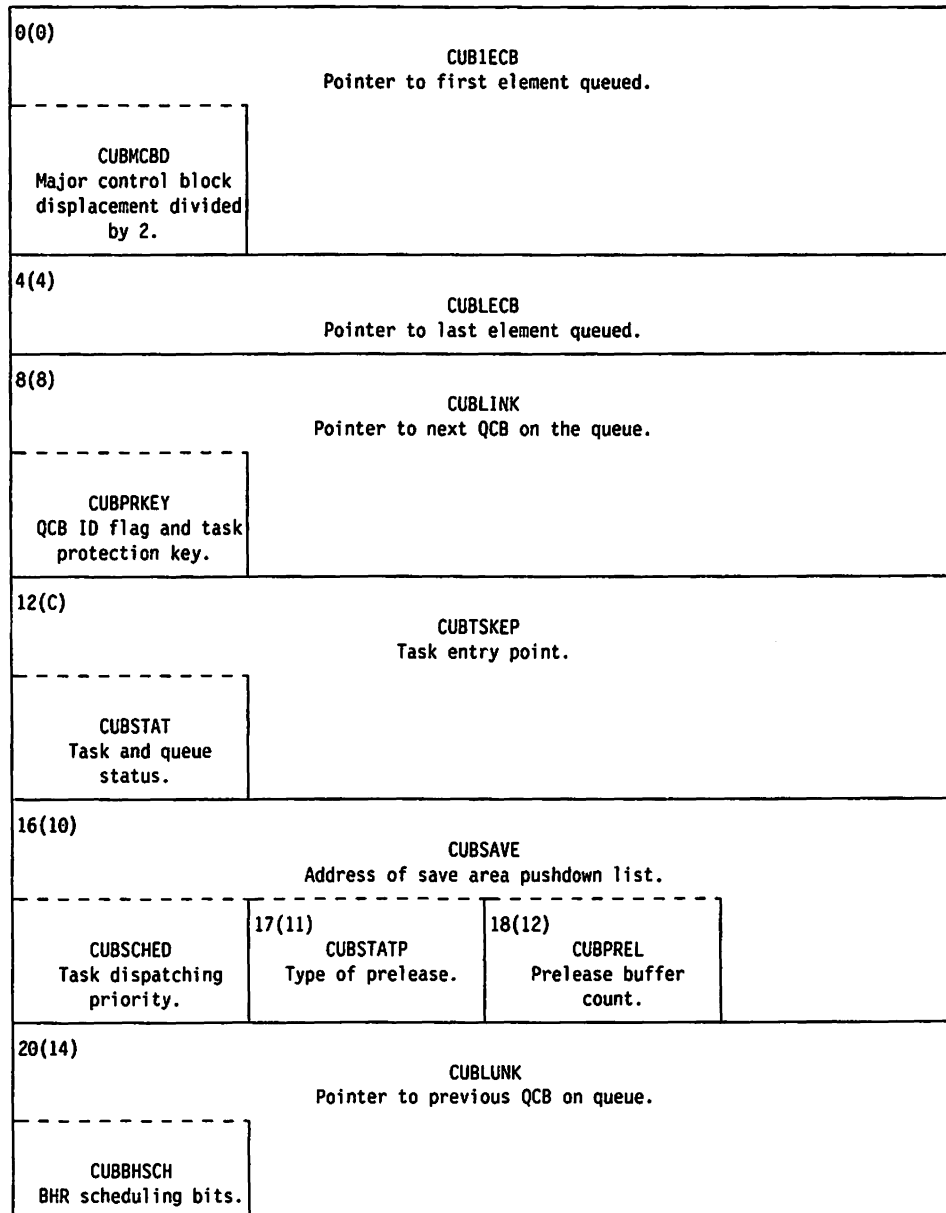
Pointed to by: RVTRP field in RVT and SOTSCB field in the SOT

Function: Contains the QCBs, status information, and scheduling information for a physical unit. The CUB contains a pointer to the CXB (CUB extension). The CXI (CUB extension for imbedded blocks) is appended to the CUB.

Name	Offset	Name	Offset
CUBADRC	40 (28)	CUBRPCNT	82 (52)
CUBAPIU	52 (34)	CUBRSE	44 (2C)
CUBBCTI	119 (77)	CUBRTCNT	60 (3C)
CUBBHSCB	20 (14)	CUBSAVE	16 (10)
CUBBSCF*	112 (70)	CUBSCHED	16 (10)
CUBCBBP	96 (60)	CUBSEGN	105 (69)
CUBCFGX	100 (64)	CUBSEGSZ	108 (6C)
CUBCMDRB	66 (42)	CUBSHWCS*	100 (64)
CUBCOC	63 (3F)	CUBSLC	61 (3D)
CUBCPNA	110 (6E)	CUBSNPM	28 (1C)
CUBCPNAM	126 (7E)	CUBSRTL	64 (40)
CUBCPNET	124 (7C)	CUBSRTR	90 (5A)
CUBDCF*	104 (68)	CUBSRTT	88 (58)
CUBEERS	24 (18)	CUBSSCF*	46 (2E)
CUBERPCS	70 (46)	CUBSSCP*	47 (2F)
CUBERPT	69 (45)	CUBSSSTAT*	117 (75)
CUBERS	58 (3A)	CUBSTAT	12 (C)
CUBIMRC	78 (4E)	CUBSTATP	17 (11)
CUBISNPM	93 (5D)	CUBSTATS*	48 (30)
CUBLECB	4 (4)	CUBSTMOD*	92 (5C)
CUBLINK	8 (8)	CUBSTRC*	96 (60)
CUBLKB	40 (28)	CUBTCNT	50 (32)
CUBLOBH	24 (18)	CUBTERR	68 (44)
CUBLOBT	28 (1C)	CUBTIACT	84 (54)
CUBLOSH	32 (20)	CUBTINCT	86 (56)
CUBLOST	36 (24)	CUBTPCNT	76 (4C)
CUBLUBP	112 (70)	CUBTRTCT	72 (48)
CUBLUNK	20 (14)	CUBTSKEP	12 (C)
CUBMCBD	0 (0)	CUBTYPE*	36 (24)
CUBMSTAT*	106 (6A)	CUBXSA1	107 (6B)
CUBNR	56 (38)	CUBXSA2	120 (78)
CUBNRA	32 (20)	CUBXSA3	121 (79)
CUBNS	57 (39)	CUBXSA4	122 (7A)
CUBOCF*	49 (31)	CUBXSA5	123 (7B)
CUBOCL	62 (3E)	CUB1ECB	0 (0)
CUBOCLS	71 (47)	CUB2ERPT	66 (42)
CUBOFSET	94 (5E)		
CUBPCNT	52 (34)		
CUBPREL	18 (12)		
CUBPRKEY	8 (8)		
CUBPSTAT*	116 (74)		
CUBPUNL	118 (76)		
CUBRCMD*	65 (41)		
CUBRCNT	80 (50)		
CUBRECNT	74 (4A)		

-4(4)
 For the prefix format for the CUB, see the network performance analyzer prefix (NPF) control block.

Link Inbound Queue (CUBLIQ) Control Block
 (See QCB for input queues for all bit definitions.)



Link Outbound Queue (LOBQ) Control Block

24(18)		CUBLOSH Link outbound queue head pointer.	
CUBEERS Extended retry status.			
28(1C)		CUBLOBT Link outbound queue high priority subqueue tail pointer.	
CUBSNPM SNP mask of SSCP that issued contact.			

Link Outstanding Queue (LOSQ) Control Block

32(20)		CUBLOSH Link outstanding queue head pointer.	
CUBNRA Number of PIUs requiring ACK.			
36(24)		CUBLOST Link outstanding queue tail pointer.	
CUBTYPE* Station type.			
40(28)		CUBLKB Address of link control block.	
CUBADRC SDLC addressing character.			
44(2C)		46(2E)	
CUBRSE Element address of resource.		CUBSSCF* Service-seeking control flags.	
		47(2F)	
		CUBSSCP* Contact poll commands.	
48(30)		49(31)	
CUBSTATS* Station status.		CUBOCF* Service-seeking output control flags.	
		50(32)	
		CUBCNT Transmission counter.	

* Indicates a byte expansion follows.

52(34) CUBAPIU Address of physical services PIU.			
CUBPCNT Pass limit.			
56(38) CUBNR NR receive count.	57(39) CUBNS NS send count.	58(3A) CUBERS Error retry status.**	
60(3C) CUBRTCNT First level ERP retry count.		62(3E) CUBOCL Outstanding count limit.	
		61(3D) CUBSLC Second level ERP retry count.	63(3F) CUBCOC Current outstanding count.
64(40) CUBSRTL Second level retry limit.	65(41) CUBRCMD* Run command modifiers.	66(42) CUBCMDRB SDLC primary second level ERP fields (6 bytes).	
		CUB2ERPT Second level ERP time-out value.	
68(44) CUBTERR Monitor secondary error count.	69(45) CUBERPT Second level ERP time delay.	70(46) CUBERPCS ERP control flags send.	71(47) CUBOCLS Outstanding count limit save area.
72(48) CUBTRTCT Total retry counter.		74(4A) CUBRECNT Receive I-format error counter.	
76(4C) CUBTPCNT Total transmission counter.		78(4E) CUBIMRC Intensive mode record counter.	
80(50) CUBRCNT I-format received counter.		82(52) CUBRPCNT S-format received counter.	
84(54) CUBTIACT Total acknowledged I-format counter.		86(56) CUBTINCT Total I-format retransmission counter.	
88(58) CUBSRTT Total transmission threshold value.		90(5A) CUBSRTR Total retries threshold value.	

* Indicates a byte expansion follows.

** Refer to the LXBSTAT and LXBSTATC fields of the link XIO control block for a definition of the status bits.

92(5C) CUBSTMOD* Flag byte.	93(5D) CUBISNPM Intensive mode SNP mask.	94(5E) CUBOFSET Offset from BH to TH.	
96(60) CUBCBBP Pointer to the committed buffers block.			
----- CUBSTRC* Session trace and LPDA flags.			
100(64) CUBCFGX Pointer to CUB extension (CXB).			
----- CUBSHWCS* Show cause save byte.			
104(68) CUBDCF* Data link control flags.	105(69) CUBLMDA Local modem addresses.	106(6A) CUBMSTAT* Miscellaneous status byte.	107(6B) CUBXSA1 Byte 0 of XID/XID3 received after null XID poll.
108(6C) CUBSEGSZ Maximum segment size (in bytes).		110(6E) CUBCPNA Element address of SSCP that issued a Contact to the cluster.	
112(70) CUBLUBP Pointer to first LUB in LUB chain.			
----- CUBBSCF* Boundary session control flags.			
116(74) CUBPSTAT* Physical unit primary status.	117(75) CUBSSTAT* Physical unit secondary status.	118(76) CUBPUNL CUB PU name length.	119(77) CUBBCTI BCT index for BFSESSINFO processing.
120(78) CUBXSA2 Byte 2 of received XID/XID3 from PU.	121(79) CUBXSA3 Byte 3 of received XID/XID3 from PU.	122(7A) CUBXSA4 Byte 4 of received XID/XID3 from PU.	123(7B) CUBXSA5 Byte 5 of received XID/XID3 from PU.
124(7C) CUBCPNET NNT entry for network ID from XID3.		126(7E) CUBCPNAM NNT entry for control point name from XID3.	

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
36(24) CUBTYPE	x... .. .1.. .. ..1. .. ...1 x..	Station type. Data mode: 1 = Duplex station. 0 = Half-duplex station. Continue polling in ANS. Switched SDLC station. Resource eligible for NPA data collection. Secondary link bit: 0 = Link is primary. 1 = Line is secondary. Terminal node (type 1 PU). Cluster controller (type 2 PU). 1 = Intermediate node (INN). 0 = Boundary node (BNN). Half-duplex INN. Duplex INN.
	.... .1..	Terminal node (type 1 PU).
	.... ..1.	Cluster controller (type 2 PU).
	.... ...x	1 = Intermediate node (INN). 0 = Boundary node (BNN).
	0... ..1	Half-duplex INN.
	1... ..1	Duplex INN.

Offset/Field Name	Bit Pattern	Contents
46(2E) CUBSSCF	Byte 0 1... .. .1.. .. ..1. 1..	Service-seeking control flags. Poll skip flag. Halt service seeking. Not operational. Link test level 2 (LL2) active. Contact Poll command active.
	.....1	Contact Poll command active.

Offset/Field Name	Bit Pattern	Contents
47(2F) CUBSSCP	Byte 1 1... .. .1.. .. ..11 111. 1.. .... .1.. .... ..1. .... .11. .....1	Contact poll commands. Disconnect Mode (DISC). Set Normal Response Mode (SNRM). Poll command mask. XID with data. Set Initialization Mode (SIM). Exchange Identification (XID). Disconnect modifier (Local-to-local link). Contact poll command field.
	.....1	Contact poll command field.

Configurable States

(See the preceding individual bit definitions)

Byte 0	Byte 1	Meaning
1010 0000	0000 0001	Reset
1010 0001	0000 1001	XID pending with data.
1010 0001	0000 0011	XID without data.

Primary States

(See the preceding individual bit definitions)

Byte 0	Byte 1	Meaning
1010 0000	0000 0001	Reset
1010 0001	0100 0001	Contact pending.
1110 0001	1100 0001	Contact and Disconnect pending.
0000 0000	0000 0001	Active (normal data).
0010 0000	0000 0001	Load/Dump/RPO active.
1010 0001	0000 0101	SIM pending
1010 0001	1000 0001	DISC pending (SCBAPIU = 0).
1010 0001	1000 0001	Disconnect pending (SCABPIU ≠ 0).
1010 1000	0000 0001	Link test level 2 (LL2) active.
1110 1000	0000 0001	Link test level 2 (LL2) ending.
1110 0001	0000 0001	Free a resource operation pending.

Secondary States

(See the preceding individual bit definitions)

Byte 0	Byte 1	Meaning
1010 0001	0100 0001	Contact pending or Contact pending with SNRM.
0000 0000	0000 0001	Active.
1010 0001	1000 0001	Request Disconnect (SCBAPIU = 0).
1010 0001	1000 0111	Disconnect pending (SCBAPIU ≠ 0).

Offset/Field Name	Bit Pattern	Contents
48(30) CUBSTATS		Station status.
	1... ..	Poll send indicator (used by NPA only).
	.1.. ..	Link test level 2 (LL2) active.
	..1. ..	Station quiesce pending.
	...1 ..	Remote power-off in progress.
	.... 1..	SIM can be accepted over the link associated with this station.
	.... .1..	COMMIT in progress for this station.
	.... ..1.	One or more SDLC error record counters has reached its limit.
	.... ...1	Device available to dynamic reconfiguration.

Offset/Field Name	Bit Pattern	Contents
49(31) CUBOCF		Service-seeking output control flags.
	1... ..	Output skip bit.
	.1.. ..	Run terminator interlock.
	..1. ..	RNR received.
	...1 ..	Second level delay in progress.
	.... 1..	Scanner change required.
	.... .1..	Duplex SDLC scheduling.
	.... ..1.	RNR repoll or half-duplex poll control.
	.... ...1	Half-duplex poll in progress.

Offset/Field Name	Bit Pattern	Contents
65(41) CUBRCMD		Run command modifiers.
	x... ..	Reserved.
	.1..	Override first and second level retries.
	..1.	Station activation retry.
	...1	Immediate retry.
	.... 1...	SDLC Reject has been received since NCP last sent poll/final.
	.... .1..	Send Reject when transmit leg is busy.
	.... ..1.	Waiting on a good response to poll.
.....x	Reserved.	

Offset/Field Name	Bit Pattern	Contents
92(5C) CUBSTMOD		Flag byte. Set/reset at levels 2, 3, or 5. Level 5 may alter these flags only with an XIO Setmode.
	1...	Intensive Mode (IM) active.
	.1..	IM stop in progress for SETCV (IM).
	..1.	IM stop in progress for slowdown.

Offset/Field Name	Bit Pattern	Contents
96(60) CUBSTRC		Session trace and LPDA flags.
	1...	Last outbound PIU was expedited.
	.1..	Next-to-last outbound PIU was expedited.
	..1.	Last inbound PIU was expedited.
	...1	Next-to-last inbound PIU was expedited.
	.... 1...	Session trace for all resources.
	.... .1..	Session trace for a specific resource.
.....1.	Block LPDA tests to this resource.	

Offset/Field Name	Bit Pattern/ Hex Value	Contents
100(64) CUBSHWCS		Show cause save byte.
	1... ..	Dynamic threshold alteration has altered a threshold.
	X'01'	Total transmission threshold limit exceeded.
	X'02'	Total retries threshold limit exceeded.
	X'03'	Deactivation process.
	X'04'	Transmission threshold exceeded (I format).
	X'05'	Receive I-format error threshold exceeded.
	X'06'	S-format received, threshold exceeded.
	X'07'	Total acknowledged, I-format threshold exceeded.
	X'08'	I-format received, threshold exceeded.
	X'09'	Total I-format retransmission threshold exceeded.
	X'0A'	Sum of receive I-format error counter and I-format receive counter resulted in a counter overflow.
	X'0B'	Reserved.
	X'0C'	Reserved.

Offset/Field Name	Bit Pattern	Contents
104(68) CUBDCF		Data link control flags.
	x... ..	Control field operating mode: 1 = 2-byte control field. 0 = 1-byte control field.
	.x.. ..	Set normal response mode: 1 = Transmit SNRME. 0 = Transmit SNRM.
	..1.	XID on the line outgoing queue (LOBQ).
	...1	First error in poll cycle.
	.... x...	Multipoint line indication: 1 = Multipoint line. 0 = Point-to-point line.
	.... .1..	SMMF support for this station.
	.... ..1.	Station resides on primary link segment.
	.... ...1	Run LPDA when total transmissions counter reaches threshold.

Offset/Field Name	Bit Pattern	Contents
106(6A) CUBMSTAT	1... .. .1. ... ..1. ... ...1 1.. .... .1.. .....xx	Miscellaneous status byte. LU-LU session was reported. INOP type 04 is required. CUBXSA2-5 contains node ID. CUBCPNET and CUBCPNAM contain NNT index. Ready to deallocate CUB. Cleanup in progress. Reserved.

Offset/Field Name	Bit Pattern/ Hex Value	Contents
112(70) CUBBSCF	1... .... .1.. .... ..1. .... ...1 1... .... .xx. 1 X'00' X'08' X'13' X'22' X'32' X'42' X'80' X'81' X'90' X'92' X'93' X'D2' X'D3' X'15' X'24' X'44' X'54' X'94' X'D4'	Boundary session control flags. Any XID state. Any active normal-response mode state. Any discontact state. Any contact state. Any test state. Substate indicators: 00 = Configurable. 01 = Primary. 10 = Secondary. Final phase for any contact or XID state. Primary Substate Definitions Reset state. Link test, level 2. Contact SNRM state. Discontact primary state. Contact-Discontact state. Active primary. Null XID, switched line. Pre-negotiation XID-3, switched line. Null XID, leased line. Negotiations pending XID-3. Control vector X'22', normal exchange. XID exchange, active station. Control vector X'22', active XID-3 exchange. Secondary Substate Definitions CONTACT SNRM state—UA to SNRM sent. DISCONTACT Secondary state. Active secondary state. Contact active secondary state—active XID exchange complete. Negotiations pending XID3 secondary. XID exchange, active secondary station.

Offset/Field Name	Bit Pattern	Contents
116(74) CUBPSTAT	1... .. .1.. .. ..1. .. ...1 1.. .....1..	Physical unit primary status. Primary half-session Session established. Processing session initiating request. Processing terminating request. Secondary half-session Session established. ACTPU pending. DACTPU pending.

Offset/Field Name	Bit Pattern	Contents
117(75) CUBSSTAT	1... .. .1.. .. ..1. .. ...1 1.. .... .1.. .... ..1. .....1..	Physical unit secondary status. 3270 station. Takeover required. BFSESSINFO in progress. PU is a dynamic resource. Network address required. Control block contains usable control vector information. PU added by dynamic reconfiguration. Dynamic reconfiguration in progress.

Common Physical Unit Block Extension

Program: NCP
Size in bytes: 72(48)
Created by: NCP generation
Pointed to by: CUBCFGX field in the CUB
Function: Contains Request Work Queue for a physical unit

Physical Unit Request Work Queue
 (See QCB for work queues for bit definitions.)

0(0)		CXIECB Pointer to first element queued.	
CXMCBD Major control block displacement divided by 2.			
4(4)		CXLECB Pointer to last element queued.	
8(8)		CXLINK Pointer to the next QCB on the queue.	
CXPRKEY Protection key.			
12(C)	CXSTAT Task and queue status.	13(D) Reserved.	14(E) CXBRNRCT Start time of first RNR received.
16(10)	CXBGSGSZ Generated maximum segment size (in bytes).	18(12) CXBILUSF* Independent LU support flags.	19(13) CXBGACL Generated outstanding count limit.

* Indicates a byte expansion follows.

20(14) CXBXIDRP Pointer to XID data received or XID data saved in case of resend.			
CXBRCT** Reason for Contact termination.			
24(18) CXBCNTF* CONTACT flags.	25(19) CXBGPCNT Generated pass limit.	26(1A) CXBTGN Transmission group number.	27(1B) CXBDTAIN* Threshold alteration indicator.
28(1C) CXBOU1B1 Last outgoing sequence number.		30(1E) CXBOU2B2 Next-to-last outgoing sequence number.	
32(20) CXBIN1B1 Last incoming sequence number.		34(22) CXBIN2B2 Next-to-last incoming sequence number.	
36(24) CXBCABP Pointer to associated channel adapter control block (CAB).			
CXBGFLGS* User generation flags.			
40(28) CXBFLGS* CXB flags.	41(29) Reserved.	42(2A) CXBWP DCT Count awaiting pacing response with data.	
44(2C) CXBPBPCT Pseudo BID pending count.		46(2E) CXBIBSCT Incoming segmentation count.	
48(30) CXBPBSBF Pointer to first BSB in pre-pending active chain.			
CXBCN Correlation number.			
52(34) CXBLOBMT Tail pointer to medium priority LOBQ subqueue.			
56(38) CXBLOBLT Tail pointer to low priority LOBQ subqueue.			
CXBPASCT Station Pass Count.			

* Indicates a byte expansion follows.

** See CONTACTED RU byte expansion for RU1LDS in Section 5.

Note: The fields CXBXIDRP, CXBRCT, CXBTGN, CXBCABP, CXBSEQN, CXBSTAT, and CXBINPC must remain at the same relative offset as their counterparts in the SXB.

60(3C) Reserved.	62(3E) CXBSEQN SMMF Station PIU Sequence Number.	
64(40) Reserved.	66(42) CXBSTAT* SMMF Station Status Byte.	67(43) CXBINPC SMMF Station INOP Code.
68(44) CXBSNEXT Pointer to next CUB in S0Q.		
CXBSOTIN SOT Index.		

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
18(12) CXBILUSF	1...	Independent LU support flags.
	.1..	PU-T2.1 station.
	..1.	CONTACTED X'0A' and X'0B' support.
	...1	ACTPU not requested.
	.... 1...	Network services available.
	.... .1..	One-way adaptive Bind pacing response required.
	.... .1.	NSA contact queued indicator.
	.... .1.	Static independent LU address freed.

Offset/Field Name	Bit Pattern	Contents
24(18) CXBCNTF	xx..	CONTACT flags.
		CONTACT usage bits:
		00 = Reserved.
		01 = Initial CONTACT.
		10 = Takeover CONTACT.
		11 = NSA CONTACT.
		Use null XID polling.
	..1.	Initial negotiation XID-3 from station is pending.
	...1	XID3 sent to the station.
	.... 1...	XID exchange not successful.
	.... .1..	XID exchange was unsolicited.
	.... .1.	Send RECMS with this INOP.
	.... .1.	

Offset/Field Name	Bit Pattern	Contents
27(1B) CXBDTAIN	1... ..	Threshold alteration indicator. Dynamic threshold alteration has altered a threshold.

Offset/Field Name	Bit Pattern	Contents
36(24) CXBGFLGS	xxxx x.. .... .x.. .... ..1. .....X	User generation flags. Network Addressable Function error count for XID exchange. NCP generated modulus: 1 = Modulo 128. 0 = Modulo 8. Generated duplex SDLC scheduling: 1 = Duplex station. 0 = Half-duplex station. PU initially genned. Reserved.

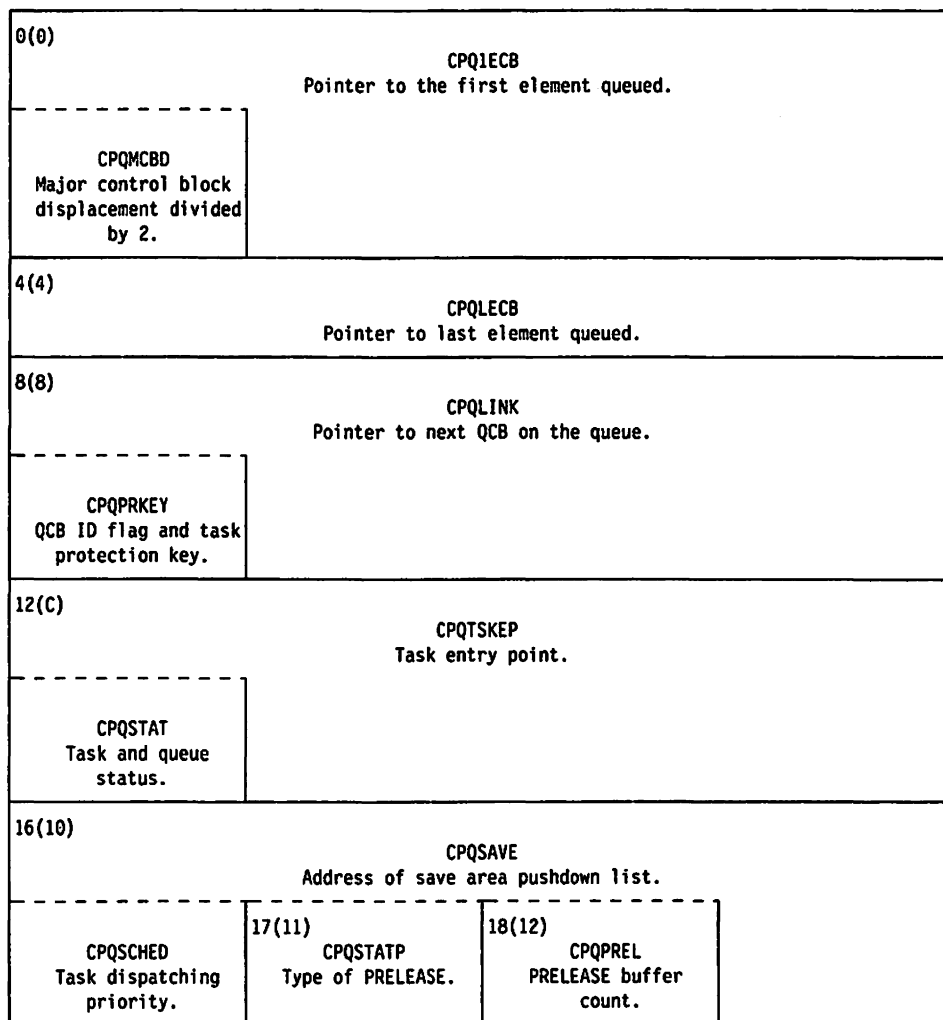
Offset/Field Name	Bit Pattern	Contents
40(28) CXBFLGS	x... .. .1.. .. ..1. .... ...1 xxxx	CXB flags. 1 = NPM knows about this resource. 0 = NPM doesn't know about this resource. NPM must be notified that this resource has been moved. FNA must be sent to NPM. RNAA must be sent to NPM. Reserved.

Offset/Field Name	Bit Pattern	Contents
66(42) CXBSTAT	1... .. .1.. .. ..1.	SMMF Station Status Byte SMMF Contact Pending SMMF Contact Complete SMMF Contact Error.

Common Physical Unit Block Extension for Imbedded Blocks

Program: NCP
Size in bytes: 88(58)
Created by: NCP generation
 One CXI is generated for each CUB.
Pointed to by: Immediately follows the CUB
Function: Contains the CXIPPQ QCB and the physical unit routing block (PRB), the session path control block (SPC), and the resource connection block (RCB)

SSCP-PU CPM Out Processing Queue Control Block (CXIPPQ)
 (See QCB for input queues for all bit definitions.)



20(14) CPQBHSCH BHR scheduling bits.	CPQLUNK Pointer to previous QCB on queue.
24(18) - 31(1F)	CXICUBPN CUB physical unit name.
32(20)	CXITOCF Take-over chain-forward pointer.
36(24) - 43(2B)	Imbedded physical unit routing block (PRB). (The PRB contains an imbedded search tree header control block (SHB)).
44(2C) - 59(3B)	Imbedded session path control block (SPC). (The SPC contains an imbedded search element control block (SEB)).
60(3C) - 87(57)	Imbedded resource connection block (RCB). (The RCB format used is the one for a CUB.)

Device Addressing Extension (DAE) to DVB

Program: NCP
Size in bytes: Variable, depending on addressing characters
Located in: DVB
Created by: NCP generation
Pointed to by: None

The DAE immediately follows polling extension; if no polling extension is present, the DAE immediately follows the DVB.

Function: Contains addressing characters for a device

0(0) DAEOSP** Device output delay.	1(1) DAEACUR** Current number of addressing characters.	2(2) DAEADDR Addressing characters. (DVBAO field in the DVB points here.) (variable length)
------------------------------------------	---------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------

** The actual position of these fields depends on the other extensions that are present.

Dummy Data Buffer-Channel Adapter

Program: NCP
Size in bytes: 10(A)
Located in: \$LVL5
Created by: NCP generation
Pointed to by: CABDUMBF field in CAB extension
Function: Contains a dummy buffer the NCP channel IOS program uses to transmit (for each PIU) the number of pad characters required by the host access method. The number of characters transmitted, if any, is specified by the BFRPAD operand of the HOST macro. The actual pad characters to be transmitted are not specified; whatever happens to be in the storage locations is transmitted.

0(0)		DDBUFCHN Pointer to next buffer in this chain.	
4(4)		6(6)	7(7)
Reserved.		DDOFFSET Buffer prefix pad data offset.	DDDATCNT Buffer prefix pad data count.
8(8)	9(9)		
DD1STDAT First pad data byte.	DDTOTDAT Total number of significant data bytes.		

Dummy Data Buffer-Performance Measurement Facility

Program: NCP

Size in bytes: 253(FD)

Located in: &LVL5

Created by: NCP generation

Pointed to by: PMFCUC field in the PMF points to the CUC DDB; PMFFBFRS field in the PMF points to the NCP free-buffer DDB

Function: Contains the statistics developed for the cycle utilization counter (CUC) or the NCP free-buffers. The CUC DDB is identical to the NCP free-buffer DDB - some values set during initialization may be different.

Field Name	Offset 1st Stage	Offset 2nd Stage	Offset 3rd Stage	Offset 4th Stage	Offset 5th Stage
PMBCNTRL	10(A)				
PMBUFCHN	0(0)				
PMFCOPYF	4(4)				
PMCOPIYS	5(5)				
PMCOPIYT	4(4)				
PMDATCNT	7(7)				
PMFCELT	40(28)	92(5C)	124(7C)	156(9C)	188(BC)
PMFCE LTC	28(1C)	80(50)	112(70)	144(90)	176(B0)
PMFCLVAL	32(20)	84(54)	116(74)	148(94)	180(B4)
PMFCNTRL	38(26)	90(5A)	122(7A)	154(9A)	186(BA)
PMFFBFHG	200(CB)				
PMFFLRT	42(2A)	94(5E)	126(7E)	158(9E)	190(BE)
PMFFLR TC	30(1E)	82(52)	114(72)	146(92)	178(B2)
PMFFLVAL	34(22)	86(56)	118(76)	150(96)	182(B6)
PMFHBUCW	62(3E)				
PMFHIST	64(40)				
PMFHSCAL	61(3D)				
PMFILCNT	36(24)	88(58)	120(78)	152(98)	184(B8)
PMFINLMT	44(2C)	96(60)	128(80)	160(A0)	192(C0)
PMFLRAWI	24(18)				
PMFNAVG	26(1A)	78(4E)	110(6E)	142(8E)	174(AE)
PMFNCNT	20(14)	72(48)	104(68)	136(88)	168(A8)
PMFNSUM	20(14)	72(48)	104(68)	136(88)	168(A8)
PMFPCLMT	48(30)				
PMFPSCAL	60(3C)				
PMFRSPNS	39(27)	91(5B)	123(7B)	155(9B)	187(BB)
PMFRSTIM	12(C)				
PMFUBFHG	200(C8)				
PMFZERO	58(3A)				
PMF001PC	56(38)				
PMF010PC	54(36)				
PMF100PC	52(34)				
PMOFFSET	6(6)				
PMTODAT	9(9)				
PM1STDAT	8(8)				

0(0) PMBUFCHN Pointer to next buffer in this chain.			
4(4) PMCOPYF Copy data field.		6(6) PMOFFSET Buffer prefix data offset.	7(7) PMDATCNT Buffer prefix data count.
PMCOPCT Copy count.	5(5) PMCOPIYS* Copy status.		
8(8) PM1STDAT PAD - the first data byte.	9(9) PMTOTDAT Total number significant data bytes.	10(A) PMBCNTRL* Control field DDB statistics.	11(B) Reserved.
12(C) - 19(13) PMFRSTIM Time stamp set at reset time. (Form = HH.MM.SS)			

* Indicates a byte expansion follows.

First (16¹)Hexadecimal Counter Stage

20(14)		PMFNSUM Sum of N number of data elements.	
PMFNCNT N number of data element summed in this stage.			
24(18)	PMFLRAWI Last raw input data element. (For CUC, DDB, one-eighth of cycles since last reset.)	26(1A)	PMFNAVG Average of the last 16 data elements. (sum shifted 4 bits)
28(1C)	PMFCELT** Ceiling threshold exceeded counter/alarm.	30(1E)	PMFFLRTC** Floor threshold exceeded counter/alarm.
32(20)	PMFCLVAL Ceiling value. X'0000'	34(22)	PMFFLVAL Floor value. X'FFFF'
36(24)	PMFCLNT** Input (domain) exceeded counter/alarm.	38(26)	PMFCNTRL* Local control flags. X'F3'
		39(27)	PMFRSPNS* Local response flags.
40(28)	PMFCELT Ceiling threshold value. X'FFFF'	42(2A)	PMFFLRT Floor threshold value. X'0000'
44(2C)	PMFINLMT Raw CUC value.		
48(30)	PMFPCLMT 100% of normal input. X'F424'	50(32)	Reserved.

* Indicates a byte expansion follows.

** Not incremented after reaching X'FFFF'.

52(34) PMF100PC 10% of normal input. X'186A'		54(36) PMF010PC 1% of normal input. X'0271'	
56(38) PMF001PC 0.1% of normal input. X'003E'		58(3A) PMFZERO X'0000'	
60(3C) PMFPSCAL* Percent calculation scaling factor control.	61(3D) PMFHSCAL* Histogram scaling factor control.	62(3E) PMFHBUCW Histogram entry width.	
64(40) PMFHIST Pointer to the histogram area for this DDB.			
68(44) Reserved.			

* Indicates a byte expansion follows.

Second (16²) Hexadecimal Counter Stage

72(48) PMFNSUM Sum of N number of data elements.	
PMFNCNT N number of data element summed in this stage.	
76(4C) Reserved.	78(4E) PMFNAVG Average of the last 16 data elements (sum shifted 4 bits).
80(50) PMFCELTC** Ceiling threshold exceeded counter/alarm.	82(52) PMFFLRTC** Floor threshold exceeded counter/alarm.
84(54) PMFCLVAL Ceiling value. X'0000'	86(56) PMFFLVAL Floor value. X'FFFF'

** Not incremented after reaching X'FFFF'.

88(58) PMFILCNT** Input (domain) exceeded counter/alarm.	90(5A) PMFCNTRL* Local control flags.***	91(5B) PMFRSPNS* Local response flags.
92(5C) PMFCELT Ceiling threshold value. X'FFFF'	94(5E) PMFFLRT Floor threshold value. X'0000'	
96(60) PMFINLMT Input (domain) limit value. X'3FFFF'		
100(64) Reserved.		

- * Indicates a byte expansion follows.
- ** Not incremented after reaching X'FFFF'.
- *** Second Stage—X'E0'
 Third Stage—X'E0'
 Fourth Stage—X'E0'
 Fifth Stage—X'E9'

Notes:

1. Each stage begins on a fullword boundary.
2. The Third (16³), Fourth (16⁴), and Fifth (16⁵) Hexadecimal Counter Stages are identical to the second stage.
3. See the DDB index for the third, fourth, and fifth offsets.

200(C8) - 254(FE) PMFUBFHG (for CUC) PMFFBFHG (for NCP free-buffers) First 26 halfword entries are for data in the normal range. 27th halfword entry is for data outside the normal range.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
5(5) PMCOPYS	.x..	Copy status. 1 = Copy. 0 = Original.

Offset/Field Name	Bit Pattern	Contents
10(A) PMBCNTRL	1.....	Control field DDB statistics. Request for statistics reset.

Offset/Field Name	Bit Pattern	Contents
38(26), 90(5A), 122(7A), 154(9A), 186(BA) PMFCNTRL	1... .. .1.. .. ..1. .... ...1 xx.. xx	Local control flags. Statistics recording is active. Ceiling threshold checking is active. Floor threshold checking is active. Percent calculation is active—constants are defined. Normally, only the 1st hexadecimal stage has this bit on. Defines reset function. 00 = Don't reset on last hexadecimal stage. 01 = Reset statistics on last hexadecimal stage. 10 = Stop statistics update; set PMFCNTRL bit 0 to 0 (off) and set PMFRSPNS bit 3 to 1 (on). 11 = Reserved. Next hexadecimal stage and linkage control. 00 = Reserved. 01 = Last hexadecimal stage—don't go any further. 10 = Reserved 11 = First hexadecimal stage.

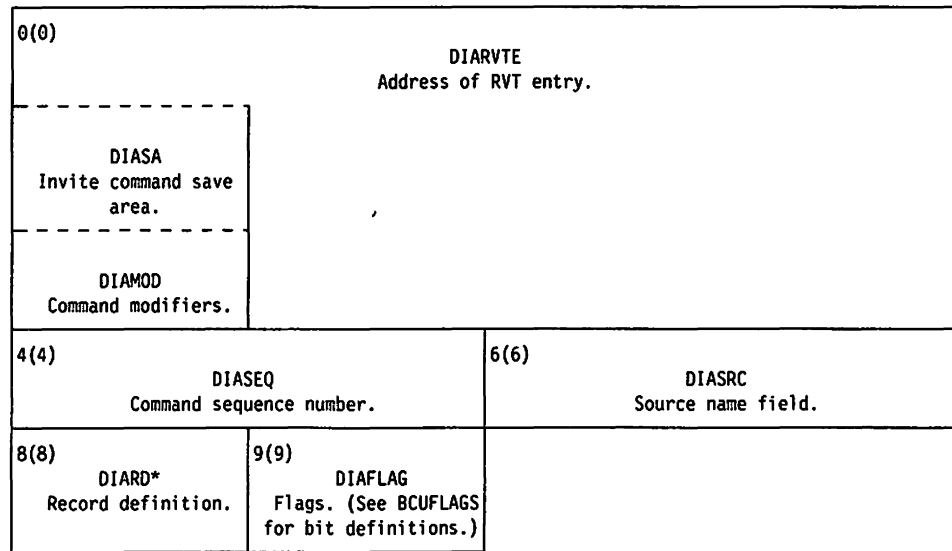
Offset/Field Name	Bit Pattern	Contents
39(27), 91(5B), 123(7B), 155(9B), 187(BB) PMFRSPNS	1... .. .1.. .. ..1. .... ...1 1... .... .1.. .... ..1. .... ...1	Local response flags. Input (domain) limit value exceeded. Ceiling threshold(s) exceeded. Floor threshold(s) exceeded. PMFCNTRL bit 0 (statistics recording is active) was turned off when processing the last hexadecimal stage. New ceiling value. New floor value. Reserved. Percent calculation was not done. (Scale value was bad—not 0, 1, or 10.)

Offset/Field Name	Bit Pattern	Contents
60(3C) PMFPSCAL	0000 1010 0000 0001 0000 0000	Percent calculation scaling factor control. Use ten-tenths resolution (1%). Use one-tenth resolution (0.1%). Do not perform percent calculation—just do histogram.

Offset/Field Name	Bit Pattern	Contents
61(3D) PMFHSCAL	1000 0000 0000 0000 0000 0001 0000 0011 0000 0111 0000 1111 0001 1111 0011 1111 0111 1111	Histogram scaling factor control. Each entry width = 1 (shift left 1). Each entry width = 2 (no shift). Each entry width = 4 (shift right 1). Each entry width = 8 (shift right 2). Each entry width = 16 (shift right 3). Each entry width = 32 (shift right 4). Each entry width = 64 (shift right 5). Each entry width = 128 (shift right 6). Each entry width = 256 (shift right 7).

Device Input Area

Program: NCP
Size in bytes: 10(A)
Located in: DVB extension
Created by: NCP generation
Pointed to by: DVBINVO field in DVB
Function: Contains information about input devices



* Indicates a byte expansion follows.

Note: Actual position of the DIA depends on other extensions that are present.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
8(8) DIARD		Record definition.
	.... .1..	EOB = EOT.
	.... ..10	Message.
	.... ..01	Block.
	.... ..11	Transmission.

Dispatch Priority Table

Program: NCP
Size in bytes: 128(80)
Created by: NCP generation
Pointed to by: SYSDPTP field in HWX + 48 (30)
Function: Contains the head and tail pointers of the priority queues

Dispatch Queue Block (DQB) for Appendage Priority
 (See QCB for dispatch priority queues for all bit definitions.)

0(0)	DPTAUCH Head pointer to unconditional dispatch queue.
DPTASTAT Append status.	
4(4)	DPTAUCT Tail pointer to unconditional dispatch queue.
Unconditional queue indicator X'80'.	
8(8)	DPTACDH Head pointer to conditional dispatch queue.
12(C)	DPTACDT Tail pointer to conditional dispatch queue.
Conditional queue indicator X'40'.	
16(10)	DPTANMH Head pointer to normal dispatch queue.
20(14)	DPTANMT Tail pointer to normal dispatch queue.
Normal queue indicator X'20'.	
24(18)	Reserved.
28(1C)	Reserved.

Dispatch Queue Block (DQB) for Immediate Priority

32(20) - 63(3F)

See the appendage priority dispatch queue block for corresponding label. Immediate labels start with DPTI-. Add 32(20) for offsets.

Dispatch Queue Block (DQB) for Productive Priority

64(40) - 95(5F)

See the appendage priority dispatch queue block for corresponding labels. Productive labels start with DPTP-. Add 64(40) for offsets.

Dispatch Queue Block (DQB) for Nonproductive Priority

96(60) - 127(7F)

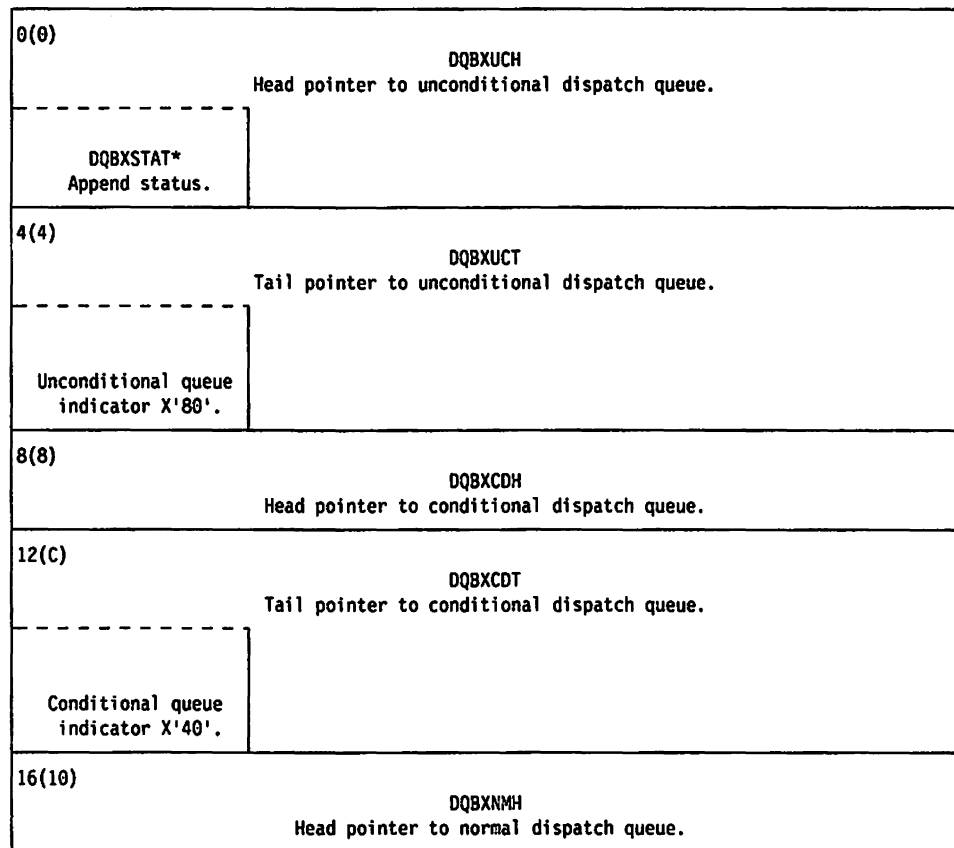
See the appendage priority dispatch queue block for corresponding labels. Nonproductive labels start with DPTN-. Add 96(60) for offsets.

Dispatch Queue Block

Program: NCP
Size in bytes: 32(20)
Created by: NCP generation
Pointed to by: Variable (See DPT)
Function: Contains the head and tail pointers of the priority queue

Note: This is the general format for all dispatch priority queues. (The DQB identifier at the beginning of each label is replaced with a different four letter identifier for each particular dispatch priority queue.)

Dispatch Queue Block (DQB) for any priority



* Indicates a byte expansion follows.

20(14)	DQBXMNT Tail pointer to normal dispatch queue.
Normal queue indicator X'20'.	
24(18)	Reserved.
28(1C)	Reserved.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) DQBXSTAT		Status dispatch queue.
	1...	Unconditional dispatch queue not empty.
	.1..	Conditional dispatch queue not empty.
	..1.	Normal dispatch queue not empty.

Display/Refresh/Select Table

Program: NCP
Size in bytes: 36(24)
Created by: NCP generation
Pointed to by: SYSDRSP field in HWE
Function: Contains addresses of appendage routines to be given control by CXCCPSUP. The PCBAPNSL field contains the offset into the DRS.

0(0)	Set to 0.
4(4)	Reserved.
8(8)	DRSPNTST Address of CXPFLST routine. (Only if panel line test is active.)
12(C)	Reserved.
16(10)	Reserved.
20(14)	Reserved.
24(18) - 35(23)	DRSTBL Table of display/refresh/select control values used by individual appendage routines.

Dispatch Table

Program: NCP
Size in bytes: 8(8)
Created by: NCP generation
Pointed to by: SYSDSPP field in HWX + 44 (2C)
Function: Contains offsets into a DQB to the queue from which a task is to be dispatched. The offset into the DSP is determined by ANDing the status mask of a DQB with the complement of the system mask at offset X'4' of XDB.

0(0) - 7(7)	DSPENT* Offset to a dispatch queue.
-------------	----------------------------------------

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) DSPENT	Byte 0	Offset to a dispatch queue.
	0000 0000	Offset to unconditional queue.
	0001 0000	Offset to normal queue.
	0000 1000	Offset to conditional queue.
	1111 1111	Dispatch queue is empty or must not be dispatched.

Date and Time Generation Control Block

Program: NCP, EP
Size in bytes: 46(2E)
Created by: NCP or PEP generation
Pointed to by: SYSGENTP field in HWX
Function: Contains the date and time the load module was generated, the version of the NCP/EP Definition Facility, and the version of the NCP

0(0) DTGLNGTH Length of DTG control block.	2(2) - 9(9) DTGDATE Date of generation. Form = MM/DD/YY M = Month, D = Day, Y = Year		
	<table border="1" style="width: 100%;"> <tr> <td style="width: 30%; vertical-align: top;"> 10(A) DTGBLNK Blank character. X'40' </td> <td style="width: 70%; vertical-align: top;"> 11(B) - 18(12) DTGTIME </td> </tr> </table>	10(A) DTGBLNK Blank character. X'40'	11(B) - 18(12) DTGTIME
10(A) DTGBLNK Blank character. X'40'	11(B) - 18(12) DTGTIME		
	Time of generation. Form = HH ,MM ,SS H = Hour, M = Minute, S = Second		
	<table border="1" style="width: 100%;"> <tr> <td style="width: 80%;"></td> <td style="width: 20%; vertical-align: top;"> 19(13) - 30(1E) DTGVERS </td> </tr> </table>		19(13) - 30(1E) DTGVERS
	19(13) - 30(1E) DTGVERS		
	Version of the NCP/EP Definition Facility. Form = 'ACF SSP Vxxx' xxx = Version number, blank, blank or xxx = Version number, 'R', release number		
	<table border="1" style="width: 100%;"> <tr> <td style="width: 80%;"></td> <td style="width: 20%; vertical-align: top;"> 31(1F) - 44(2C) </td> </tr> </table>		31(1F) - 44(2C)
	31(1F) - 44(2C)		
	Version of the NCP. Form = 'ACF NCP Vxxxxx' xxxxx = Version number, blank, blank, blank, blank or xxxxx = Version number, 'R', release number, blank, blank or xxxxx = Version number, 'R', release number, '.', modification number		
	<table border="1" style="width: 100%;"> <tr> <td style="width: 30%; vertical-align: top;"> 45(2D) DTGOSTYP* Operating system type. </td> <td style="width: 70%;"></td> </tr> </table>	45(2D) DTGOSTYP* Operating system type.	
45(2D) DTGOSTYP* Operating system type.			

* Indicates a byte expansion follows.

Offset/Field Name	Hex Value	Contents
43(2B) DTGOSTYP	X'04' X'02' X'01'	Operating system type. DOS. VM. OS.

Device Base Control Block

- Program:** NCP
- Size in bytes:** Variable, depending on extension present
- Created by:** NCP generation
 One DVB is generated for each BSC/SS device.
- Pointed to by:** RVTRP field in RVT; LCBDVBP field of LCB during session
- Function:** Serves as the base for all component, terminal and device control unit representations. It includes queue control blocks plus all parameters required by a device.

Prefix

<p>-4(4)</p> <p style="text-align: center;">For the prefix format for the DVB, see the network performance analyzer prefix (NPF) control block.</p>

Device Work QCB
 (See QCB for work queues for all bit definitions.)

0(0)	<p style="text-align: center;">DVQIECB Pointer to first element queued.</p>
<div style="border: 1px dashed black; padding: 2px;"> <p style="text-align: center;">DVQMCBD Major control block displacement divided by 2.</p> </div>	
4(4)	<p style="text-align: center;">DVQLECB Pointer to last element queued.</p>
8(8)	<p style="text-align: center;">DVQLINK Pointer to next QCB on the queue.</p>
<div style="border: 1px dashed black; padding: 2px;"> <p style="text-align: center;">DVQPRKEY Protection key.</p> </div>	
12(C)	<p style="text-align: center;">DVQSTAT Task and queue status.</p>
13(D)	<p style="text-align: center;">Reserved.</p>

Device Input QCB (DVBDVIQ)
 (See QCB for input queues for all bit definitions.)

16(10)		DVIECB Pointer to first element queued.	
DVIMCBD Major control block displacement divided by 2.			
20(14)		DVILECB Pointer to last element queued.	
24(18)		DVILINK Pointer to next QCB on the queue.	
DVIPRKEY Protection key.			
28(1C)		DVITSKEP Task entry point.	
DVISTAT Task and queue status.			
32(20)		DVISAVE Address of save area pushdown list.	
DVISCHED Task dispatching priority.	33(21) DVISTATP PRELEASE status.	34(22) DVIPREL PRELEASE buffer count.	
36(24)		DVILUNK Pointer to previous QCB on the queue.	
DVIBHSCH BHR scheduling bits.			
40(28)		DVIBHSET BH set (or BHR) address.	
DVIBHRST BHR status bits.			
44(2C) DVBRID Device resource ID.	46(2E) DVBFAT1* Device features byte 1.	47(2F) DVBFAT2* Device features byte 2.	

* Indicates a byte expansion follows.

48(30) DVBPTR Auxiliary pointer. If device is component, this field contains pointer to shared terminal DVB. If device is terminal this field contains a pointer to line LCB.			
DVBTYPE* Device type.			
52(34) DVBSDRT Transmission counter (bytes 0 and 1) or pointer to OLTT control block, if in test mode.			
DVBLMDA Local modem addresses.			
56(38) DVBBHRO Offset to BHR extension.	57(39) DVBBUO Offset to switched backup extension (BUE).	58(3A) DVBDIAL Offset to call-in or callout extension (CIE or COE).	59(3B) DVBABNM* Abnormal mode indicators. This field is meaningful only when a reset is in progress. Bits 2-7 have the value of the command modifiers when a reset is in progress. Bits 0-1 indicate that a deactivation is in progress.
		DVBGPO Offset to the general poll extension (DGP) if this is a general polled device.	
60(3C) DVBSDRE Temporary error counter.	61(3D) DVBINVO Offset to device input area (DIA).	62(3E) DVBRBCO Offset to RCB.	63(3F) DVBSSESC* Cause of DVB session end.

* Indicates a byte expansion follows.

64(40) DVBOLDSP Element address of DVB old session partner.		66(42) DVBSRTT Traffic count threshold.	
68(44) DVBSRTR Error count threshold.	69(45) DVBUNSC Unsolicited response reason.	70(46) DVBOUTB1 Last outgoing sequence number.	71(47) DVBOUTB2 Next-to-last outgoing sequence number.
72(48) DVBOUTB3 Second-from-last outgoing sequence number.	73(49) DVBINB1 Last incoming sequence number.	74(4A) DVBOLDSA Subarea address of DVB old session partner.	
		DVBOLDSH High two bytes of subarea.	
76(4C) DVBOLDSA Continued.		78(4E) DVBSHWCS* Show cause save byte.	79(4F) DVBDTAIN* Threshold alteration indicator.
DVBOLDSL Low two bytes of subarea.			

* Indicates a byte expansion follows.

Service-Seeking Control Block (SSC)

80(50) DVBSTAT* Status byte 1.	81(51) DVBSTAT2* Status byte 2.	82(52) DVBDMF* Device mode flags.
84(54) DVBPC Pending contact count.	85(55) DVBSTAT3* Status byte 3.	86(56) DVBSP Session partner element address.
88(58) DVBSPSBA Current session partner subarea address.		
DVBSPSBH High two bytes of subarea.		90(5A) DVBSPSBL Low two bytes of subarea.

* Indicates a byte expansion follows.

Polling/Addressing Extension

This extension is present only if the device requires polling or addressing, or both.

92(5C) DVBTLIM Transmission or block limit.	93(5D) DVBTCNT Transmission or block counter.	94(5E) DVBAO Offset from DVBSTAT to first addressing character in DAE.	95(5F) DVBCLSO Cluster general poll extension (CGP) offset.
---------------------------------------------------	-----------------------------------------------------	------------------------------------------------------------------------------	-------------------------------------------------------------------

* Indicates a byte expansion follows.

Polling Extension

The following fields are present only if polling of device is required. (If this area is included, the device input extension (DIA) must also be included.)

96(60) DVBPCUR Number of polling characters including ENQ.	97(61) DVB POLL Polling characters. (variable length)
------------------------------------------------------------------	-------------------------------------------------------------

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
46(2E) DVBFEAT1	1... .. .1.. .. ..1. .. ...1 1.. .... .1.. .... ..1. .... ...1	Device features byte 1. Block limit—BSC patch control. Conversational capability. Buffered receive. General poll. Batched message input. Carriage return delay (SS only) or Virtual printer (BSC only). Text time-out suppression. Break-terminal originated data; transfer can be interrupted.

Offset/Field Name	Bit Pattern	Contents
47(2F) DVBFEAT2	1... .. .1.. .. ..1. .. ...1 1.. .... .1.. .... ..1. .... ...1	Device features byte 2. Critical situation notification. 1050 Auto EOB feature. 1050 Receive Interrupt feature. Resource eligible for NPA data collection. Device on fan-out modem. Input extension exists (DIA). Addressing extension exists (DAE). Polling information exists.

Offset/Field Name	Bit Pattern/ Hex Value	Contents
48(30) DVBTYP	1... .. .00. .... .1.. 1... .. ...x xxxx X'48' X'80' X'82' X'84' X'85' X'87' X'88' X'89' X'8A' X'8B' X'4C' X'C0' X'C1' X'C2' X'C3' X'C4' X'C5' X'C6' X'C7' X'C8' X'CA' X'CB' X'CC' X'CD' X'CE' X'CF' X'D0' X'FF'	Device type. Terminal. Start stop. BSC. SDLC. Type code. Components 2980 Start-Stop Terminals MTA 1050 2740, Model 1 2741 2740, Model 2 115A 83B3 TWX WTTY BSC Terminals 3275, 3277, 3284, 3286 Logical connection terminals. 1130 1800 2701 2703 2715 2770 2780 2972 2020 2025 3271, 3275 3780 3735 3741 3747 System 3, 3125, 3135

Offset/Field Name	Bit Pattern	Contents
59(3B) DVBABNM	x... .. .1.. .. ..1. .... ...1 x... .... .1.. .... ..1. .....1	Abnormal mode indicators. Reserved. Deactivate line orderly in progress. Reset at End of Command in progress. Reset conditional in progress. Reserved. Reset Immediate in progress. Reset Device Queues in progress. Critical situation notification device serviced.

Offset/Field Name	Hex Value	Contents
63(3F) DVBSSESSC	X'01' X'07' X'0B' X'0C'	Session end. Normal. Inoperative ER. Deactivate VR. Session end forced deactivate.

Offset/Field Name	Bit Pattern/ Hex Value	Contents
78(4E) DVBSHWCS	1... .. X'01' X'02' X'03'	Show cause save byte. Dynamic threshold alteration has altered a threshold. Traffic count threshold exceeded. Error count threshold exceeded. Deactivation process.

Offset/Field Name	Bit Pattern	Contents
79(4F) DVBDTAIN	1... .. .1.. ..	Threshold alteration indicator and link segment level indicator. Indicates threshold altered. Device resides on a primary link segment.

Offset/Field Name	Bit Pattern	Contents
80(50) DVBSTAT		Status byte 1.
	1... ..	Service-seeking skip bit.
	.1.. ...	Contact pending.
	..1.	Device active, accept TP commands.
	...1	Disconnect received. A disconnect has been received for the last session, and an initiation command may now be accepted. Any nonsession-initiation TP command should be refused.
	.... 1...	In session.
	.... .1..	Device in abnormal mode (reset or deactivate device in progress).
	.... ..1.	Connection exists.
..... 1	Invite pending.	

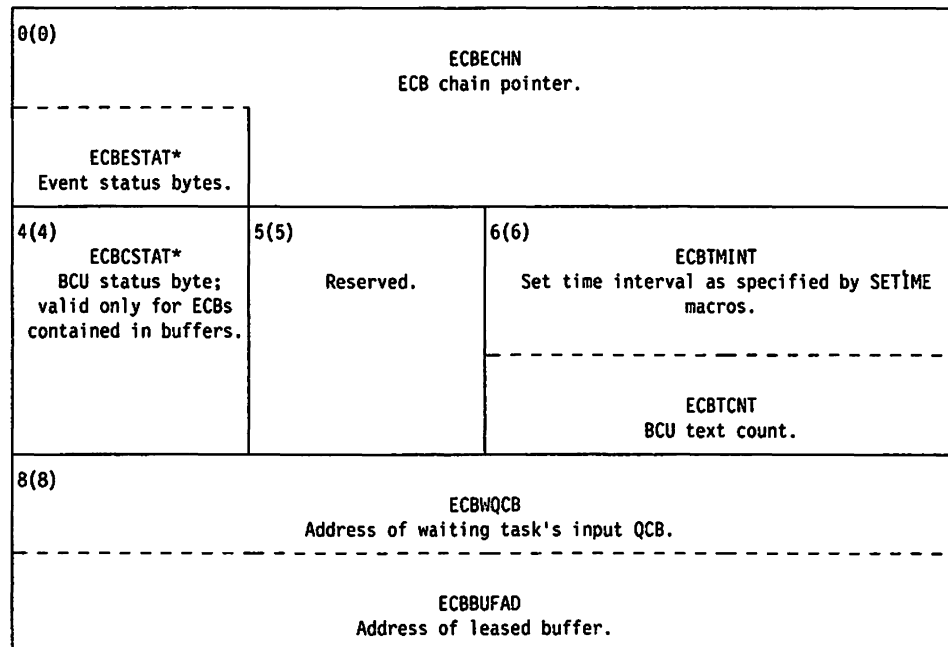
Offset/Field Name	Bit Pattern	Contents
81(51) DVBSTAT2		Status byte 2.
	1... ..	Backup mode.
	.1.. ...	I/O error lock.
	..1.	3270 print in progress, 2740-2 suppress RECMS, 2770 delayed RVI.
	...1	Inquiry mode—2770.
	.... 1...	Suppress response to host.
	.... .1..	A noncompetitive Invite exists. When the line or device was deactivated, an Invite remained for this device.
	.... ..1.	Logical error lock.
..... 1	Selective test return.	

Offset/Field Name	Bit Pattern	Contents
82(52) DVBDMF	Byte 0	Device mode flags.
	1...	Activate monitor mode out of session.
	.1..	Override write text mode ERPs.
	..1.	Reject leading graphic (write operations).
	...1	EIB deletion (non-transparent only).
	.... 1...	Process reset conditional as low priority.
	.... .1..	Inhibit time fill/inhibit WACK limit.
	.... ..1.	Embedded line control (non-transparent)/intermediate control character insertion (transparent).
	.... ...1	Critical text.
	Byte 1	
	1...	TWX-suppress prompting.
	.1..	Override read text mode ERPs.
	..1.	Reject leading graphics (read operations).
	...1	EIB inspection/inhibit text time-out.
	.... 1...	Sub-blocking (input).
	.... .1..	Interrupt enabled.
.... ..1.	Activate monitor mask.	
.... ...1	Auto deactivate monitor mode.	

Offset/Field Name	Bit Pattern	Contents
85(55) DVBSTAT3		Status byte 3.
	1...	Remember RVI sent.
	.1..	Pseudo suppress response to host.
	..1.	Send SESSEND to SSCP.
	...1	Suppress error response.
	.... 1...	Send unsolicited response to primary LU.
	.... .1..	Session trace for a specific resource.
.... ..1.	Unsolicited response is required due to route extension failure.	

Event Control Block

Program: NCP
Size in bytes: 12(C)
Located in: Dynamically allocated BCU/PIU buffer or as a permanent control block in storage
Created by: NCP generation or dynamically as part of first buffer in a BCU
Pointed to by: None
Function: To control BCU status or event status of an associated block



* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) ECBESTAT		Event status byte.
	1... ..	Event satisfied.
	.1.. ..	Task ready to be dispatched.
	..1.	Supervisor link.
	...1	ECB enqueued bit.
	.... ..X	1 = Stop sending after this BTU. 0 = No need to stop sending

Offset/Field Name	Bit Pattern	Contents
4(4) ECBCSTAT	1... .... .1.. .... ..00 00.. ..11 11..	Buffer status byte. Buffer enqueued. PIU segmented by NCP. Lowest priority. Highest priority.

EBCDIC Character Decode Displacement

Program: NCP, EP
Size in bytes: 64(40)
Located in: Module CYKBL, CYKTST/CYLBL, CYLTST
Created by: NCP or PEP generation
Referenced by: CYATAPH0, CYARAPH0, CYKTST, CYLTST
Function: Provides offset into branch table for proper control character processing

0(0) - 63(3F)

EBCXMTBT
(CYAEBCT) Displacement data.

ER-to-VR Mapping List

Program: NCP

Size in bytes: Variable;
when ERLIMIT=8: 8 bytes + 8 bytes per EML row
when ERLIMIT=16: 16 bytes + 16 bytes per EML row

Created by: NCP generation

Pointed to by: NVXEMLP field in the Network Vector Table Extension

Function: Contains eight 1-byte masks per row when ERLIMIT=8 or eight 2-byte masks per row when ERLIMIT=16 and is the mask of the explicit route (ER) that the NCP activates during virtual route (VR) activation. NCP indexes the EML with a VR number and subarea address.

ERLIMIT = 8

0(0) - 7(7)			
ZEROS.			
8(8) Explicit Route (ER) mask.	9(9) Explicit Route (ER) mask.	10(A) Explicit Route (ER) mask.	11(B) Explicit Route (ER) mask.
12(C) Explicit Route (ER) mask.	13(D) Explicit Route (ER) mask.	14(E) Explicit Route (ER) mask.	15(F) Explicit Route (ER) mask.

Note: Bytes 8(8) through 15(F) make up one EML row.

ERLIMIT = 16

0(0) - 15(F)	
ZEROS.	
16(10) Explicit Route (ER) mask.	18(12) Explicit Route (ER) mask.
20(14) Explicit Route (ER) mask.	22(16) Explicit Route (ER) mask.
24(18) Explicit Route (ER) mask.	26(1A) Explicit Route (ER) mask.
28(1C) Explicit Route (ER) mask.	30(1E) Explicit Route (ER) mask.

Note: Bytes 16(10) through 32(20) make up one EML row.

EP Initialization Table

Program: EP
Size in bytes: 12(C)
Located in: End of module CYKSTART/CYLSTART
Function: Contains control information used during IPL

0(0) EPIMSTAT* State indicator for MOSS communication.	1(1) EPIFUNC Function indicator for line initialization.	2(2) EPIABNCD Current abend code.
4(4) EPIL2K Installed storage size.		
8(8) EPIMSTOR Maximum storage installed.		

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) EPIMSTAT		State indicator for MOSS communication.
	0000 0000	Inactive state.
	1...	Response pending.
	.1..	NISS request CDS information response.
	..1.	MOSS initialization complete.
	...1	MOSS control program parameters response.
	.... 1...	Request pending.
	.... ..1.	Control program parameter saved request.
	..... 1	MOSS CDS information available.

Event Queue Block

Program: NCP
Size in bytes: 16(10)
Created by: NCP generation
Pointed to by: SYSEQBP field in HWE
Function: Contains two chains, one for the slowdown event chain and the other for the CWALL event chain

0(0)	EQBSCHPF First ACHAIN element pointer of slowdown event chain.
4(4)	EQBSCHPL Last ACHAIN element pointer of slowdown event chain.
8(8)	EQBCCHPF First ACHAIN element pointer of CWALL event chain.
12(C)	EQBCCHPL Last ACHAIN element pointer of CWALL event chain.

Explicit Route Broadcast Queue

Program: NCP
Size in bytes: 24(18)
Created by: NCP generation
Pointed to by: QPBERBP field in the QPB
Function: Enqueues NC.ER.OP and NC.ER.INOP PIUs to the ERB queue to be broadcast to adjacent PU types 4 and 5
Format: Standard input QCB
Task—CXDBERB
Priority—Appendage
Reentrant—No

Fullword Direct Addressable Extension

Program: NCP, EP
Size in bytes: 32(20)
Created by: NCP or PEP generation
Pointed to by: SYSFAXP field in XDA
Function: Contains frequently addressed system fullword control field

0(0)	SYSCIOTP Pointer to CA IOH trace table.
4(4)	SYSPMFMP Pointer to performance maintenance facility (PMF) control block.
8(8)	SYSL4BP Pointer to level 4 router (L4B) control block.
12(C)	YSW11 Pointer to maintenance history area.
16(10)	SYSCPITP Pointer to Control Program Information Table (CPIT)
20(14)	SYSEACB Pointer to the dummy ACB.
24(18)	YSR7SAV Save location for Register 7.
28(1C)	YSATRAPP Address of CXATRAPP module.

Flow Control Parameter Table

Program: NCP

Size in bytes: Variable; 5 bytes per FCT row

Created by: NCP generation

Pointed to by: NVXFCTP field in the Network Vector Table Extension (NXT)

Function: Contains the minimum and maximum pacing group (window) sizes that correspond to a particular VR with a particular other-end subarea. The FCT initially contains the values specified at system generation, but those values may change.

0(0)	FCTSITI* Subarea Index Table (SIT) index (the TRT/EML row number corresponding to the other-end subarea of the virtual route).	2(2)	FCTVRID* Virtual route identifier (VRID).	3(3)	FCTMINW Minimum window size for the virtual route (VR).
	FCTSITI0	1(1)	FCTSITI1		
4(4)	FCTMAXW Maximum window size for the virtual route (VR).				

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Hex Value	Contents
0(0) FCTSITI	X'0000' X'FFFF'	SIT index. This is the last FCT entry. This FCT entry is not in use. (Any other value is a TRT/EML row number.)

Offset/Field Name	Bit Pattern	Contents
2(2) FCTVRID	xxxx xxxx	Virtual route identifier. Virtual route number (VRN). Transmission priority field (TPF).

Multilink TG (Fat Link) Control Block

Program: NCP
Size in bytes: 100(64)
Created by: NCP generation
Pointed to by: SYSFLBP field in HWX + 56(38) or the TGBDLCP field in TGB + 16(10)
Function: Controls traffic on multilink transmission groups

0(0) - 23(17)	FLBRQCB Multilink TG resequence QCB. (Received PIUs for resequencing)

	FLBSQCB Special PIU (FIDF) (Pseudo input)
24(18) - 39(27)	FLBXQCB Multilink TG QCB (WORKQ) (Transmit queue)
40(28)	FLBTGBP Pointer to the TGB.
FLBSOC Station operative count.	
44(2C)	FLBSCBP Pointer to the first SCB or to the next FLB in the free pool.
FLBSCC Station committed count.	
48(30)	FLBMTS Maximum transfer size.
50(32)	FLBSTF* State flags for multilink TG. (byte 1)
51(33)	FLBSRC Station ready count.

* Indicates a byte expansion follows.

52(34) FLBNRO Next sequence number for outbound PIUs.		54(36) FLBNRI* Next expected sequence number from inbound PIUs.	
56(38) Reserved	57(39) FLBQPC Queue priority counter.	58(3A) FLBUNAC Unacknowledged PIU counter.	
60(3C) FLBSRSN Special PIU sequence number.		62(3E) FLBSPE Next expected special PIU sequence number.	
64(40) FLBAGAC Aging algorithm count.	65(41) FLBSTFC* State flags for multilink TG. (byte 2)	66(42) Reserved.	
68(44) FLBSCH TG segmenting chain head pointer.			
Reserved.			
72(48) FLBSCT TG segmenting chain tail pointer.			
Reserved.			
76(4C)-99(63) FLBTQCB NTRI TG segmenting QCB.			

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
50(32) FLBSTF	1... .. ..1. .... ...1	State flags for multilink TG (byte 1). Waiting for buffers to be released for segmenting. Sweep mode. Special PIU (FIDF) expected. Note: See also FLBSTFC.

Offset/Field Name	Bit Pattern	Contents
54(36) FLBNRI	Byte 0 ...1 xxxx Byte 1 xxxx xxxx	Next expected sequence number from inbound PIUs. Rollover x = Expected number received.

Offset/Field Name	Bit Pattern	Contents
65(41) FLBSTFC	.1..	State flags for multilink TG (byte 2). Out of sequence. Note: See also FLBSTF.

Function Management Table

Program: NCP

Size in bytes: Variable; 4(4) bytes per entry

Located in: CXDKFMR (Physical Services Function Management Router)

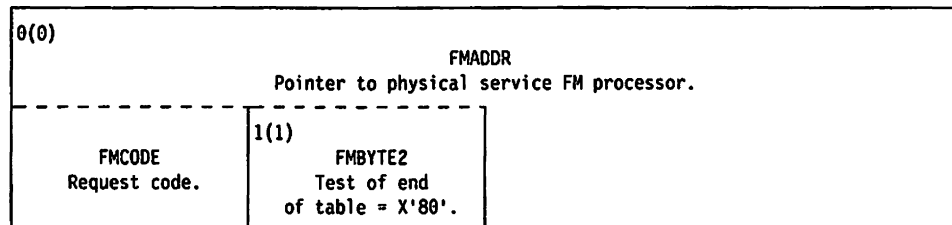
Created by: NCP generation - \$LVL5

Pointed to by: None

See link-edit map.

Function: DSECT to entries in tables that are used to locate processors for NCP routers. These tables include:

- CXTCFL - Locates processors for requests associated with link configuration
- CXTCFN - Locates processors for requests associated with the NCP
- CXTCFS - Locates processors for requests associated with stations
- CXTCLL - Locates processors for requests associated with logical units
- CXTMAL - Locates processors for requests associated with link maintenance
- CXTMAA - Locates maintenance-services processors for requests associated with SNA stations
- CXTMAN - Locates maintenance processors for request associated with the NCP
- CXTMAS - Locates maintenance processors for requests associated with stations
- CXTMLL - Locates maintenance processors for requests associated with logical units
- CXTNSL - Locates processors for requests associated with BSC/SS lines
- CXTNSD - Locates processors for requests associated with BSC/SS devices.



Function Vector Table

Program: NCP

Size in bytes: Variable

Created by: NCP generation

Pointed to by: NLBFVT field in NBL, NLXFVT field in NLX, NPBFVT field in NPB, and VLBFVT field in VLB

Function: Contains a list of all tasks that can be associated with each programmed resource

0(0) Index code. X'01'.	1(1) Pointer to task that initializes the programmed resource.
4(4) Index code. X'02'.	5(5) Pointer to notify task.
8(8) Index code. X'03'	9(9) Pointer to dump formatter ID block.
12(C) - n Index codes and pointers to additional user defined tasks.	
n+4 X'00'	n+5 Pointer to next FVT in chain (all zeros if this is the last FVT in the chain).

Note: Index codes X'03' through X'09' are reserved for NCP.

Group Control Block

Program: NCP
Size in bytes: 109(6D)
Created by: NCP generation
Pointed to by: UACBGBP field in UACB, PSAACBP field in PSA
Function: Contains information relative to a group of user-written line control lines

0(0)	GCB1ERP Pointer to programmed resource CA level 1 ERP routine.
4(4)	GCBERR Pointer to timer error routine.
	GCBRESET Pointer to programmed resource CA system reset routine.
8(8)	GCBSTAP Pointer to timer shoulder tap routine.
12(C)	GCBLAGST Pointer to lagging shoulder tap routine.
	GCBSCAN Pointer to programmed resource CA queue scan routine.
16(10)	GCBXIOBK Pointer to XIO SIO link service routine.
	GCBPRFLG*
20(14)	GCBBERP Pointer to NEO CA/LINK BER processor routine.
24(18) - 35(23)	Reserved.

* Indicates a byte expansion follows.

36(24) GCBL2 Pointer to user's level 2 interrupt handler. <hr/> GCBIS Pointer to programmed resource CA initial select interrupt routine.	38(26) Reserved.
40(28) - 51(33) Reserved.	
52(34) GCB1UACB Pointer to first UACB posted.	
56(38) Reserved.	58(3A) GCBEND1 Used only by level 2 router.
60(3C) GCBLUACB Pointer to last UACB posted.	
64(40) GCBX1OLN Pointer to XIO line service routine. <hr/> Reserved.	
68(44) GCBX1OSM Pointer to XIO set mode service routine.	
72(48) GCBX1OIM Pointer to XIO immediate service routine.	
76(4C) GCBL3 Pointer to user's level 3 routine. <hr/> GCBDS Pointer to programmed resource CA data/status interrupt routine.	78(4E) Reserved.
80(50) Reserved.	
84(54) GCBESTAT Status flags X'0000'.	86(56) Reserved.

88(58)	GCBRBLD Pointer to RECMS/NMVT build routine.
92(5C)	GCBGDT Pointer to group dump table.
96(60) - 102(66)	GCBUSID User identification.
	103(67) GCBOEMF* User ID flag.
104(68)	GCBLINK Pointer to next ACB in chain.
	GCBTRID Program resource product trace ID.
108(6C)	GCBFLAGS* GCB identifier flags.

* Indicates a byte expansion follows.

Note: GCBL2, GCBLINK, GCBEND1, GCBFLAGS, GCBL3, and GCBESTAT must be at the same displacements in the GCB as their counterparts in the ACB and GCB.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
16(10) GCBPRFLG	1...	NEO Priority Support 0 = Priority not supported. 1 = Priority supported. Must be 1 in a UACB or GCB.

Offset/Field Name	Bit Pattern	Contents
103(67) GCBOEMF	1... .... .1.. .... ..1. .... .... .1.. 1	User ID flag. User ID specified. This GCB is associated with a channel-link. Do not exit level 4 for XIO LINE and IMMED commands. RECMS not generated by NCP. User formatted dump.

Offset/Field Name	Bit Pattern	Contents
108(6C) GCBFLAGS		GCB identifier flags.
	1... ..	User's CBs compatible with NCP's CBs for port swapping.
	..1.	GCB is on the L2 to L3 CICIP queue.
	...1	User's ACB compatible with NCP's ACB.
	.... 1...	User's CBs compatible with NCP's for setting TA, TD, and AIT index. (3745 only)
	.... .1..	User's CBs compatible with NCP's for switchback and LA disconnect to determine if lines have SSCP owners or are active. (3745 only)
	.... ..x.	1 = User-written line control. 0 = IBM-supported line control (CCB).
	.... ..10	Must be 1 in a UACB or GCB. Identifies block as GCB.
	.... ..11	Identifies block as UACB.

Group Control Block for BCA

Program: NCP
Size in bytes: 109(6D)
Created by: NCP generation
Pointed to by: CCBGCBP field in the CCB
Function: In the Boundary Channel Attachment (BCA), contains pointers to XIO and timer routines needed to drive the channel code

0(0)	GCBBLERP** Pointer to programmed resource CA level 1 ERP routine.
4(4)	GCBBERR Pointer to timer error routine.
8(8)	GCBBSTAP Pointer to timer shoulder tap routine.
12(C)	GCBBLGST Pointer to timer lagging shoulder tap routine.
16(10)	GCBBXLNK Pointer to XIO SDLC link service routine.
20(14)	GCBBHQH Pointer to the first link-header PIU that was on the channel hold queue when an active station XID exchange occurred.
24(18)	GCBBHQT Pointer to the last link-header PIU that was on the channel hold queue when an active station XID exchange occurred.
28(1C)	GCBBCABP Pointer to the associated channel adapter control block.
	GCBBSHWC* Show cause save byte.

* See CUBSHWCS/SCBSHWCS for byte expansions.

** This field is required for, but is not used by, a BCA GCB.

32(20) GCBSSCF Value of CUBSSCF at last scan interval.	34(22) GCBTRTC Save area for total retry statistical counter.
36(24) GCBBL2** Pointer to user level 2 interrupt handler.	38(26) GCBRECT Save area for link-header PIU received in error statistical counter.
40(28) GCBTPCT Save area for total transmission statistical counter.	42(2A) GCBRCNT Save area for link-header PIU received statistical counter.
44(2C) GCBRPCT Save area for second chance poll statistical counter.	46(2E) GCBTIAC Save area for total acknowledged link-header PIU statistical counter.
48(30) GCBTINC Save area for retransmission statistical counter.	50(32) GCBTCNT Save area for link-header PIU transmission statistical counter.
52(34) GCB1UAC** Pointer to the first UACB posted.	
56(38) Reserved.	58(3A) GCBEND1** Used only by level 2 router.
60(3C) GCBLUAC** Pointer to last UACB posted.	
64(40) GCBXLNE Pointer to the XIO line service routine.	
68(44) GCBXSMD Pointer to XIO setmode service routine.	

** This field is required for, but is not used by, a BCA GCB.

72(48)		GCBBXIMD Pointer to XIO immediate service routine.
76(4C)	GCBBL3** Pointer to user's level 3 interrupt handler.	78(4E) - 83(53)
Reserved.		
84(54)	GCBBESTT** Status flag X'0000'.	86(56) - 91(58)
Reserved.		
92(5C)		GCBBGDTP** Pointer to group dump table.
96(60) - 102(66)		GCBBUSID User identification.
		103(67) GCBBOEMF* User ID flags.
104(68)		GCBBLINK** Pointer to next ACB in chain.
GCBTRID Program resource product trace ID.		
108(6C)	GCBFLGS* GCB identifier flags.	

* Indicates a byte expansion follows.

** This field is required for, but is not used by, a BCA GCB.

Note: GCBBL2, GCBBLINK, GCBBENDI, GCBFLGS, GCBBL3, and GCBBESTT must be at the same displacements in the GCBB as their counterparts in the ACB and GCB.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
103(67) GCBBOEMF		User ID flags.
	1... ..	User ID specified.
	.1.. ..	This GCB is associated with a channel-link.
	..1.	Do not exit level 4 for XIO LINE and IMMED commands.
	.... .1..	RECMS for generated by NCP.
	.... ..1.	RECMS 8X changed into 7X.
	.....0	User formatted dump not used.

Offset/Field Name	Bit Pattern	Contents
108(6C) GCBBFLGS	..1. .... ...0 ........ ..1. .....1	GCB identifier flags. GCB is on the L2 to L3 CICP queue. BCA GCB is not compatible with NCP's ACB. User written line control. Identifies control block as a GCB.

28(1C)	GPTPIU Pointer to the RECTRD PIU save buffer.
GPTABF Actual count of buffers leased.	

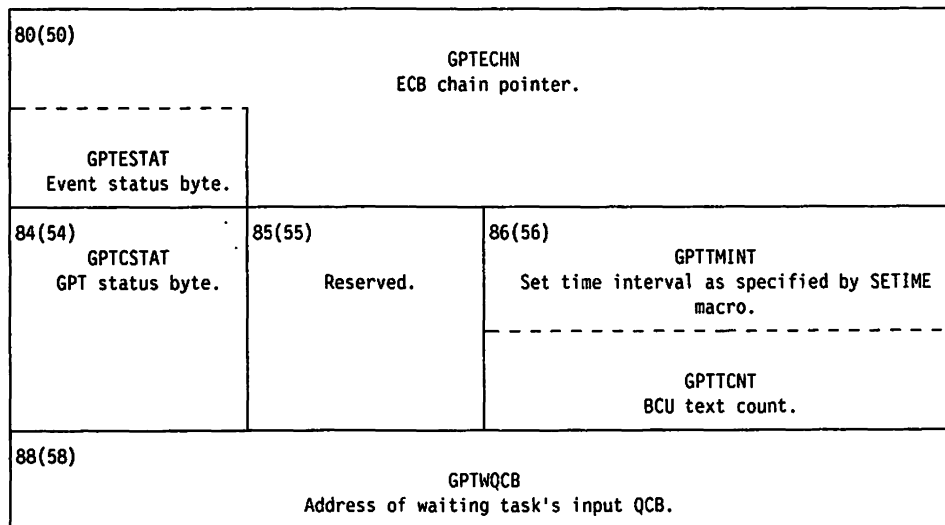
GPT VR Held Input QCB (GPTVRQ)
 (See QCB for input queue's bit definitions)

32(20)	GPVIECB Pointer to first element queued.	
GPVMCBD Major control block displacement divided by 2.		
36(24)	GPVLECB Pointer to last element queued.	
40(28)	GPVLINK Pointer to next QCB on the queue.	
GPVPRKEY Protection key.		
44(2C)	GPVTSKEP Task entry point.	
GPVSTAT Task and queue status.		
48(30)	GPVSAVE Address of save area pushdown list.	
GPVSCHED Task dispatching priority.	49(31) GPVSTATP PRELEASE flags.	50(32) GPVPREL PRELEASE buffer count.
52(34)	GPVLUNK Pointer to previous QCB on the queue.	
GPVBHSCB BHR scheduling bits.		

GPT Slowdown Input QCB (GPSQCB)
 (See QCB for input queue's bit definitions)

56(38)		GPSIECB Pointer to first element queued.	
GPSMCBD Major control block displacement divided by 2.			
60(3C)		GPSLECB Pointer to last element queued.	
64(40)		GPSLINK Pointer to next QCB on the queue.	
GPSRKEY Protection key.			
68(44)		GPSTSKEP Task entry point.	
GPSSTAT Task and queue status.			
72(48)		GPSSAVE Address of save area pushdown list.	
GPSSCHED Task dispatching priority.	73(49) GPSSTATP PRELEASE flags.	74(4A) GPSREL PRELEASE buffer count.	
76(4C)		GPSLUNK Pointer to previous QCB on the queue.	
GPSBHSCH BHR scheduling bits.			

Event Control Block for BFREVENT Control (BPTECB)
 (See ECB for all bit definitions)



Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) GPTFLAG		GPT flag byte.
	1... ..	GPT global active.
	.1..	Status trace entry pending for ACTTRACE ALL command.
	..1.	GPT suspended.
	...1	GPT undergoing ANS.
	.... 1..	GPT BFREVENT active.
	.... .1..	GPT VREVENT active.
	.... ..1.	Owning host supports extended network addressing

Offset/Field Name	Bit Pattern	Contents
12(C) GPTRTYP		Status entry source type.
	x... ..	1 = Status entry.
	.... xxxx	0 = Data entry.
		Resource type.
		1111 = NCP physical services.
		0001 = PU-CUB (SNA PU)
		0010 = PU-DVB (3270 cluster).
		0011 = PU-NPB (User defined).
		0101 = LU-LUB (SNA LU).
		0110 = LU-DVB (3270 head).
		0111 = LU-NLB (User defined).
		1001 = Line-LKB (SDLC).
		1010 = Line-LCB (3270).
		1011 = Line-VLB (User defined).
		1100 = BSB (LU-LU session).

Offset/Field Name	Bit Pattern	Contents
13(D) GPTDBST	1... .. .x... ..	Dummy BIND status. Resource is DR added. 1 = Dummy BIND indicator is on in header. 0 = Dummy BIND indicator is off in header.

Offset/Field Name	Bit Pattern	Contents
24(18) GPTRUFL	1.....	GPT trace length round up flag. Trace length was rounded up.

Gateway Vector of Tasks (SSCP,LU)

Program: NCP
Size in bytes: 28(1C)
Created by: NCP generation
Pointed to by: NLBFVT field in NLB, NLXFVT field in NLX
Function: Holds a list of all tasks that are used by the cross-network session managers. There is a GVT for SSCP sessions and one for LU sessions. Each entry in a GVT consists of an index and a pointer to a task.

0(0) X'01'	1(1) Pointer to NLB initial task.
4(4) X'02'	5(5) Pointer to notify task.
8(8) X'03'	9(9) Pointer to the user task.
12(C) X'04'	13(D) Pointer to NLX session activation pending task.
16(10) X'05'	17(11) Pointer to NLX active session task.
20(14) X'06'	21(15) Pointer to NLX deactivation pending task.
24(18) X'00'	25(19) X'000000'

Extended Halfword Direct Addressables

Program: NCP, EP
Size in bytes: 128(80)
Created by: NCP or PEP generation
Pointed to by: SYSW6 field in XDA
Function: Contains frequently accessed system halfword control fields

Name	Offset
DCTAQCB	112 (70)
DCTSPOOL	116 (74)
SYSABNP	56 (38)
SYSATBP	4 (4)
SYSBPBP	84 (54)
SYSBPQBC	2 (2)
SYSBUFCT	0 (0)
SYSCAB	24 (18)
SYSCATP	124 (7C)
SYSCAVTP	104 (68)
SYSCKRP	28 (1C)
SYSCSPDP	8 (8)
SYSDRSP	10 (A)
SYSDTTP	120 (78)
SYSEBCP	14 (E)
SYSEQBP	88 (58)
SYSFQXP	20 (14)
SYSGPTP	108 (6C)
SYSICTP	32 (20)
SYSLCSP	18 (12)
SYSLTBP	92 (5C)
SYSLTSP	52 (34)
SYSMIBP	64 (40)
SYSNIQP	44 (2C)
SYSNQBP	100 (64)
SYSNVTP	96 (60)
SYSPCBP	36 (24)
SYSPDBP	12 (C)
SYSPSBP	68 (44)
SYSPSTA	60 (3C)
SYSPSTT	60 (3C)
SYSSITP	72 (48)
SYSSVTP	76 (4C)
SYSTMRP	40 (28)
SYSTRTP	80 (50)
SYSTVSP	16 (10)
SYSXBRK	50 (32)

0(0)	SYSBUFCT Initial free buffer count.	2(2)	SYSBPQBC Exit slowdown threshold count.
4(4)	SYSATBP Address trace block pointer.		
8(8)	SYSCSPDP Pointer to invalid IOH to force a scanner dump.	10(A)	SYSDRSP Display/refresh/select table pointer.
12(C)	SYSPDBP Panel control block pointer.	14(E)	SYSEBCP EBCDIC time and date (TND) control block pointer.
16(10)	SYSTVSP Time value select table pointer.	18(12)	SYSLCSP Line control selection table pointer.
20(14)	SYSFQXP FM request tranported QCB pointer.		
24(18)	SYSCAB Pointer to highest numbered CAB that was generated in system.		
28(1C)	SYCKRP Pointer to the check record pool (CRP).		
32(20)	SYSICTP Pointer to the incident count refresh table (ICT). (3745)		
	Reserved. (3720)		
36(24)	SYSPCBP Panel queue pointer.		

40(28)	<p style="text-align: center;">SYSTM RP Timer completion queue pointer.</p>	
44(2C)	<p style="text-align: center;">SYSNIQP Non-device input queue pointer.</p>	
48(30)	<p style="text-align: center;">Reserved.</p>	<p style="text-align: center;">50(32) SYSXBRK Number of break characters (SS).</p>
		<p style="text-align: center;">51(33) Reserved.</p>
52(34)	<p style="text-align: center;">SYSLTSP Pointer to the line test control block (LTS).</p>	
56(38)	<p style="text-align: center;">SYSABNP Pointer to abend control block (ABN).</p>	
60(3C)	<p style="text-align: center;">SYSPSTT (3720) SYSPSTA (3745) Pointer to the port swap trace table (PSTT, 3720; PSTA, 3745).</p>	
64(40)	<p style="text-align: center;">SYSMIBP Pointer to network management vector transport (NMVT) control block (MIB).</p>	
68(44)	<p style="text-align: center;">SYSPSBP Pointer to the physical services control block (PSB).</p>	

72(48)	SYSSITP Pointer to the subarea index table (SIT).
76(4C)	SYSSVTP Pointer to the subarea vector table (SVT).
80(50)	SYSTRTP Pointer to the transit routing table (TRT).
84(54)	SYSBPBP Pointer to buffer pool block.
88(58)	SYSEQBP Pointer to event queue block.
92(5C)	SYSLTBP Pointer to line trace vector table (LTVT).
96(60)	SYSNVTP Pointer to the network vector table (NVT).
100(64)	SYSNQBP Pointer to NPA counter queue (NQB) for NPA data collection.
104(68)	SYSCAVTP Pointer to channel adapter vector table (CAVT).
108(6C)	SYSGPTP Pointer to generalized PIU trace control block (GPT).
112(70)	DCTAQCB (SYSAQCB) System active queue control block.
116(74)	DCTSPPOOL (SYSSPOOL) Pointer to first buffer in system save area pool.
120(78)	SYSDTTP Pointer to dispatch trace table.
124(7C)	SYSCATP Pointer to channel adapter trace table.

Extension of HWE

Program: NCP, EP
Size in bytes: 128(80)
Created by: NCP or PEP generation (generated directly following the HWE)
Pointed to by: SYSW7 (SYSHWX) field in XDA
Function: Contains frequently accessed system control fields

Name	Offset
SYSACTP	104 (68)
SYSBCTP	12 (C)
SYSCDSP	16 (10)
SYS CRBP	52 (34)
SYSCTT	96 (60)
SYS DPTP	48 (30)
SYS DSPP	44 (2C)
SYS FLBP	56 (38)
SYS GENTP	124 (7C)
SYS LUXFP	24 (18)
SYS MAXSS	4 (4)
SYS NEOGP	60 (3C)
SYS NNTC	110 (6E)
SYS NNTP	108 (6C)
SYS NSAP	120 (78)
SYS ODAP	112 (70)
SYS PMF	20 (14)
SYS PSIP	92 (5C)
SYS QAB	0 (0)
SYS QPBP	8 (8)
SYS SV1P	64 (40)
SYS SV2P	68 (44)
SYS SV3P	72 (48)
SYS SV4A	88 (58)
SYS SV4L	84 (54)
SYS SV4P	76 (4C)
SYS SV5P	80 (50)
SYSUCTT	100 (64)
SYS VATP	32 (20)
SYS VITP	28 (1C)
SYS VSTP	36 (24)
SYS VVTP	40 (28)

0(0)	SYSQAB Pointer to queue anchor block (QAB).	
4(4)	SYSMAXSS Maximum number of LU sessions.	6(6) Reserved.
8(8)	SYSQPBP Pointer to queue pointer block (QPB).	
12(C)	SYSBCTP Pointer to BFSESSINFO PIU control table (BCT).	
16(10)	SYSCDSP Pointer to the configuration data set (CDS).	
20(14)	SYSPMF Pointer to performance measurement facility control block (PMF).	
24(18)	SYSLUXFP Pointer to LUB control block extension (LUX) free pool anchor block. (This free pool anchor block has the same format as the ACHAIN anchor block.)	
28(1C)	SYSVITP Pointer to virtual route subarea index table.	
32(20)	SYSVATP (See Note) Pointer to virtual route access table.	
36(24)	SYSVSTP (See Note) Pointer to virtual route status table.	

Note: If NCP initialization has not run yet, these fields will contain a X'80' in the leftmost byte and the total of the NUMHSAS operands from the BUILD and NETWORK statements in the rightmost halfword.

40(28)	SYSVVTP Pointer to virtual route vector table.
44(2C)	SYSDSPP Pointer to dispatch table.
48(30)	SYSDPTP Pointer to dispatch priority table.
52(34)	SYSCRBP Pointer to COMMIT request block.
56(38)	SYSFLBP Pointer to pool of multilink TG control blocks.
60(3C)	SYSNEOGP Pointer to NEO global function table.
64(40)	SYSSV1P Pointer to level 1 save area (CXTSV1).
68(44)	SYSSV2P Pointer to level 2 save area (CXTSV2).
72(48)	SYSSV3P Pointer to level 3 save area (CXTSV3).
76(4C)	SYSSV4P Pointer to level 4 save area (CXTSV4).

80(50)	SYSSV5P Pointer to level 5 save area (CXTSV5).		
84(54)	SYSSV4L Pointer to level 4 save area (CXTSV4) during Lease processing.		
88(58)	SYSSV4A Pointer to SVC service-routine level 4 save area (CXTS4A).		
92(5C)	SYSPSIP Pointer to product set identifier (PSI) control block.		
96(60)	SYSCCT Pointer to CTT (table of CNVT pointers).		
100(64)	SYSUUCT Pointer to UCTT (table of UCNVT pointers).		
104(68)	SYSACTP Pointer to the ACT (ACB trace control block).		
108(6C)	SYSNNTP Pointer to the network name table (NNT).		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center; vertical-align: middle;">Reserved.</td> <td style="width: 50%; text-align: center; vertical-align: middle;"> 110(6E) SYSNNTC NNT count from stage 2. </td> </tr> </table>	Reserved.	110(6E) SYSNNTC NNT count from stage 2.
Reserved.	110(6E) SYSNNTC NNT count from stage 2.		
112(70)	SYSDAP Pointer to owner's data area.		
116(74)	Reserved.		
120(78)	SYNSAP Pointer to NPA session accounting block (NSA).		
124(7C)	SYSGENTP Pointer to the DTG (data and time of generation control block).		

ICE Routine Address Table

Program: EP
Size in bytes: 160(A0)
Located at: Label ICEADDR of module CYKSVC/SYLSVC
Created by: PEP generation
Referenced by: Routine CYAIS of Module CYKSVC/CYLSVC
Function: Points to initial command execution (ICE) routines for command processing

For BSC/SS lines

0(0) - 7(7)	ICE address.
8(8)	Address pointer to Write. (BSC) (CYACWRIB)
12(C)	Address pointer to Write. (Start-stop) (CYACWRIS)
16(10)	Address pointer to Read. (BSC) (CYACREAB)
20(14)	Address pointer to Read. (Start-stop) (CYACREAS)
24(18) - 31(1F)	Address pointers (2) to No-op. (general) (CYACENOP)
32(20) - 39(27)	Address pointers (2) to Sense. (general) (ICESEN)
40(28) - 47(2F)	Address pointers (2) to Wrap. (general) (ICEWRA)

48(30)	Address pointer to Prepare. (BSC) (CYACPRES)
52(34)	Address pointer to Prepare. (Start-stop) (CYACPRES)
56(38) - 63(3F)	Address pointers (2) to invalid code. (CMDERROR)
64(40)	Address pointer to invalid code. (CMDERROR)
68(44)	Address pointer to Write Break. (2848 Start-stop) (CYACBRES)
72(48)	Address pointer to Poll. (BSC) (CYACPOLB)
76(4C)	Address pointer to Poll. (Start-stop) (CYACWRIS)
80(50)	Address pointer to invalid code. (CMDERROR)
84(54)	Address pointer to Inhibit. (Start-stop) (CYACREAS)
88(58)	Address pointer to invalid code. (CMDERROR)
92(5C)	Address pointer to Poll SOH. (2260 Start-stop) (CYACPOLS)

96(60)	Address pointer to invalid code. (CMDERROR)
100(64)	Address pointer to Read Clear. (2848 Start-stop) (CYACRDCL)
104(68)	Address pointer to invalid code. (CMDERROR)
108(6C)	Address pointer to Break or Diagnostic Poll. (Start-stop) (CYACBKPL)
112(70)	Address pointer to Search. (BSC) (CYACSEAB)
116(74)	Address pointer to Search. (Start-stop) (CYACSEAS)
120(78)	Address pointer to Disable. (BSC) (ICEDISAB)
124(7C)	Address pointer to Disable. (Start-stop) (ICEDISAB)
128(80)	Address pointer to Enable. (BSC) (ICEENABL)
132(84)	Address pointer to Enable. (Start-stop) (ICEENABL)
136(88)	Address pointer to Dial. (BSC) (ICEDIAL)

140(8C)	Address pointer to Dial. (Start-stop) (ICEDIAL)
144(90)	Address pointer to Adprep. (BSC) (CYACDPB)
148(94)	Address pointer to invalid code. (CMDERROR)
152(98)	Address pointer to Set Mode. (BSC) (CYACSETB)
156(9C)	Address pointer to invalid code. (CMDERROR)

Incident Count Refresh Table (3745 only)

Program: NCP, EP
Size in bytes: 12(C)
Created by: Shared-code module CXASCBA calls generating macro CXTICT
Pointed to by: SYSICTP in the HWE
Function: Contains incident count and threshold values for level 1 type errors

0(0) ICTPCARF Level 1 PIO threshold refresh value for CAs.	1(1) ICTPLARF Level 1 PIO threshold refresh value for LAs.	2(2) ICTAIORF Level 1 AIO threshold refresh value for CAs and LAs.	3(3) ICTACARF Level 1 adapter error threshold refresh value for CAs.
4(4) ICTALARF Level 1 Adapter error threshold refresh value for LAs.	5(5) ICTPIOUC Level 1 unresolved PIO interrupt counter.	6(6) ICTAIOUC Level 1 unresolved AIO interrupt counter.	7(7) ICTADTUC Level 1 unresolved adapter interrupt counter.
8(8) ICTURSRF Level 1 unresolved PIO, AIO, adapter error threshold refresh value.	9(9) ICTGLDCT Level 1 'GET LINE ID' retry counter.	10(A) ICTCLDRF Level 1 'GET LINE ID' threshold refresh counter.	11(B) ICTCFRF Ground fault threshold refresh value for CAs.

Interface Disconnect Dispatcher Table

Program: EP
Size in bytes: 84(54)
Located at: Label IFDADDR of module CYKIFD
Created by: PEP generation
Referenced by: Routine CYAIS
Function: Contains address pointers to IFD and CAEC routines

0(0)	IFDADDR IFD address table.

	No action, TIO (00) command. (CAEC190)
4(4)	Address pointer for Write (08) command. (IFDWRI)
8(8)	Address pointer for Read (10) command. (IFDREA)
12(C)	No action. No-op (18) command. (CAEC190)
16(10)	Address pointer for sense (20) command. (CAEC190)
20(14)	No action. Wrap (28) command. (CAEC190)
24(18)	Address pointer for Prepare (30) command. (IFDPRE)
28(1C)	Error (38)
32(20)	Address pointer for Write Break (40) command. (IFDWRI)

36(24)	Address pointer for Poll (48) command. (IFDWRI)
40(28)	Address pointer for Inhibit (50) command. (IFDREA)
44(2C)	Address pointer for Poll SOH (58) command. (IFDWRI)
48(30)	Address pointer for Read Clear (60) command. (IFDREA)
52(34)	Address pointer for Break (68) command. (IFDWRI)
56(38)	Address pointer for Search (70) command. (IFDREA)
60(3C)	Address pointer for Disable (78) command. (CAEC190)
64(40)	Address pointer for Enable (80) command. (IFDENA)
68(44)	Address pointer for Dial (88) command. (IFDIAL)
72(48)	Address pointer for Address Prepare (90) command. (IFDPRE)
76(4C)	Address pointer for Set Mode (98) command. (IFDSTMD)
80(50)	Address pointer for Sense ID (A0) command. (CAEC190)

Identification List Entry

Program: NCP
Size in bytes: Variable
Created by: NCP generation
Pointed to by: None
 It follows IDL.
Function: Contains one entry for each valid ID that can be received over a line or lines for which the list is being used

The IDE has the following format if device association is not possible:

0(0) IDELN ID length.	1(1) IDEFLAG* Entry flags.	2(2) ID characters. (Variable length)
** IDEPADL Length of maximum number of pad characters needed for alignment.		

* Indicates a byte expansion follows.
 ** Follows ID characters.

The IDE has the following format if device association is possible:

0(0) IDELN ID length.	1(1) IDEFLAG* Entry flags.	2(2) Reserved.
4(4) IDEDVBP Pointer to DVB.		
8(8) ID characters. (Variable length)		
** IDEPADL Length of maximum number of pad characters needed for alignment.		

* Indicates a byte expansion follows.
 ** Follows ID characters.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
1(1) IDEFLAG	. 1... .. .1.. .. ..1.	Entry flags. Device association is possible for this entry. End of list. Notify host if no match. (Meaningful only for first and last entries of list.)

Identification List Header

Program: NCP
Size in bytes: 4(4)
Located in: Beginning of identification list
Created by: NCP generation
Pointed to by: CIEIDL field in CIE
Function: Precedes the first entry in an ID list for switched BSC lines whose terminals identify themselves. The list is required only if validity checking of the incoming ID is required.

0(0) IDLSIZE Maximum number of bytes in the list.	2(2) Halfword to force fullword alignment for list entry.
-------------------------------------------------------------	------------------------------------------------------------------

Input/Output Block

Program: NCP
Size in bytes: 36(24)
Located in: ACB
Created by: NCP generation
Pointed to by: LCBACBP field in LCB
Function: Contains status of BCS/SS input/output operations

0(0) IOBIMCTL* Immediate control flags.	1(1) IOBCMAND* I/O command field.	2(2) IOBCMODS* IOB command modifiers.
4(4) IOBSTAT* Outcome of command operation.		6(6) IOBERST First error status. This field is set equal to IOBSTAT when the first recoverable error occurs.
		IOBSTATR Receive leg status (Wrap).
		IOBLTSM Transmit leg status (Wrap).
8(8) IOBEREST First error extended status. This field is set equal to IOBERTST when the first recoverable error occurs.	9(9) IOBRTYCT Retry count for first level ERP attempts.	10(A) IOBKSIZ Received block's size (number of data characters stored).
12(C) IOBDATAP Data pointer to first buffer in the block.		
IOBERTST* Extended status field. Contains error indicators.		

* Indicates a byte expansion follows.

16(10)		
IOBINPUT Input control data address. Contains the address of the first buffer when buffers are needed to store a reply to text, selection, or inquiry.		
IOBRDESC Record descriptor byte.		
20(14)		
IOBOUTPT Output control data address. Contains the address of inserted data.		
IOBCTCCT Control count. Number of characters to be transmitted from field addressed by the output control data address	21(15)	Address of the field to be transmitted.
24(18)		
IOBLCB Pointer to the line control block.		
IOBSTOFS Initial data offset, used to locate the starting point in the first buffer of a block.		
28(1C)		
IOBFNLPT Pointer to last buffer in chain.		
IOBOFSET Final data offset used to locate the buffer position of the last character in the block that was stored. Zero if buffer is filled.		30(1E) IOBWRPCT Wrap data count.
32(20) Reserved.	33(21) IOBPFLAG* PEP flag field.	34(22) Reserved.

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) IOBIMCTL		Immediate control flags.
	0... ..1.	Forced deactivate immediate.
	1... ..0	Reset immediate.
	1... ..1	Reset immediate—soft reset.
	.1..	Write request—conditional reset.
	..1.	Monitor mode.
	...1	Send interrupt.
	.... 1...	Conditional send interrupt.

Offset/Field Name	Hex Value	Contents
1(1) IOBCMAND		I/O command field.
	X'00'	No I/O occurred.
	X'10'	Write initial.
	X'12'	Write continue.
	X'16'	Write recover.
	X'17'	Write delay.
	X'19'	Write.
	X'25'	Read.
	X'27'	Read delay.
	X'28'	Read initial.
	X'2A'	Read continue.
	X'40'	Run Link Problem Determination Aid (LPDA) test.
	X'83'	Disable.
	X'85'	PEP switch.
	X'87'	Wrap.
	X'8D'	Enable.
	X'8F'	Dial.
	X'94'	Write EOT.
	X'9B'	Write control.
	X'AC'	Read status.

Offset/Field Name	Bit Pattern	Contents	
2(2) IOBCMODS	Byte 0	IOB Command Modifiers	
	1...	Suppress lost data.	
	.1..	Override text mode ERPs.	
	..1.	Reject received leading graphics.	
	...1	Inhibit test time-out (start-stop). ITB mode not transparent (BSC).	
	.... x...	1 = Sub-blocking mode, or Modem leads wrap.
	.... .x..	0 = Wrap data.
	.... .x..	1 = Inhibit WACK limit (BSC), or Inhibit time fill (start-stop), or External wrap.
	.... ..x.	0 = LIC level wrap.
	.... ..x.	1 = Enable length check, or ITB mode transparent, or Modem
	.... ..x.	0 = Cable.
	.... ...x	1 = Hold buffers, or Fixed number of wraps.
	.... ...x	0 = Continuous wrap.
		Byte 1	
	1...	Reset.	
	.1..	Send priority, or Maunal dial (Enable cmds only), or Start wrap request from MOSS.	
..1.	ETX (Write commands), or Single poll (Read commands), or Stop Wrap request from MOSS.		
...1	Offset (Write commands), or First buffer assigned (Read commands), or Stop Wrap request from NCP		
.... 1...	Insert (Write commands), or Send leading graphics (Read commands), or Send identification (Enable), or Wrap Continuous request from MOSS.		
.... .1..	Transparent text (Write commands), or Send positive ACK (Read commands), or Identification mode (Enable).		
.... ..1.	Set negative ACK (Read commands), or SOH (Write commands), or Multiple terminal access mode (Enable commands).		
.... ..1.	Set alternate ACK.		

Offset/Field Name	Bit Pattern	Contents
4(4) IOBSTAT	Byte 0	Outcome of command operation
	1... .... .1.. .... ..1. .... ...1 ........ ..1	Flags Extended error status. Format exception (bad line control sequence). Sync check (stop bit error, start-stop only). Data check (block check character error). Length check.
	.... 000. 001. 010. 011. 100. 101. 110. 111.	Read/Write Group Masks No errors. Receive text. Receive text reply. Receive control; command reject. Status outstanding when command issued; command not executed. Send text reply. Send text. Send control.
	.... 000. 001. 010. 011. 100. 101. 110. 111.	Data Set Control Group Masks No errors. Receive ID. Receive ID reply. Connect. Status outstanding when command issued. Error in dialing phase. Send ID. Disconnect.
	Byte 1	Extended (line) response. See Section 8.

Offset/Field Name	Bit Pattern	Contents
12(C) IOBEXTST		Extended status field.
	1... .... .1.. .... ..1. .... ...1 X..	Overrun/underrun. Line quiet time-out. DLE format exception. Sub-block error. Reserved.

Offset/Field Name	Bit Pattern	Contents
33(21) IOBPFLAG	x... .. .x.. .. ..x. .... ...x .... .... ..x. .....x	PEP flag field. Control block type: 0 = NCP ACB 1 = PEP CCB PEP switchable line: 0 = Not switchable. 1 = Switchable. Line-active save bit: 0 = Line inactive at time of switch. 1 = Line active at time of switch. Reserved. Part of IOBSEL address. Part of IOBSEL address.

Lookahead Buffer

Program: NCP
Size in bytes: 22(16) for first command; 14(E) for succeeding commands
Created by: CXDKLIP
Function: DSECT of the PIU created and used by the OLT functions

For First Command in Lookahead Buffer

0(0)			
LABUFCHN Pointer to next buffer in this chain.			
4(4)		6(6)	7(7)
Reserved.		LAOFFSET Offset to interpretive command.	LAFLAGS Flags for interpretive command.
8(8)	9(9)	10(A)	11(B)
LACMD1 First interpretive command.	LAWAIT1 Wait time for level 2 before ending command as error.	LASC FM1 Bits in SCF to test.	LASCEFE1 Expected status of tested SCF bits.
12(C)		14(E)	
		LAERR1 Address for error processing.	
		LACNT1 Maximum number of characters to place in buffer.	
		LARCAC1 Adjusted received count for Receive on Count command.	
			15(F)
		LATPCF1 PCF character for transmit turn. (Transmit char. and Turn cmd.)	LATPDF1 PDF character for transmit turn. (Transmit character and Turn cmd.)
		LACOMP1 Character compared with received character. (Rev and Compare)	

16(10) LARCST1 Buffer pointer for a receive SDLC command.			
----- LASTAT1 Status of receive and compare command. -----			
LAISCF1 SCF used when transmitting LA1PDF1. (Transmit on Count cmd.)	17(11) LA1PDF1 PDF character transmitted at end of data. (Transmit on Count cmd.)	18(12) LA2SCF1 SCF used when transmitting LA2PDF2. (Transmit on Count cmd.)	19(13) LA2PDF1 Second PDF character transmitted after LA1PDF1. (Transmit on Count cmd.)
20(14) LARCCT1 Count for a Receive on Count command.			

For Succeeding Commands in Look-Ahead Buffer

0(0) LACMD Succeeding interpretive command.	1(1) LAWAIT Wait time for level 2 before ending command as error.	2(2) LASC FM Bits in SCF to test.	3(3) LASC FE Expected status of tested SCF bits.
4(4) LAERR Address for error processing.		6(6) LACNT Maximum number of characters to place in buffer.	
		LATPCF PCF character for transmit turn. (Transmit character and Turn cmd.)	
		LACOMP Character compared with received character. (Rev and Compare)	7(7) LATPDF PDF character for transmit turn. (Transmit character and Turn cmd.)
8(8) LASTART Pointer to receive buffer on receive and compare commands. -----			
LAISCF SCF used when transmitting LA1PDF. (Transmit on Count cmd.)	9(9) LA1PDF PDF character transmitted at end of data. (Transmit on Count cmd.)	10(A) LA2SCF SCF used when transmitting LA2PDF. (Transmit on Count cmd.)	11(B) LA2PDF Second PDF character transmitted after LA1PDF.
12(C) LACOUNT Count for a Transmit on Count command.			

LU Anchor Block

Program: NCP
Size in bytes: 20(14)
Pointed to by: QABLABP field in the QAB
Function: Anchors the pool of LUBs that are available for dynamic reconfiguration

-8(8) - -1(1)		LABNAME	
0(0)		LABFIRST Pointer to first LUB in the chain.	
4(4)		LABLAST Pointer to last LUB in the chain.	
8(8)	LABIUBCT Total number of control blocks unreserved in pool.	10(A)	LABIRBCT Total number of control blocks reserved in pool.
12(C)	LABUCBCT Number of control blocks currently unreserved in pool.	14(E)	LABRCBCT Number of control blocks currently reserved in pool.
16(10)	LABUBMIN Minimum number of control blocks unreserved in pool.	18(12)	LABRBMIN Minimum number of control blocks reserved in pool.

Line Control Block

- Program:** NCP
- Size in bytes:** Variable, depending on line-type extensions
- Created by:** NCP generation, one for each BSC/SS line
- Pointed to by:** RVTRP field in RVT and IOBLCB field in the IOB
- Function:** Contains fields for:
- Scheduling line operation
 - Maintaining line-significant status information
 - Requesting I/O operations from the communications I/O program (levels 2 and 3)

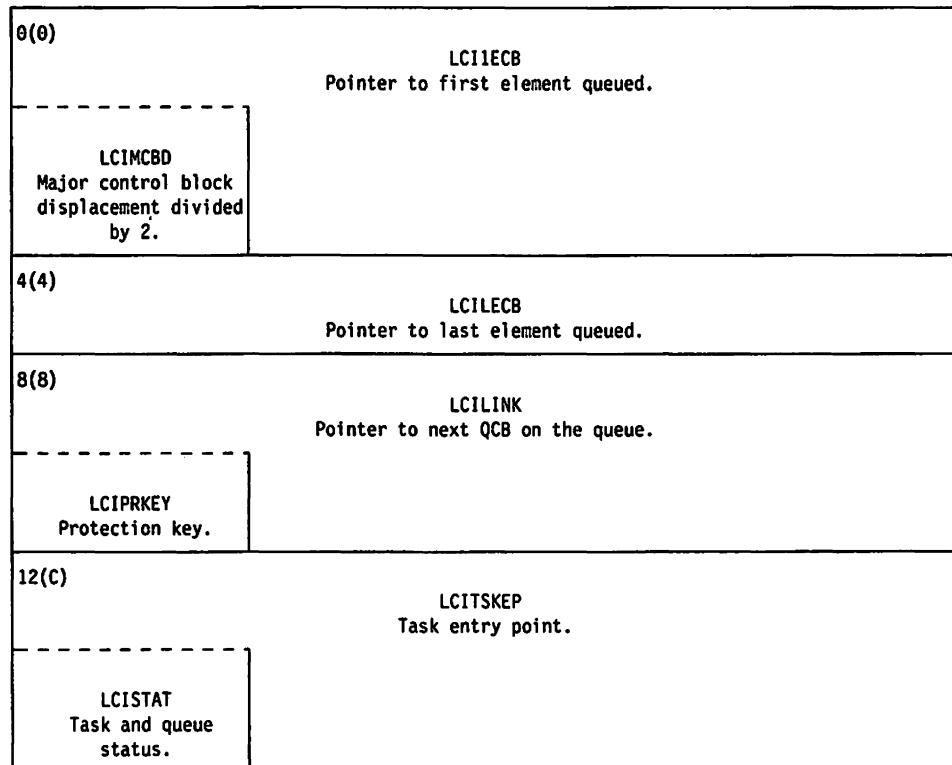
Prefix

-12(C) - -1(1)

For the prefix format for the LCB, see the network performance analyzer prefix (NPF) control block.

Line I/O QCB (LCBLIOQ)

(See QCB for input queues for all bit definitions.)



16(10)		
LCISAVE Address of save area pushdown list.		
LCISCHED Trigger scheduling priority.	17(11) LCISTATP PRELEASE flags.	18(12) LCIPREL PRELEASE buffer count.
20(14)		
LCILUNK Pointer to previous QCB on the queue.		
LCIBHSCB BHR scheduling bits.		
24(18)		
LCIBHSET BHR or BH set address.		
LCIBHRST BHR status bits.		
28(1C)		
LCBACBP Pointer to adapter control block.		
LCBACBOF Offset to NCP's adapter control block.		
32(20)		
LCBPEPSC Subchannel of EP equivalent line.		
LCBEPCCB Pointer to EP 372X.		
LCBINDX Adapter information table index. (3745)		
Reserved. (3720)		

Line Work QCB (LCBLWQ)
 (See QCB for Input Queues for all bit definitions.)

Note: By format, this is an Input QCB. Line Work QCB is simply the name given to this particular Input QCB.

36(24)		LCWIECB Pointer to first element queued.	
LCWMCBD Major control block displacement divided by 2.			
40(28)		LCWLECB Pointer to last element queued.	
44(2C)		LCWLINK Pointer to next QCB on the queue.	
LCWPRKEY Protection key.			
48(30)		LCWTSKEP Task entry point.	
LCWSTAT Task and queue status.			
52(34)		LCWSAVE Address of save area pushdown list.	
LCWSCHED Trigger scheduling priority.		53(35) LCWSTATP PRELEASE flags.	54(36) LCWPREL PRELEASE buffer count.
56(38)		LCWLUNK Pointer to previous QCB on the queue.	
LCWBHSCB BHR scheduling bits.			

Logical Definition Section of LCB (LCBLDEF)
 Used by level 5 for line scheduling.

60(3C)			
LCBLTCTP Line type command table pointer.			
LCBLSTAT* First line status byte.			
64(40)			
LCBDVBP Pointer to device base for device currently connected over line.			
LCBTYP* Line type code.			
68(44)	69(45)	70(46)	71(47)
LCBMFLAG* LCB flags.	LCBSNPM SNP mask of SSCP that issued Activate Link.	LCBLCOFF Offset to LCC extension. (LPDA1)	LCBALARM Network Problem Determination Application (NPDA) alarm parameter. (LPDA1)
LCBLLGN LLG number.		LCBCORN Correlation number. (LPDA2)	
72(48)		74(4A)	75(4B)
LCBSSP Subtask sequence pointer.		LCBFEAT1* LCB features.	LCBLST2* Second line status byte.
76(4C)	77(4D)	78(4E)	79(4F)
LCBACTNS* Actions to be taken when unusual conditions arise on the line.	LCBSNPS Saved SNP Mask.	LCBERPL Second level error recovery procedure loop limit.	LCBERPC Second level error recovery procedure loop counter.
80(50)	81(51)	82(52)	83(53)
LCBEDEL Duration of delay between second level ERP loops.	LCBCOFFL Sub-block cutoff limit.	LCBCOFFC Sub-block cutoff counter.	LCBIOCOM* I/O communication byte.
84(54)		86(56)	
LCBCSCNT Count of pending Invite and Contact commands for the line.		LCBRID Resource ID of the line.	
88(58)			
LCBCBBP Pointer to committed buffers block.			
LCBLST3* Third line status byte.			

* Indicates a byte expansion follows.

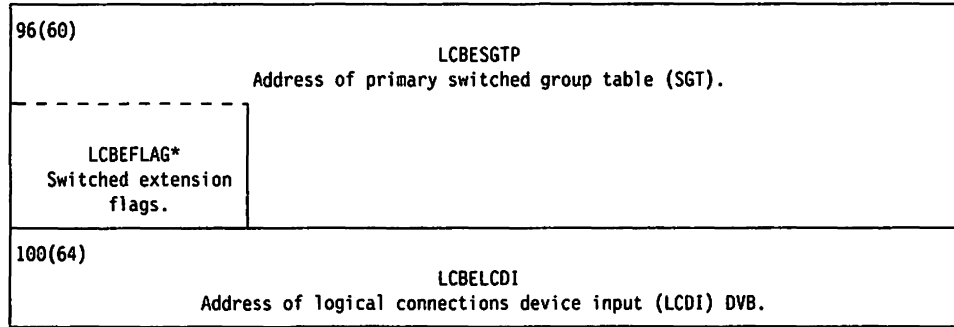
92(5C) LCBCANDT* Channelization and tailing flag.	93(5D) LCBSST* Link subsystem type.	94(5E) LCBANSS Subarea undergoing ANS.
------------------------------------------------------------	-------------------------------------------	----------------------------------------------

Multipoint Extension
Line Suspended Sessions QCB (LCBLSSQ)
(See QCB for work queues for all bit definitions.)

96(60)		LCSIECB Pointer to first element queued.	
LCSMCBD Major control block displacement divided by 2.			
100(64)		LCSLECB Pointer to last element queued.	
104(68)		LCSLINK Pointer to next QCB on the queue.	
LCSPRKEY Protection key.			
108(6C)	LCSSTAT Task and queue status.	109(6D)	Reserved.
112(70)		LCBESOTP Address of service order table.	
LCBPAUS Pause between passes through service order table.			
116(74)	LCBENAKL Negative poll response limit.	117(75)	LCBESERL Service-seeking scan limit.
		118(76)	LCBMS Maximum number of sessions allowed.
		119(77)	LCBAS Attempted sessions count.
120(78)	LCBCS Suspended connections count.	121(79)	LCBWS Connections work count.
		122(7A)	LCBENOD Number of devices on this line.
		123(7B)	LCBEDIG Number of devices remaining when deactivating line.
124(7C)	LCBSOTCT BSC/SS devices in buffer delay not quiesced count for multipoint lines.	125(7D)	LCBWFLGS* Line work flags.

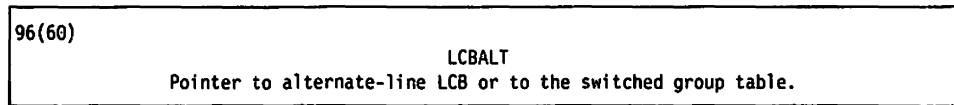
* Indicates a byte expansion follows.

Switched Extension



* Indicates a byte expansion follows.

Nonswitched Point-to-Point Extension



Byte Expansions

Offset/Field Name	Bit Pattern	Contents
60(3C) LCBLSTAT	1... .. .1.. .. ..1. .... ...1 1... 1.. 1. 1	First line status byte. Line active. A line is active (can accept TP commands) from the completion of an activate line operation until the receipt by line management of a deactivate line request. A line is inactive (cannot accept TP commands) from the receipt by line management of a deactivate line request until the completion of an activate line operation. Line is in abnormal mode. A reset or deactivate is in progress for some device on this line. See LCBLST2 to determine actual operation. Active session. Work scheduler idle. Service seeking in progress. Switched enable, for call-in, is active on this line. Reset immediate or deactivate line halt caused an immediate XIO to be issued on this line. See LCBLST2 to determine actual terminal operation. OLTT in progress. Wrap test in progress.

Offset/Field Name	Bit Pattern	Contents
64(40) LCBTYPPEC		Line type code.
	.1..	Extension exists.
	..1.	The meaning of this bit is relevant only if bit 7 (switched line) is 1. If 1, this line changes physical characteristics, via set mode, with each new telephone connection. If 0, line has same characteristics for every connection.
	...1	Auto network shutdown needed.
	.... 1..	Auto network shutdown delayed.
	.... .1..	BSC line.
	.... ..1.	Multipoint line.
	.... ...1	Switched line.

Offset/Field Name	Bit Pattern	Contents
68(44) LCBMFLAG		LCB flags.
	1...	Buffer delay wait.
	.1..	Critical situation message write started.
	..1.	LPDA supported on line.
	...1	LPDA test in progress.
	.... 1..	LPDA test ended with errors.
	.... .1..	LPDA2 supported on line.
.... ..xx	LPDA retry counter.	

Offset/Field Name	Bit Pattern	Contents
74(4A) LCBFEAT1		LCB features.
	1...	Multipoint tributary.
	.1..	Point-to-point secondary.
	..x.	Dial type:
		1 = Auto.
		0 = Manual.
	...1	Speed change capability.
	.... 1..	Multipoint backup.
	.... .1..	Resource eligible for NPA data collection.
.... ..1.	TA/TD compatible. (3745 only)	
.... ...x	Mode switch:	
	1 = EP.	
	0 = NCP.	

Offset/Field Name	Bit Pattern	Contents
75(4B) LCBLST2	1... .... .1.. .... ..1. .... ...1 1... .... .x.. x.	Second line status byte. Deactivate line halt in progress. Switch line mode in progress (EP or NCP). Activate line in progress. Current dial method: 1 = Auto. 0 = Manual. Monitor mode in progress. Switched line mode bit: 1 = Backup. 0 = Normal. Monitor reset bit: 1 = Delay monitor reset. 0 = Reset now. Line scheduler interlock. *

* Set to prevent any further activity while LPDA test or line-speed change are in progress.

Offset/Field Name	Bit Pattern	Contents
76(4C) LCBACTNS	1... .... .x.. .... ..1. .... ...1 1... .... .x.. x.	Actions to be taken when unusual conditions arise on the line. Shutdown of this line pending. Deactivate line orderly (DLO). Error status (when active): 1 = Error-terminate DLO. 0 = No error-process DLO. Service suspended sessions. Single service seek. Respond to current read with RVI. Negative poll response limit reached: 1 = Break logical connection. 0 = No break. Negative poll response limit reached: 1 = Reschedule Read. 0 = Terminate. Monitor line for attention or disconnect.

Offset/Field Name	Bit Pattern	Contents
83(53) LCBIOCOM	1... .. .1.. .. ..1. .. ...1 1.. .... .1.. .... ..1.	I/O communication byte. Partial block sent. Session suspension required. Send ID. Transparent text selection. End of text block (ETB) received. Conversational mode. BHR point 2 execution required after I/O completed. Last block ended with ETX.

Offset/Field Name	Bit Pattern	Contents
88(58) LCBLST3	1... .. .1.. ..	Third line status byte. Line forced deactivated. Line forced deactivation in progress.

Offset/Field Name	Bit Pattern	Contents
92(5C) LCBCANDT	1... .. .1.. .. ..1. .. ...1 ...... .1.. .... ..xx	Channelization and tailing flag. Line is connected to the channelized modem. Line is tailed. Line is connected to channel A. RECMS is postponed. LPDA2 command required for secondary circuit. Count of tests in progress on channels (modem) B, C, and D. (Count is located in channel A's LCB only.)

Offset/Field Name	Hex Value	Contents
93(5D) LCBSST	X'00' X'01' X'02' X'03'	Link subsystem type. No link subsystem. 3863, 3864, 3865, and 3868 modems supported. 3867 modem supported. 586X in normal (non-migration) mode.

Offset/Field Name	Bit Pattern	Contents
96(60) LCBEFLAG (switched extension)	 1... .. .1.. .. ..1. .... ...1 ..	Switched extension flags. Part of a switched group Call-in line. Callout line. Telephone connections exists.

Offset/Field Name	Bit Pattern	Contents
125(7D) LCBWFLGS	 1... .. .1.. .. ..1.	Line work flags. Clusters attached indicator. No work indicator. LPDA termination required.

Channelization Extension (LCC)

Program: NCP
Size in bytes: 20 (14)
Created by: LCB, only if channelization is specified
Pointer to: LCBLCOFF offset field in LCB
Function: Contains modem channelization and tailing extension information

If channelization exists and channel A

0(0)	LCCPMDR Pointer to the postponed RECMS	
4(4)	Reserved.	6(6) LCCCORN Correlation number.
8(8)	LCCPCHB Pointer to LCB for modem channel B.	
12(C)	LCCPCHC Pointer to LCB for modem channel C.	
16(10)	LCCPCHD Pointer to LCB for modem channel D.	

If channelization exists and not channel A

0(0)	LCCPMDR Pointer to the postponed RECMS	
4(4)	LCCPCHA Pointer to LCB for modem channel A.	

Lost Control Point Block

Program: NCP
Size in bytes: 28(1C) plus prefix
Created by: NCP generation
Pointer to: CXTLCP in link-edit map
Function: Used for lost control point generation

-8(8) - -1(1)	CXTLCP identifier.
0(0) - 27(1B)	LOST control point process queue.**

** See the input QCB for field definitions. Priority is immediate.
Task pointer is CXDALCP.

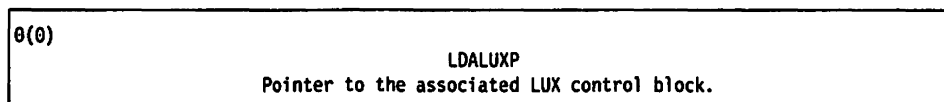
Line Control Selection Table

Program: NCP
Size in bytes: 20(14) per entry; number of entries is defined at NCP generation
Created by: NCP generation, one for each MTA start-stop line
Pointer to: SYSLCSP field in HWE or table of LCST pointers
Function: Used to change CCB control fields for multiple terminal access (MTA)

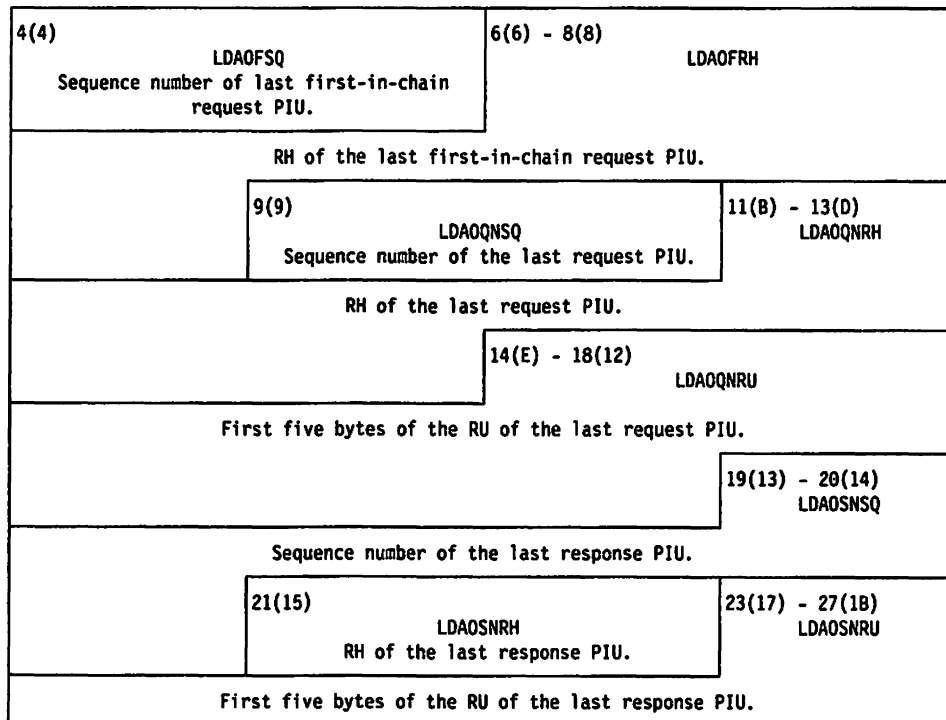
0(0) LCSTLGTP Line group table address.			
4(4) LCSTRTDT Received translate decode table address.		6(6) LCSTTDT Transmit translate decode table address (high-order byte). The low-order byte is the character to be translated.	7(7) LCSTSMDE Set mode serial data (SDF) constant.
8(8) LCSTSTBL State table address.		10(A) LCSTRTRY Text error retry limit.	11(B) LCSTBCUT Buffer cutoff limit. (receive)
12(C) LCSTCRTN Carriage return rate factor (SS only)	13(D) LCSTLSIZ Maximum print line size (SS only)	14(E) LCSTC Compare byte. (TWX terminals only)	15(F) LCSTM Mask byte. (TWX terminals only)
16(10) LCSTSPED Line speed.		18(12) Reserved.	

LUX Data Area

Program: NCP
Size in bytes: 92(5C)
Created by: NCP generation
Pointer to: LUXLDAP field in the LUX
Function: Contains PLU-to-SLU and SLU-to-PLU data information fields



PLU-to-SLU Status Data Fields (Outbound)



28(1C) LDAOQESQ Sequence number of the last expedited request PIU.	30(1E) - 32(20) LDAOQERH
RH of the last expedited request PIU.	
33(21) - 37(25)	LDAOQERU
First five bytes of the RU of the last expedited request PIU.	
38(26) LDAOSESQ Sequence number of the last expedited response PIU.	LDAOSESQ Sequence number of the last expedited response PIU.
40(28) LDAOSERH RH of the last expedited response PIU.	42(2A) - 46(2E) LDAOSERU
First five bytes of the RU of the last expedited response PIU.	
47(2F) Reserved.	

SLU-to-PLU Status Data Fields (Inbound)

48(30) LDAIFSQ Sequence number of last first-in-chain request PIU.	50(32) - 52(34) LDAIFRH
RH of the last first-in-chain request PIU.	
53(35) LDAIQNSQ Sequence number of the last request PIU.	55(37) - 57(39) LDAIQNRH
RH of the last request PIU.	
58(3A) - 62(3E) LDAIQNRU	
First five bytes of the RU of the last request PIU.	
63(3F) - 64(40) LDAISNSQ	
Sequence number of the last response PIU.	
65(41) LDAISNRH RH of the last response PIU.	67(43) - 71(47) LDAISNRU
First five bytes of the RU of the last response PIU.	
72(48) LDAIQESQ Sequence number of the last expedited request PIU.	74(4A) - 76(4C) LDAIQERH
RH of the last expedited request PIU.	
77(4D) - 81(51)	LDAIQERU
First five bytes of the RU of the last expedited request PIU.	
82(52) LDAISESQ Sequence number of the last expedited response PIU.	
84(54) LDAISERH RH of the last expedited response PIU.	86(56) - 90(5A) LDAISERU
First five bytes of the RU of the last expedited response PIU.	
91(5B) LDADFIND* Data flow indicators.	

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
91(5B) LDADFIND		Data flow indicators.
	x... ..	Last data direction: 1 = SLU-to-PLU (Inbound). 0 = PLU-to-SLU (Outbound).
	.x.. ..	Last data flow type: 1 = Expedited. 0 = Normal.
	..x.	Last PIU type: 1 = Response. 0 = Request.
	...1	SLU expedited response outstanding.
	.... 1...	PLU expedited response outstanding.
	.... xxx	Reserved.

Line Group Table (EP)

Program: EP

Size in bytes: Variable
 (8 bytes per GROUP macro)

Located in: Immediately following CCBs

Created by: PEP generation

Pointer to: CCBLGT field in CCB

Referenced by: CYKNUC, CYLNUC, AND CYKSL

Function: Contains information about a group of lines. It contains an entry for each GROUP definition statement coded by the user (EP only). See LGT (NCP) for NCP line groups.

0(0) LGTREPLY Reply timeout in tenths of a second.	1(1) LGTET Text time-out in tenths of a second.	2(2) LGTCHARS Ending TTY character.	3(3) (LCTE0B)**
4(4) LGTLINE* Line information byte.	5(5) LGTEOT End of transmission for RPQ and TTY. (optional)	6(6) LGTENDCR* TTY end character controls.	7(7) LCTQTCNT Number of character delays for SS line quiesce.

* Indicates a byte expansion follows.

** If bit 3 of byte LCTLINE is off, this byte contains the EOB character. If bit 3 of LGTLINE is on, this byte contains the second ending TTY character.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
4(4) LGTLINE	...x x... .... .x.. .... ..x. .... ...x	Line information byte. Presence of TTY ending characters: 0 = Present. 1 = Not present. Data character detect security: 0 = Security (start-stop lines). 1 = No security (BSC). Line type: 0 = Switched. 1 = Non-switched. XON character control: 0 = Utilize. 1 = Inhibit. XOFF character control: 0 = Utilize. 1 = Inhibit.

Offset/Field Name	Bit Pattern	Contents
6(6) LGTENDCR	1... .... .1.. .... ..1. .... ...1 .... .... ..1. ..... ..1	TTY end character controls. FIGS-X-LTRS sequence for EOT. The value of X is byte 5 (LGTEOT). Four-character sequence for EOT. The value of the character is in byte 5 (LGTEOT). FIGS-Y sequence for EOB. The value of Y is in bytes 3 (LGTEOB). Four-character ending sequence for EOB. The value of the character is in byte 3 (LGTEOB). Five-character transmit-turnaround-delay flag. Ten-character transmit-turnaround-delay flag.

Line Group Table (NCP)

Program: NCP
Size in bytes: Variable, depending on line type
Created by: NCP generation
Pointer to: CCBLGTP field in CCB
Function: Contains line control parameters

0(0) LGTTYPE* Terminal type identification.	1(1) LGTSHTAP Shoulder tap time-out state change mask.	2(2) LGTENDR1 Receive text status/ERP vector (RR).	
4(4) LGTENDR2 Receive test rely status/ERP vector (RNR).		6(6) LGTENDR3 Receive control reply status/ERP vector (NS).	
8(8) LGTTIMEA** Control time-out command (error time-out). (Modulo 8)	9(9) LGTTIMEB** Receive text (long) time-out command.	10(A) LGTTIMEC** Transmit time-out command (shoulder-tap).	11(B) LGTTIMED** Response time-out command.
12(C) LGTXIPCF Transmit initial LCD/PCF value.	13(D) LGTRIPCF Receive initial LCD/PCF value.	14(E) LGTINST Initial level 2 state mask.	15(F) LGTCMRTY Control mode ERP retry limit.
16(10) LGT CMD Pointer to command decode table.		18(12) LGT LATO Remote activity time field.	
		LGTINCHR Initial control character.	19(13) LGT COUNT Write EOT command initial control character count.
20(14) LGTWACKL BSC received WACK limit value.	21(15) LGT TTD BSC received TTD limit value.	22(16) LGT SYN BSC SYN character line code.	23(17) LGT RIST Receive initial state set after connect.
LGTSELG Start-stop selection address length.	LGT POLLG Start-stop poll address length.	LGT PADCT Start-stop motor start pad count.	
LGT RX21 X.21 retry time.	LGT XDLY SDLC initial reply time-out.		

* Indicates a byte expansion follows.

** Error time-outs are expressed as X'Cx'. Go to TVS control block and displace into TVS by a value of x for timer values. Shoulder tap time-outs are X'8x'.

BSC Line and EBCDIC Characters

24(18) LGTDL EEB DLE.	25(19) LGTETBE ETB EBCDIC.	26(1A) LGTDL EOT DLE.	27(1B) LGT EOTE EOT EBCDIC.
28(1C) LGTDL ES DLE.	29(1D) LGTSTXE STX EBCDIC.	30(1E) LGTDL EIB DLE.	31(1F) LGTITBE ITB EBCDIC.
32(20) LGTDL EØ DLE.	33(21) LGTACKØ ACKØ.	34(22) LGTDL E1 DLE.	35(23) LGTACK1 ACK1.
36(24) LGTDL ER DLE.	37(25) LGT RVIE RVI EBCDIC.	38(26) LGTDL EEQ DLE.	39(27) LGTENQE ENQ EBCDIC.
40(28) LGTNAKE NAK EBCDIC.	41(29) LGT SOHE SOH EBCDIC.	42(2A) LGTDL EEX DLE.	43(2B) LGTETXE ETX EBCDIC.
44(2C) LGTDL EW DLE.	45(2D) LGTWACK WACK.	46(2E) LGT SOHA SOH ASCII.	47(2F) LGTSTXA STX ASCII.
48(30) LGTETBA ETB ASCII.	49(31) LGTETXA TEX ASCII.	50(32) LGT EOTA EOT ASCII.	51(33) LGTITBA ITB ASCII.
52(34) LGTENQA ENQ ASCII.	53(35) LGTNAKA NAK ASCII.	54(36) LGTDL EA DLE ASCII.	

Start-Stop Line and EBCDIC Control/Characters.
 (Label used dependent on terminal type.)

24(18) LGTUPPER Upshift.	25(19) LGTETB2 Circle B.	26(1A) LGTLOWER Down shift. <hr/> LGTEOT3 Letters.	27(1B) LGTEOT2 Circle C or H. <hr/> LGTTEOT EOT.
28(1C) LGTEOT1 Circle C of FIGS.	29(1D) LGTCIRD Circle D.	30(1E) LGTVTAB Vertical tab.	31(1F) LGHTAB Horizontal tab.
LGTWFIG FIGS.	LGTWLTR Letters.	LGTNULL Null.	LGTHT Horizontal tab.
LGTCIRC Circle C.	LGTTNUL Null. <hr/> LGTSTX1 Space or carriage return.	LGTTVT Vertical tab.	
32(20) LGTLF Line feed.	33(21) LGTCRLF Carriage return.	34(22) LGTSPACE Space.	35(23) LGTBKSP Backspace.
LGWTAB Tab.	LGTWCR Carriage return.		LGTSTX2 Carriage return or line feed.
LGTTLF Line feed.	LGTTCR Carriage return.		
	LGTCR Carriage return or line feed.		

36(24) LGTPAD Pad.	37(25) LGTIDLE Idle.	38(26) LGTSPEC Reserved.	39(27) LGTPRC Prefix.
LGTPAD Pad.	LGTWE0B1 Idle.	LGTWE0B2 EOB sequence.	LGTTENQ ENQ.
LGTPAD Pad.	LGTSTX3 Idle.	LGTTSUB TWX substitution character.	LGTWE0B3 ENQ.
LGTPAD Pad.			
40(28) LGTICRN NAK.	41(29) LGTRES Restore.	42(2A) LGTTRSTP Reader stop.	43(2B) LGTETB1 Circle B.
LGTWE0B4 NAK.	LGTWE0T1 EOT1.	LGTXXOFF XOFF control character.	LGTICRB Circle B
		LGTWE0T2 EOT2.	LGTXXON XON control character.
			LGTWE0T3 EOT3.
44(2C) LGTICRY Circle Y.	45(2D) LGTBYB Bypass.	46(2E) Reserved.	47(2F) LGTPF Punch off.
LGTWE0T4 EOT4.	LGTWXCH1 Ending character.	LGTWXCH2 Ending character.	LGTWXCH3 Ending character.
48(30) LGTPON Punch on.	49(31) LGTDELET Delete.	50(32) LGTESLSH Slash. (EBCDIC)	51(33) LGTESPC Space. (EBCDIC)

SDLC Link

24(18) LGTRNRLT Length of time an RNR can be received continuously.	26(1A) Reserved.
------------------------------------------------------------------------------	---------------------

Byte Expansions

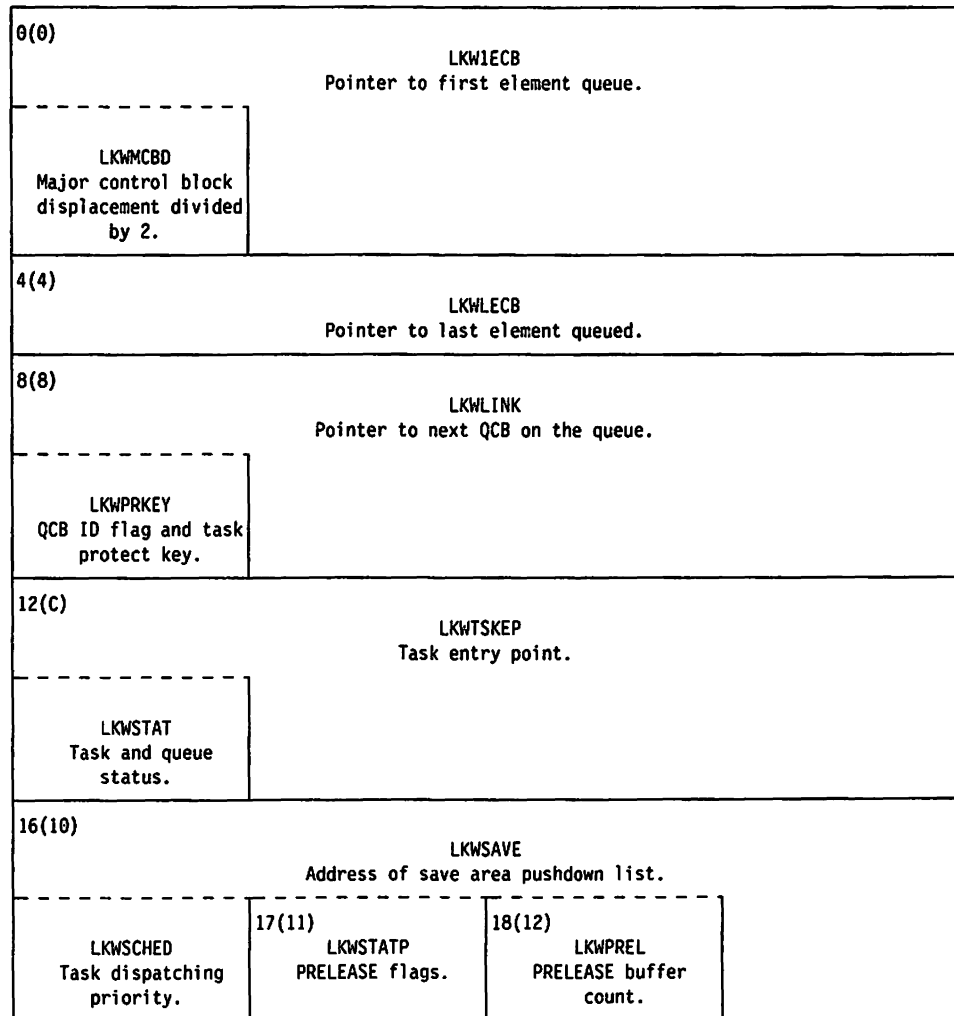
Offset/Field Name	Hex Value	Contents
0(0) LGTTYPE	X'00'	Terminal type identification.
	X'02'	2741.
	X'04'	2740 basic.
	X'06'	2740 station control.
	X'08'	2740 transmit control.
	X'0A'	2740 station control with checking.
	X'0C'	2740 transmit control with checking.
	X'0E'	2740 with checking.
	X'14'	2740 Model 2 with checking.
	X'1C'	2740 Model 2 without checking.
	X'1D'	1050.
	X'20'	MTA.
	X'22'	TTYI-B (83B3).
	X'24'	TTYII (TWX).
	X'26'	TTY World Trade.
	X'4A'	TTYI-A (115A).
	X'4C'	BSC EBCDIC point-to-point station.
	X'4E'	BSC EBCDIC control station.
	X'6A'	BSC EBCDIC tributary station.
	X'6C'	BSC ASCII point-to-point station.
	X'6E'	BSC ASCII control station.
	X'8C'	BSC ASCII tributary station.
	X'8E'	SDLC primary station.
		SDLC secondary station.

Line Control Block (SDLC)

Program: NCP
Size in bytes: 80(50) plus prefix
Created by: NCP generation, one for each link
Pointer to: RVTRP field in RVT, LXBLKBP field in LXB
Function: Contains field for scheduling link operations and for maintaining link status information

-8(8) - -1(1)
 For the prefix format for the LKB, see the network performance analyzer prefix (NPF) control block.

Link Queue Control Block (LKWQCB) (See QCB for Input Queues for bit definition.)



26(14) LKWLUNK Pointer to previous QCB on the queue.			
LKBHSCB BHR scheduling bits.			
24(18) LKBWADR Element address of link.	26(1A) LKBSTAT* Status of link.	27(1B) LKBTYPE* Link type.	
28(1C) LKBACBP Address of adapter control block.			
LKB MISCE* Miscellaneous flags.			
32(20) LKBSNPM SNP mask of SSCPs.	33(21) LKBSWST* Switched status and EP condition flags.	34(22) LKBERPL ERP limit.	35(23) LKBANDT* Channelization and tailing flags.
36(24) LKB TCHN LKB chain pointer. Points to an alternate link's LKB.			
LKB BUFCT Buffer maximum for receive operation.			
40(28) LKBALARM LPDA alarm parameter. (LPDA1)	41(29) LKBLCOFF Offset to LKC extension. (LPDA1)	42(2A) LKBDRST* Dynamic reconfiguration status.	43(2B) LKBTYPE2* Extended line type field.
LKB CORN Correlation number. (LPDA1)			

* Indicates a byte expansion follows.

44(2C)			LKBPUV Address of PU vector table entry.		
LKBPUV Number of available entries in PU vector table.					
48(30)	LKBLPDA* Link Problem Determination Aid (LPDA) flag byte.	49(31)	LKBSST* Link subsystem type.	50(32)	LKBPSEL Index into SDLCST for primary SDLC link.
52(34)	LKBSEL Index into SDLCST for secondary SDLC link.		54(36)	LKBSEL Index into SDLCST for configurable SDLC link.	
56(38)			LKBABP Pointer to associated CAB.		
LKBATOS Channel trace owner SNP mask.					
60(3C)					
Reserved.					
LKBINDX Index into AIT for the adapter with which this line is associated. (3745)					
Reserved. (3720)					
64(40)	LKBLTAC Line Trace Activation Counter.	65(41)	LKBLKNL Link name length.	66(42)	Reserved.
68(44)					
LKBGNDID Genned node id.					
72(48) - 79(4F)					
LKBNAME Link name.					

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
26(1A) LKBSTAT	1... .. .1.. .. ..1. .. ...1 1.. .... .1.. .... ..1. .... ..1	Status of link. The link is active; an Activate Link command has been successfully processed. Activate Link in progress. Deactivate Line in progress. Line quiesce pending. (Auto network shutdown) Primary/secondary switch in progress. Link forced into deactivation. OLTT in progress. Wrap Test in progress.

Offset/Field Name	Bit Pattern	Contents
27(1B) LKBTYPE	1... .. .1.. .. ..1. .. ...1 1.. .... .x.. 1. .... ..1	Link type. Leased. Switched. One or more clusters attached to this link. One or more 3725s are attached to this link. One or more terminals are attached to this link. Current link mode: 1 = Secondary. 0 = Primary. INN resource. Resource eligible for NPA data collection.

Offset/Field Name	Bit Pattern	Contents
28(1C) LKBMISCE	1... .. .1.. .. ..1. 1.. .... .1..	Miscellaneous flags. LPDA termination request. Level 5 scanner down indicator. TA/TD compatible. Predefined as primary. Predefined as secondary.

Offset/Field Name	Bit Pattern	Contents
33(21) LKBSWST	1... .... .1.. .... ..1. .... ...1 1... .... .1.. .... ..1. .... ...1	Switched status and EP condition flags. Connection exists. Link in answer mode. Dial in progress. Switched enable pending. Disable decision pending. Abandon connection received. Terminal called in. This channel is an EP only channel.

Offset/Field Name	Bit Pattern	Contents
35(23) LKBCANDT	1... .... .1.. .... ..1. .... ...1 1... .... .1.. .... ..xx	Channelization and tailing flag. Line is connected to the channelized modem. Line is tailed. Line is connected to channel A. RECMS is postponed. MDR queued processing is in progress. LPDA2 command required for secondary circuit. Count of tests in progress on channels (modem) B, C, and D. (Count is located in channel A's LKB only.)

Offset/Field Name	Bit Pattern	Contents
42(2A) LKBDNST	1...	Dynamic reconfiguration status. Free network address in progress.

Offset/Field Name	Bit Pattern	Contents
43(2B) LKBTYPE2	.1.. .... ..1.	Extended line type field. Subarea dial line. V25 BIS.

Offset/Field Name	Bit Pattern	Contents
48(30) LKBLPDA	1... .. .1.. .. ..1. .. ...1 x.. 1.. .... ..xx	Link Problem Determination Aid (LPDA) flag byte. LPDA supported on link. LPDA test in progress. LPDA test ended with errors. Issue Run XIO after LPDA test. Status of link at start of test. 1 = Busy. 0 = Idle. LPDA2 supported on line. LPDA retry counter.

Offset/Field Name	Hex Value	Contents
49(31) LKBSST	X'00' X'01' X'02' X'03'	Link subsystem type. No link subsystem. 3863, 3864, 3865, 3868 modems, and 586X modems in migration mode are supported. 3867 link diagnostic units are supported. 586X in normal (non-migration) mode.

Channelization Extension (LKC)

Program: NCP
Size in bytes: 20(14)
Created by: LKB, only if channelization is specified
Pointer to: LKBLCOFF offset field in LKB
Function: Contains modem channelization and tailing extension information

If channelization exists and channel A

0(0)	LKCPMDR Pointer to postponed RECMS.	
4(4)	Reserved.	6(6) LKCCORN Correlation number.
8(8)	LKCPCHB Pointer to LKB for modem channel B.	
12(C)	LKCPCHC Pointer to LKB for modem channel C.	
16(10)	LKCPCHD Pointer to LKB for modem channel D.	

If channelization exists and not channel A

0(0)	LKCPMDR Pointer to postponed RECMS.	
4(4)	LKCPCHA Pointer to LKB for modem channel A.	

LU Network Address Control Block

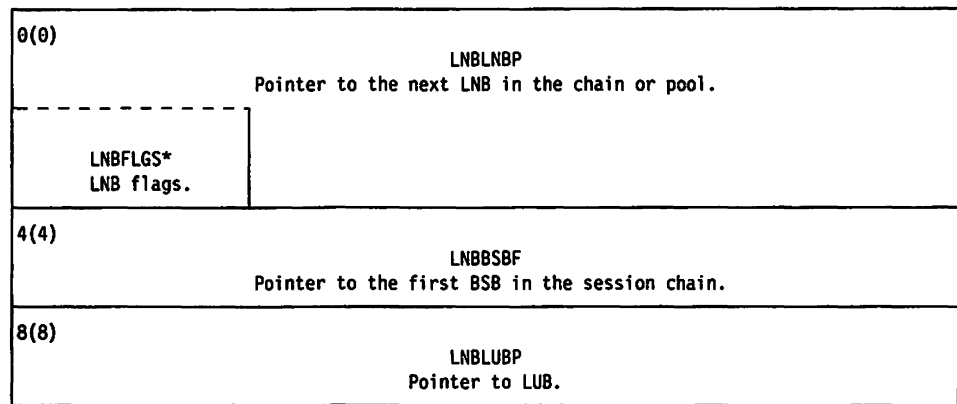
Program: NCP

Size in bytes: 16(10) for dependent LU; 24(18) for independent LU

Created by: NCP generation

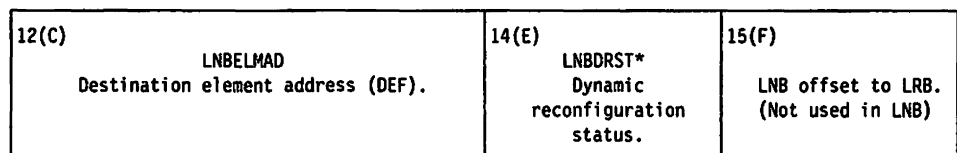
Pointer to: LUBLNBP field in the LUB, LNBLNBP field in the LNB, BSBLNBP field in the BSB, and LPALNBF field in the LPA (for first in pool) or LPALNBL field (for last LNB in pool)

Function: The LNB serves as the representation of each network address that is defined for its owning logical unit (LUB). The LU routing block (LRB) is imbedded within the LNB. A two-byte element address field and a one-byte DR status field in the LNB and LRB share the same storage (overlay).



* Indicates a byte expansion follows.

Imbedded LRB for Dependent LU



* Indicates a byte expansion follows.

Imbedded LRB for Independent LU

12(C) LNBELMAD Destination element address (DEF).	14(E) LNBDORST* Dynamic reconfiguration status.	15(F) LNB offset to LRB.
16(10) - 23(17) Imbedded search tree header block (SHB) from LRB.		

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) LNBFLGS	x... .. .1.. .... ..1. .... ...1 1... 1..	LNB Flags. LU address: 1 = Primary. 0 = Secondary. BFSESSINFO in progress. Independent LU. NPM knows about this resource. FNA must be sent to NPM. RNAA must be sent to NPM.

Offset/Field Name	Bit Pattern	Contents
14(E) LNBDORST	1... .. .x.. .... ..1. .... ...1 1... .... .x.. .... ..1. .... ...1	Dynamic reconfiguration status. Network address requested. 1 = LNB allocated. 0 = LNB in pool. Control block contains usable control vector information. Dynamic reconfiguration added device. Device available to dynamic reconfiguration. Initial address status: 1 = Generated initially. 0 = Initially in pool. LU dynamic resource. Temporary bit: 1 = This LNB is temporarily marked. 0 = The LNB is not temporarily marked

Dependent LU Control Block

Program: NCP
Size in bytes: 188(BC)
Created by: NCP generation
Pointer to: See LNB and BSB layout
Function: Contains one dependent LU network address control block, one SSCP-LU boundary session block, and one dependent LU-LU boundary session block

0(0) - 15(F)	Dependent LU network address control block (LNB).
16(10) - 87(57)	SSCP-LU boundary session block (BSB).
88(58) - 187(BB)	Dependent LU-LU boundary session block (BSB).

Line Vector Table (3720)

Program: NCP, EP

Size in bytes: 2048(800)

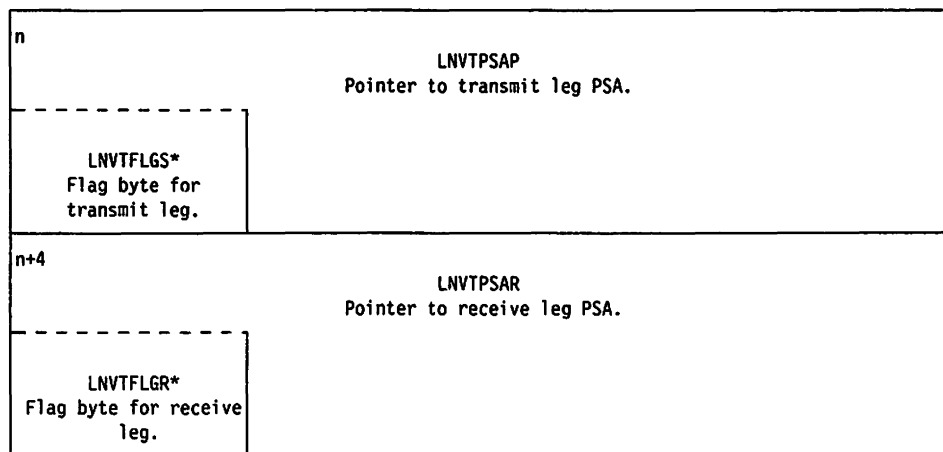
The line vector table contains two 4-byte entries for each of the 64 possible lines, eight 8-byte entries for SIT on NCP lines, eight 8-byte entries for SIT on EP lines.

Created by: NCP or PEP generation

Function: LNVT entries from offset X'80' to X'200' represent real lines and allow the NCP to find a line's parameter/status (PSA) control block when only the relative line number is known. The relative line number (0-63) is specified by the address operand of the LINE definition statement in the NCP generation. The NCP converts this number into an even address or an even/odd pair of addresses depending upon the type of line being defined. Two LNVT entries exist for each possible line address (128 LNVT entries) For a duplex line, the first LNVT entry (always even) points to the transmit leg PSA and the second LNVT entry (always odd) points to the receive leg PSA. For a half-duplex line, the first entry points to the unique PSA used for both transmit and receive operations. The odd entry is unused and points to a dummy PSA.

Each pair of LNVT entries may be found by multiplying the relative line number by 8, converting to hexadecimal notation, and then adding the LNVT origin (LNVTBEG).

LNVT entries from offset X'00' to X'80' are reserved for Scanner Interface Trace (SIT) and do not correlate to real lines.



* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
LNVTFLGS LNVTFLGR	1... .... .1.. .... ..1. .... ...1 1... .... .1.. .... ..1. 1	Flag bytes. Start Line Initial required. Undefined line or SIT entry. In use by SIT or line trace. Entry in use by CLDP (loader/dump program). In use by panel line test. Level 1 scanner down indicator. Command reject indicator (second command issued during first command). In use by EP.

Line Vector Table for 3745

Program: NCP, EP

Size in bytes: 8968(2308)

The line vector table contains two 4-byte entries for each of the 1103 possible lines, eight 8-byte entries for SIT on NCP lines, eight 8-byte entries for SIT on EP lines, and one 4-byte special LNVT error entry.

Created by: NCP or PEP generation

Function: LNVT entries from offset X'00' to X'2280' represent real lines and allow the NCP and CSP to find a line's parameter/status (PSA) control block when only the relative line number is known. (The CSP must also know where its particular LNVT segment starts. This is done with a SET LNVT L0 command issued in initialization.)

The relative line number is specified by the address operand of the LINE definition statement in the NCP generation. The NCP converts this number into an even address or an even/odd pair of addresses depending upon the type of line being defined. Two LNVT entries exist for each possible line address (2206 LNVT entries). For a duplex line, the first LNVT entry (always even) points to the transmit leg PSA and the second LNVT entry (always odd) points to the receive leg PSA. For a half-duplex line, the first entry points to the unique PSA used for both transmit and receive operations. The odd entry is unused and points to a dummy PSA.

Each pair of LNVT entries may be found by multiplying the relative line number by 8, converting to hexadecimal notation, and then adding the LNVT origin (LNVTBEG).

LNVT entries from offset X'2280' to X'22BF' (NCP) and X'22C0' to X'2300' (EP) are reserved for Scanner Interface Trace (SIT) and do not correlate to real lines.

0(0) - 4095(FFF)	LNVTBEG BSC, Start/stop, and SDLC CSP entries. (normal lines)
4096(1000) - 8191(1FFF)	Unused. (normal lines)
8192(2000) - 8319(207F)	SDLC HPTSS entries.
8320(2080) - 8703(21FF)	Unused. (HPTSS lines)
8704(2200) - 8767(223F)	Token ring adapter entries.
8768(2240) - 8831(227F)	Unused. (TRA lines)
8832(2280) - 8895(22BF)	LNVT SITN NCP SIT entries.
8896(22C0) - 8959(22FF)	LNVT SITE EP SIT entries.
8960(2300)	LNVT EAT LNVT error entry. (Used for error processing)

n	LNVT PSAP Pointer to transmit leg PSA.
LNVT FLGS* Flag byte for transmit leg.	
n+4	LNVT PSAR Pointer to receive leg PSA.
LNVT FLGR* Flag byte for receive leg.	

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
LNVTFLGS LNVTFLGR		Flag bytes.
	1... ..	Start Line Initial required.
	.1.	Undefined line or SIT entry.
	..1.	In use by SIT or line trace.
	...1	Entry in use by CLDP (loader/dump program).
	.... 1..	In use by panel line test.
	.... .1.	Level 1 scanner down indicator.
	.... ..1.	Command reject indicator (second command issued during first command).
	.....1	In use by EP.

Link Problem Buffer

Program: NCP
Size in bytes: 8(8)
Created by: NCP generation
Pointer to: LXBDATAP/IOBDATAP fields in the LXB/IOB
Function: Maps the LPDA level 2/3 information into the buffer pointed to by the CCBDATA field

0(0) LPBCNTA Byte count.	1(1) LPBAFLD1 Address field.	2(2) LPBCFLD1 Control field.	
4(4) LPBRTST Test request byte.	5(5) LPBIBT1 Information byte 1.	6(6) LPBIBT2 Information byte 2.	7(7) LPBIBT3 Information byte 3.

LPDA2 Response Buffer Layout

Program: NCP

Size in bytes: Variable

Created by: Dynamic processing when buffers are leased for LPDA2 processing

Pointer to: AXBLPDRB field in the AXB

Function: Contains the LPDA2 response passed from the modem via the communications scanner processor (CSP) for an LPDA2 test

0(0) LPR50LEN Subvector length.	1(1) LPR50KEY Subvector key. X'50'	2(2) LPR50IFD Information field.	
4(4) LPR50SEG Link segment level.	5(5) LPR50MOD Modem address.	6(6) LPR50CMD LPDA2 command executed.	7(7) LPR50SNS Sense code. (See table)
8(8) - n LPR50DAT Response data (if any).			

Sense Code	Description
X'00'	Normal return code.
X'03'	Command rejected because modem is switched network backup mode.
X'04'	Command code not supported by modem.
X'05'	Command valid but it requires a feature not installed on modem.
X'06'	Command requires an installed feature but it is not operational.
X'07'	Command not authorized for the configuration of the modem.
X'08'	Command code is valid but command data is invalid.
X'09'	No response received from the remote modem by the local modem.
X'0A'	Local modem received response with an invalid FCS from the remote modem.
X'0B'	Local modem received response with a valid FCS from the remote modem but format was invalid.
X'0C'	Command not compatible with status of modem.
X'0D'	Modem self-test was run and self-test failed.
X'11'	Two explicit numbers provided to modem equipped with two-wire coupler.
X'12'	Two-wire connection requested from a modem with a four-wire coupler.
X'13'	No answer tone received by the local modem after first (or only) call.
X'14'	No answer tone received by the local modem after the second call.
X'15'	Continuous answer tone received by the local modem after the first call.
X'16'	Continuous answer tone received by local modem after the second call.
X'17'	Telephone number was not contained in the command frame.
X'19'	Busy tone detected on line.
X'1A'	No dial tone was detected on the line during the time period specified in the dial string.
X'1B'	Dial tone was present following the dial operation.
X'1C'	Ring back detection present at abort timer expiration indicating that the phone was ringing, but not answered.

LPDA2 Command (Transmit) Buffer Layout

Program: NCP

Size in bytes: Variable

Created by: Dynamic processing when a buffer is leased for LPDA2 processing

Pointer to: AXBLPDXB field in the AXB

Function: Contains the LPDA2 command passed to the modem via the communications scanner processor (CSP) to run an LPDA2 test. The CSP reply timer field follows the command layout. It contains the CSP reply timer value that is stored in the PSA prior to issuing an IOH. It also contains the ending status (LXBSTAT/IOBSTAT) that occurred prior to running the LPDA2 test.

0(0) LPXADDR Address field.	1(1) LPXSCMD LPDA SDLC command. X'1B'	2(2) LPXHDR LPDA2 unique header. X'05'	3(3) LPXHDR LPDA2 unique header. X'10'
4(4) LPXHDR LPDA2 unique header. X'42'	5(5) LPXHDR LPDA2 unique header. X'08'	6(6) LPXHDR LPDA2 unique header. X'21'	7(7) LPXHDR LPDA2 unique header. X'84'
8(8) LPXHDR LPDA2 unique header. X'10'	9(9) LPXHDR LPDA2 unique header. X'42'	10(A) LPXIDN* Identifier field.	
12(C) LPXLMDA* Local modem address.	13(D) LPXMDMA* Modem address.	14(E) LPXMCMD* Modem command.	15(F) - 19(13) LPXDATA
Data associated with the modem command (if any).			
20(14) Additional data (if any).			

* Indicates a byte expansion follows.

CSP Reply Timer Field/Save Area

0(0) LPXCSPM CSP reply timer value.	2(2) LPXESTAT Saved value of ending status prior to LPDA2.
4(4) LPXEXTST Saved extended status value.	

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
10(A) LPXIDN	Byte 0	Identifier field.
	1... .. .x.. .. ..0. .... ...x x... x..	LPDA2 command. Transmission speed: 1 = Data speed. 0 = Service speed. Always 0 (indicates command). Reason for command: 1 = Permanent line/station error. 0 = Solicited request or unsolicited statistical event. Local retry indicator (CSP only): 1 = Retry of the request. 0 = Initial request. Local modem retry inhibit: 1 = Inhibit retry by local modem to remote modem. 0 = Allow retry by local modem to remote modem.
	Byte 1	Reserved.

Offset/Field Name	Bit Pattern	Contents
12(C) LPXLMDA		Local modem address.
	xxxx xxxx	Modem number. Segment number.

Offset/Field Name	Hex Value	Contents
13(D) LPXMDMA		Modem address.
	X'00'	Local modem.
	X'FD'	General (broadcast) modem address (for example: switched lines).
	X'FF'	Modem address from host request when NCP must substitute the true address of the modem.
	X'xx'	Normal polling address.

Offset/Field Name	Hex Value	Contents
14(E) LPXMCMD	X'1A' X'1D' X'1E' X'21' X'22' X'25' X'26' X'27' X'2E' X'2F'	Modem command. Modem and Line Analysis. Transmit/Receive Test. Line Analysis. LPDA2 dial command. LPDA2 disconnect command. Read Configuration. Write Configuration. Set Transmit Speed. Contact Sense. Contact Operate. NPDA/NCCF issues all these commands for solicited NMVT requests. NCP only issues the X'1A' command; and that for unsolicited NMVT requests.

Line Quiesce Pending Queue

Program:	NCP
Size in bytes:	16(10)
Created by:	NCP generation
Pointer to:	CXQLQP in the link-edit map
	LQP resides in storage immediately following the PSB.
Function:	When a pre-SNA line is in the line quiesce pending state (LCBARE on in LCBACTNS) and PIUs are received for that line, they are put on the LQP. When the line quiets, the PIUs on the LQP are removed and processed by the physical services.
Format:	See QCB (Work), the general format for all work queues.

LU Routing Block

Program: NCP

Size in bytes: 12(C) for independent LU; 4(4) for dependent LU

Created by: NCP generation

Pointer to: RVTRP field in the RVT

Function: The LRB serves as the intermediate routing block for element routing. The LRB is imbedded at the end of the LNB. The LRB element address and dynamic reconfiguration status fields share the same storage (overlay) with the LNB. An SHB is imbedded in the LRB for independent LUs.

0(0) LRBELMAD Destination element address (DEF).	2(2) LRBDRST* Dynamic reconfiguration status.	3(3) LRBOCCB LNB offset to LRB.
4(4) - 11(8) Imbedded search tree header control block (SHB). (Independent LU only)		

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
2(2) LRBDRST	1... .. .x... .. ..1. .... ...1 1... .... .x..	Dynamic reconfiguration status. Network address requested. 1 = LRB allocated. 0 = LRB in pool. Control block contains usable control vector information. Dynamic reconfiguration added device. Device available to dynamic reconfiguration. Initial address status: 1 = Generated initially. 0 = Initially in pool. LU dynamic resource. Temporary bit: 1 = This LRB is temporarily marked. 0 = This LRB is not temporarily marked.
	.... ..1. .... ...x	

Link Resource Control

Program: NCP
Size in bytes: 24(18)
Created by: Dynamically when processing NMVT PIUs
Function: A buffer leased to hold temporary information for NMVT processing

0(0) - 7(7)			
Reserved.			
8(8) LRCQRYFL* Subfield flag. (Query link station attributes)	9(9) LRCSETFL* Subfield flag. (Set link station attributes)	10(A) LRCERRFL* Link resource control error flag.	11(B) LRCLPDA Set LPDA value.
12(C) New data transmit threshold. (BSC - traffic count threshold) (SDLC - total transmission threshold)			
LRCTTB0 Byte 1.	13(D) LRCTTB1 Byte 2.	14(E) LRCTTB2 Byte 3.	15(F) LRCTTB3 Byte 4.
16(10) New error transmit threshold. (BSC - error count threshold) (SDLC - total retries threshold value)			
LRCTRB0 Byte 1.	17(11) LRCTRB1 Byte 2.	18(12) LRCTRB2 Byte 3.	19(13) LRCTRB3 Byte 4.
20(14) LRCRPLBP Address of the lease buffer for reply.			

* Indicates a byte expansion follows.

Byte Expansions

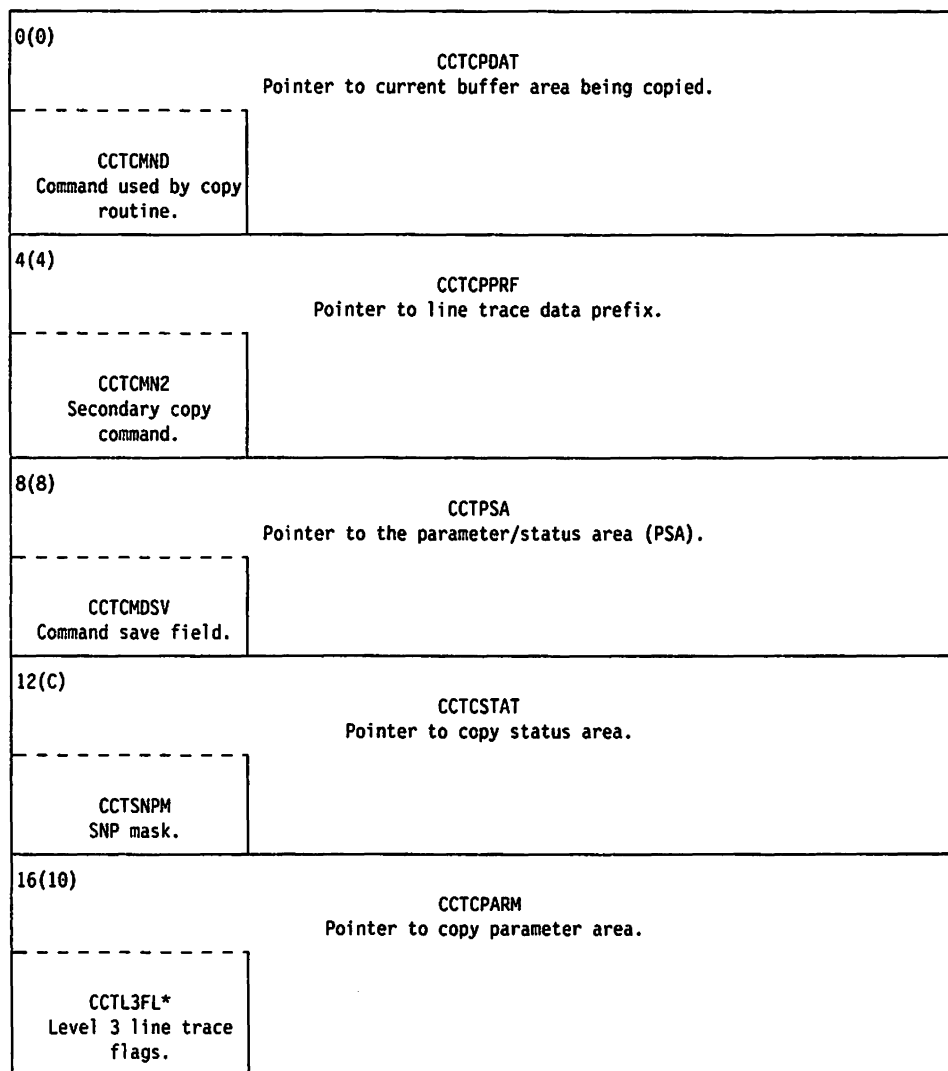
Offset/Field Name	Bit Pattern	Contents
8(8) LRCQRYFL	1... .. 1... ..	Subfield flag (Query link station attributes) Query transmit data and error thresholds. Query LPDA status.

Offset/Field Name	Bit Pattern	Contents
9(9) LRCSETFL		Subfield flag (set link stations attributes).
	1...	Set transmit data threshold.
	.1..	Set transmit error threshold.
	..1.	Set LPDA capability.

Offset/Field Name	Bit Pattern	Contents
10(A) LRCERRFL		Link resource control error flag.
	1...	Syntax error.
	.1..	Semantic error.
	..1.	SNA-address-list syntax error.

Line Trace Control Block

- Program:** NCP
- Size in bytes:** 116(74)
- Created by:** NCP generation
- Pointer to:** PSAACBP field in the PSA when line trace or scanner interface trace (SIT) is active
- It points to the receive leg for duplex lines; the transmit leg LTCB immediately follows the receive leg LTCB.
- Function:** Contains the pertinent parameters for the line trace and scanner interface trace functions. For duplex operation, two LTCBs are required - one for the transmit leg and one for the receive leg.



* Indicates a byte expansion follows.

20(14)		CCTCPR2 Pointer to secondary copy parameter.	
CCTRTT* Line type.			
24(18)		CCTSTA2 Pointer to secondary status area.	
CCTCCNT* Character count to process in a burst.			
28(1C)		CCTPSAVE Pointer to parameter area save field.	
32(20)		CCTSSAVE Pointer to status area save field.	
36(24)		CCTL2 Address of level 2 line trace routine.	38(26) CCTXFRCN Number-of-buffers-to-transfer counter.
40(28)		CCTACB Pointer to ACB of traced line.	
CCTSETYP X'00'			
44(2C)		CCTWORK Timer work entry for CCT.	46(2E) CCTTIME Timer control field for line trace.
		CCTTMOUT Interval control field.	47(2F) CCTTENTH Tenth second timer.
48(30)		CCTBCB Address of BAR vector to traced line's ACB.	50(32) CCTFLAG* Trace flags for scanner.
		CCTFLAG*	51(33) CCTFLAG2*

* Indicates a byte expansion follows.

52(34) CCTL2XFR Level 2 buffer transfer count.	54(36) CCTCHAR Free spaces in L2 buffer.	55(37) CCTBFCNT Filled L2 buffer count.
56(38) CCTL3XFR Level 3 buffer transfer count.	58(3A) CCTEND1 Line status for queueing.	
CCTFRCNT Number of free buffer in SIT chain.	57(39) CCTBKTMR SIT IOH backup timer.	
60(3C) CCTDATA Address of the next diagnostic unit to be stored.		
CCTBFSZD Number of bytes in full trace buffer.		
64(40) CCTSTART Pointer to current level 2 buffer.		
68(44) CCTITIME Initial value of interval timer field for line trace.	70(46) CCTSCF Save area for SCF and (PDF or command).	
72(48) CCTHDBUF Pointer to first buffer in current chain.		
76(4C) CCTL3 Address of level 3 trace routine.	78(4E) CCTCUT Buffer limit per line trace block.	79(4F) CCTMAXBF Max number of buffers per BTU on channel.

80(50) CCTZERO Assumed zero by ICW display.		82(52) CCTCTL Control flags. Must always equal 0.	
84(54) CCTESTAT Expected ending status.		86(56) CCTPRELS Number of level 2 buffers initially leased.	87(57) CCTBFASK Number of level 2 buffers to fill before new buffer request.
88(58) CCTCPRTN Pointer to next copy routine.			
CCTCNT1 Max number of bytes to copy.			
92(5C) CCTPIUBF Pointer to the buffer containing the PIU.			
CCTCNT2 Current max number of bytes to copy.			
96(60) CCTLAST Pointer to last level 2 buffer in the chain.			
CCTCNTMX Fixed max number of bytes to copy.			
100(64) CCTCOPY Pointer to the current copy buffer in the chain.			
CCTR1 R1 IOH value for SIT.			
CCTCMNDS Trace command for SIT.	101(65) CCTSL0T Trace LNVT slot number for SIT.	102(66) CCTR2 R2 IOH value for SIT.	
		CCTSLPAC Select or PAC value for SIT.	103(67) CCTSLPA2 R2 low byte value for SIT.
104(68) CCTLINK Pointer to next ACB on level 3 chain.			
CCTTYPEC X'00'			

108(6C) CCTSETYP X'00'.	109(6D) Reserved.
112(70) CCTSEC SDLC Event Correlator.	
CCTLTAC Trace Activation Counter.	
CCTXRC Transmit/Receive Correlator.	
CCTXRCH High halfword of X/R Correlator.	114(72) CCTXRCL Low halfword of X/R Correlator.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
16(10) CCTL3FL	1... .. .x.. .. ..x. .. ...1 1.. .... .x.. 1. .... ...x	Level 3 line trace flags. All data copied. 1 = Transmit copy processing. 0 = Receive copy processing. 1 = Transfer OK if copy is active. 0 = No transfer if copy is active. Lost data. Invalid command. 1 = Graphics or I-data, or polling characters. 0 = No graphics, no I-data, and no polling characters. Store "Truncated data" message. 1 = Timer has expired and has requested a buffer transfer. 0 = Non-timer buffer transfer request.

Offset/Field Name	Bit Pattern	Contents
20(14) CCTRTT		Line type. See the byte expansion 63(3F) RU1RTT for the Record Trace Data (RECTRD) BU in Section 5.

Offset/Field Name	Bit Pattern	Contents
24(18) CCTCCNT	XXXX XXXX	Character count to process in a burst. Reserved. Character count: Receive— PSAPCNT current value. Transmit— PSACCNT value minus PSACNT current value.

Offset/Field Name	Bit Pattern	Contents
50(32) CCTFLAG	Byte 0 x... .... .1.. .... ...x x... x.	Trace flags. 1 = SS/BSC line. 0 = SDLC line. Copy pending flag. 1 = High-speed line. 0 = Low-speed line. 1 = Scanner interface trace (SIT). 0 = Line trace. 1 = Transmit operation. 0 = Receive operation.

Offset/Field Name	Bit Pattern	Contents
51(33) CCTFLAG2	Byte 1 1... .... .x.. .... ..x. .... ...x 1... .... .1.. .... ..1. .... ...1	Trace flags. Lost data 1 = Error deactivation. 0 = Host deactivation. or SIT values: 1 = SIT hardware error. 0 = No SIT hardware error. 1 = Level 2 need not request CCT. 0 = Level 2 must request CCT. Reserved. Level 2 needs a buffer, or SIT value: Deactivation in progress. Data copy is active, or SIT value: Deactivation request. Pending buffer request, or SIT value: Deactivated. Pending deactivation, or SIT value: Issue Stop Trace.

Line Trace Return Address Save Area**Program:** NCP**Size in bytes:** 16(10)**Created by:** NCP generation**Pointer to:** Load address of CXTLTR

The LTR is located at the end of the LTVT.

Function: Contains one fullword entry for each level 2 line-trace subroutine that returns control to its caller via the address passed to it in an input register

0(0)	LTR1 Return address.
4(4)	LTR2 Return address.
8(8)	LTR3 Return address.
12(C)	LTR4 Return address.

Line Test Control Block

Program: NCP
Size in bytes: 628(274)
Located in: CXANCB
Created by: NCP generation
Pointer to: SYSLTSP field in HWE
Function: Contains control information for panel line test operations

0(0)			
LTSRDATP Pointer to receive buffer data area.			
4(4)			
LTSXDATP Pointer to transmit buffer data area.			
8(8)	9(9)	10(A)	11(B)
LTSTCL* Control byte 1.	LTSTCL2* Control byte 2.	LTSTCL3* Control byte 3.	LTSTCL4* Control byte 4.
12(C)			
LTSSVTSK Saved terminator task.			
16(10)			
LTSSAPTR Saved area pointer for levels 2 and 3.			
20(14)			
LTSADSW Value of the Address/Data switches.			
24(18)			
LTSXPSAP Transmit leg PSA pointer.			
28(1C)			
LTSRPSAP Receive leg PSA pointer.			
32(20)			
LTSXACBP Transmit leg ACB pointer.			

* Indicates a byte expansion follows.

36(24) LTSRACBP Receive leg ACB pointer.			
40(28) LTSXLNVT Address of LNVT entry for transmit.		42(2A) LTSRLNVT Address of LNVT entry for receive.	
44(2C) LTSXL2 Pointer to the transmit level 2 routine.			
48(30) LTSRL2 Pointer to the receive level 2 routine.			
52(34) LTSDIALC Dial digit control.	53(35) - 68(44) LTSDIAL Dial digit data area.		
		69(45) LTSDCNT Dial digit counter.	70(46) LTSRID Received hardware ID.
72(48) LTSFUNC Current active function.		74(4A) LTSX21S1 Completion code status.	75(4B) LTSX21S2 Cause of DCE failure.
76(4C) LTSX21S3 First byte of negative call-progress-signal.	77(4D) LTSX21S4 Second byte of negative call-progress-signal.	78(4E) LTSXCNT Byte count in transmit buffer.	79(4F) LTSSMOFF Selected set mode byte number.
80(50) LTSPCNT Polling character counter.	81(51) - 87(57) LTSPOLL Polling characters.		
88(58) LTSACNT Addressing character counter.	89(59) - 95(5F) LTSADDR Addressing characters.		

96(60)	LTSHDWID Hardware ID to send to the device.	99(63) LTSIDCNT Hardware ID byte count.
100(64) - 107(6B)	LTSXBFR Transmit buffer prefix.	
108(6C) - 363(16B)	LTSXDATA Transmit buffer for panel line test.	
364(16C) - 371(173)	LTSRBFR Receive buffer prefix.	
372(174) - 627(273)	LTSRDATA Receive buffer for panel line test.	

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
8(8) LTCTL		Control byte 1.
	1... ..	Initialized line test.
	.1.. ..	A command is active.
	..1. ..	Switched line.
	...1 ..	Multipoint line.
	.... 1..	Duplex adapter.
	.... .1..	SDLC line.
	.... ..1.	X.21 switched line.
	..... 1	Switched call-in line.

Offset/Field Name	Bit Pattern	Contents
9(9) LTCTL2		Control byte 2.
	1... ..	Single operation.
	.1.. ..	Continue operation with errors.
	..1. ..	Error detected and displayed.
	...1 ..	End the Active function.
	.... 1..	End panel line test.
	.... .1..	Send ID required on next I/O.
	.... ..1.	Send ID required for this device.
	..... 1	Receive ID expected from device.

Offset/Field Name	Bit Pattern	Contents
10(A) LTCTL3		Control byte 3.
	1... ..	Flush command in progress.
	.1.. ..	Data has been received.
	..1. ..	Transmit leg interrupt occurred.
	...1	Receive leg interrupt occurred.
	.... 1...	Error occurred on transmit leg.
	.... .1..	Error occurred on receive leg.
	.... ..1.	Line has been enabled.
	.....1	CCBL2 and CCBL3 linkage is set up.

Offset/Field Name	Bit Pattern	Contents
11(B) LTCTL4		Control byte 4.
	1... ..	Level 3 function is active.
	.1.. ..	XID exchange is required.
	..xx xxxx	Reserved.

Line Trace Vector Table

Program: NCP
Size in bytes: 16(10) plus 4 times the numbers of lines to be traced.
Created by: NCP generation
Pointer to: SYSLTBP field in HWE
Function: Contains information and pointers relating to the line trace control blocks (LTCBs)

0(0)	LTVTSTAT* Line trace status byte.	1(1)	LTVTCCTP Pointer to the line trace control block (LTCB). (Receive leg LTCB if duplex)
4(4)-n Up to seven additional line trace vector entries.			
m End of line trace vector table (all zeros).			

* Indicates a byte expansion follows.

Save Area (Always present)

0(0)	CXTLTR Line trace level 2 save area for return address.
4(4)-15(F) Three additional level 2 save areas.	

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) LTVTSTAT		Line trace status.
	1...	Line trace active.
	.x..	1 = Duplex line trace. 0 = Half-duplex line trace.
	..1.	TG trace only.
	...1	In use for scanner interface trace (SIT).
	.... 1...	Allocated for trace activation.
	..... 1..	Skip timer interrupt.

LU Terminal Node Extension

Program: NCP

Size in bytes: 20(14)

Created by: NCP generation

Pointer to: BXIEXTP field in the BXI, LTXNEXT field in the LTX (if LTX is in pool), LUXNEXT field in the LUX (if LUX is allocated), or NSCNEXT field in the NSC depending on the position of the LTX within the BSB extension chain

Function: Contains LU-LU session sequence number management information for LUs that run in terminal nodes (PU Type 1). The LTX is one of the logical extensions to the BSB.

0(0)			LTXNEXT Pointer to next LTX in pool or next BSB extension if allocated.		
4(4)			LTXBSBP Pointer to BSB if LTX is allocated.		
8(8)	LTXFLGS* LTX flags.	9(9)	LTXBSBID BSB extension identifier. (LTX = X'0D')	10(A)	LTXAOLLU LU-LU expedited outbound identification.
12(C)	LTXSILLU LU-LU normal inbound sequence number.		14(E) LTXSOLLC LU-LU normal outbound check.		
16(10)	LTXSOLLS LU-LU normal outbound save.		18(12) Reserved.		

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
8(8) LTXFLGS	x... ..	LTX flags. 1 = LTX allocated. 0 = LTX in pool.

Logical Unit Control Block

Program:	NCP
Size in bytes:	28(1C) plus prefix
Created by:	NCP generation LU macro, one for each LU defined during NCP generation
Pointer to:	LUBLUBP field if the next LUB is in the pool or is A-chained to a CUB; CUBLUBP field if the LUB is the first in the chain; or LNBLUBP field if the LNB is allocated to the LUB
Function:	Represents one logical unit defined for NCP. It provides status and control information for its logical unit and contains pointers for chaining to other LUBs and connecting to other control blocks.

-4(4)

For the prefix format for the LUB, see the network performance analyzer prefix (NPF) control block.

0(0)			
LUBLUBP Pointer to the next LUB in chain or DR chain.			
LUBFEAT* Logical unit features.			
4(4) - 11(8)			
LUBNAME Logical unit name.			
12(C)			
LUBLNBP Pointer to the first LNB in active chain.			
LUBNG Generated LU pacing parameter 'n'.			
16(10)			
LUBCUBP Pointer to CUB.			
Reserved.			
20(14)	21(15)	22(16)	23(17)
LUBADST* LU characteristics and status.	LUBLALU Local address of LU.	LUBNAML Length of LU name.	LUBSTRC* LUB session trace class.
24(18)		26(1A)	
LUBRSCT Reserved session control block count.		LUBCSCT Current session control block count.	

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) LUBFEAT		Logical unit features.
	1... ..	Resource eligible for NPA data collection.
	.1... ..	SLU address dynamic or unassigned.
	..1... ..	Element address needed for NPA collection.

Offset/Field Name	Bit Pattern	Contents
20(14) LUBADST		LU characteristics and status.
	x... ..	Type of LU:
		1 = Independent LU.
		0 = Dependent LU.
	..1... ..	Device can be deleted by DR.

Offset/Field Name	Bit Pattern	Contents
	..x. .... ...1 1... .... .1.. .... ..1. .....1	LU status: 1 = LUB is in use. 0 = LUB is in pool. Local address requested by RNAA. Temporary allocation for RNAA. Takeover required. LU can accept extended BINDS. Authorized LU.

Offset/Field Name	Bit Pattern	Contents
23(17) LUBSTRC	.... ..x. 1	LUB session trace class. SIR status ALL: 1 = Enabled. 0 = Disabled. Dummy BIND required.

Logical Unit Vector Table

Program: NCP

Size in bytes: One 8-byte entry for each logical unit that can be assigned to a physical unit

Created by: NCP generation

Function: Used to locate the logical unit control blocks (LUBs) that are assigned to a physical unit

0(0)		LUVLUB Pointer to LUB or NLB.
LUVLA Local address of logical unit.		
4(4)	LUVFLGS* Status flags.	5(5) Reserved.

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
4(4) LUVFLGS	1... .. .1.. .. ..x. .. ...1 ..	LUV status flags. Last entry in LUV. Entry in use. Dynamic reconfiguration indicator: 1 = DR processing the freeing of a LUB. 0 = DR processing—not the freeing of a LUB. Temporarily marked for add. This entry has been validated for a dynamic reconfiguration add process.

Logical Unit Block Extension

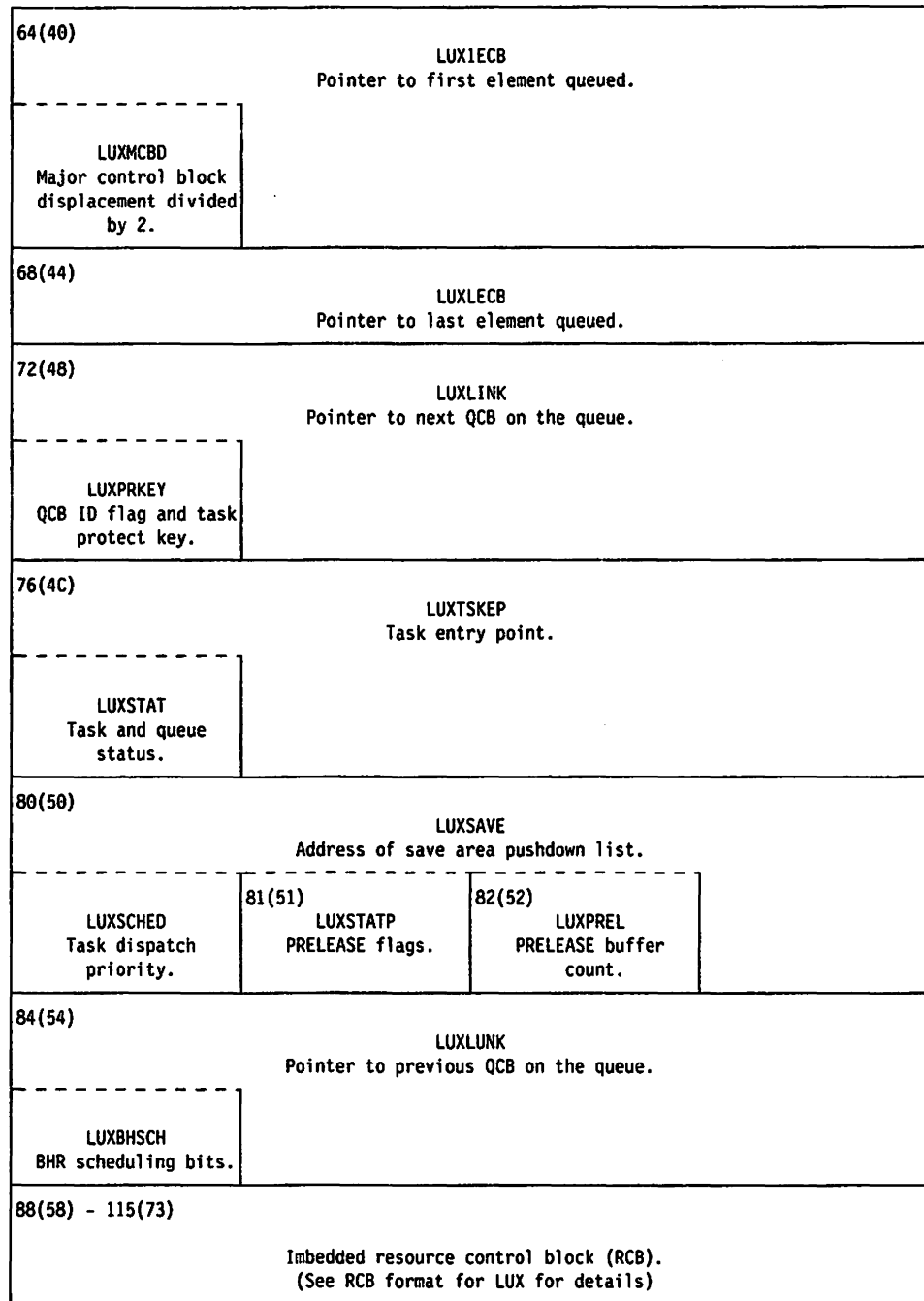
Program: NCP
Size in bytes: 116(74)
Created by: NCP generation
Pointer to: BXIEXTP field in the BXI; LDALUXP field in the LDA, or LUXNEXT field in the LUX (if the LUX is in a pool)
Function: The LUX represents an Extended Recovery Facility (XRF) backup session and is an extension to the boundary session block (BSB) which represents its correlated active session. The LUX contains a QCB and a resource control block (RCB).

0(0)			
LUXNEXT Pointer to next LUX if LUX is in a pool, or pointer to the next BSB extension if LUX is allocated.			
LUXSMAX Maximum size of send RU for session partner LU.			
4(4)	LUXLLBSS* LU-LU backup session state.	5(5)	LUXSLBSS* SSCP-LU backup session state.
		6(6) LUXSPRT Primary session partner.	
8(8)	LUXUNBTP LUX UNBIND type.	9(9)	LUXBSBID BSB extension identifier. (LUX = X'09')
		10(A)	LUXDSTAT* Session data status.
		11(B) LUXCLEN Correlation ID length. (Max = 8 bytes)	
12(C) - 19(13)			
LUXCID Correlation ID from the active BIND.			
20(14)			
LUXBSBP Pointer to the BSB if LUX is allocated.			
LUXFLGS* LUX control vector flags.			
24(18)			
LUXSENC Sense code from the PIU.			

* Indicates a byte expansion follows.

28(1C) - 35(23)		LUXPCID Procedure Correlation ID (PCID).	
36(24)	LUXNICPI NNT index for network ID portion of fully-qualified control point name.	38(26)	LUXCPCPI NNT index for control point name portion of fully-qualified control point name.
40(28)	LUXNISPI NNT index for network ID portion of network-qualified session partner LU name.	42(2A)	Reserved.
44(2C) - 51(33)		LUXSPSP Session partner LU name portion of network-qualified session partner LU name.	
52(34)		LUXFSA Failed subarea address on VR_INOP.	
56(38)		LUXLDAP Pointer to the LUX data area (LDA).	
60(3C)	LUXSTNWS Subarea stage transmit next window size.	62(3E)	LUXSRNWS Subarea stage receive next window size.

Link Queue Control Block for Backup Session (LUXOUTQ)
 (See QCB for input queues for bit definitions.)



Byte Expansions

Offset/Field Name	Bit Pattern	Contents
4(4) LUXLLBSS		LU-LU backup session state.
	0000 0000	Reset state.
	1...	Active pending.
	.1..	Backup pending.
	..1.	Backup active.
	...1	Unbind backup required.
	.... 1...	SESSEND backup required.
	.... .1..	Switch conditional from active.
	.... ..1.	Switch conditional from backup.
	.... ...1	Failed subarea (VR-INOP) saved.

Offset/Field Name	Bit Pattern	Contents
5(5) LUXSLBSS		SSCP-LU backup session state.
	1...	Notify for active required.
	.1..	Notify for backup required.
	..1.	Unbind cleanup required.
	...1	Positive switch response required.
	.... 1...	Session start backup required.
	.... .1..	Session start dual backup required.
	.... ..1.	Negative switch response required.
	.... ...1	SESSEND active required.

Offset/Field Name	Bit Pattern	Contents
10(A) LUXDSTAT		Session data status.
		Switch type.
	0001	X'1' Conditional.
	0010	X'2' Forced.
	0011	X'3' Conditional promoted to forced due to primary PLU failure.
	0000 1...	LUX allocated.

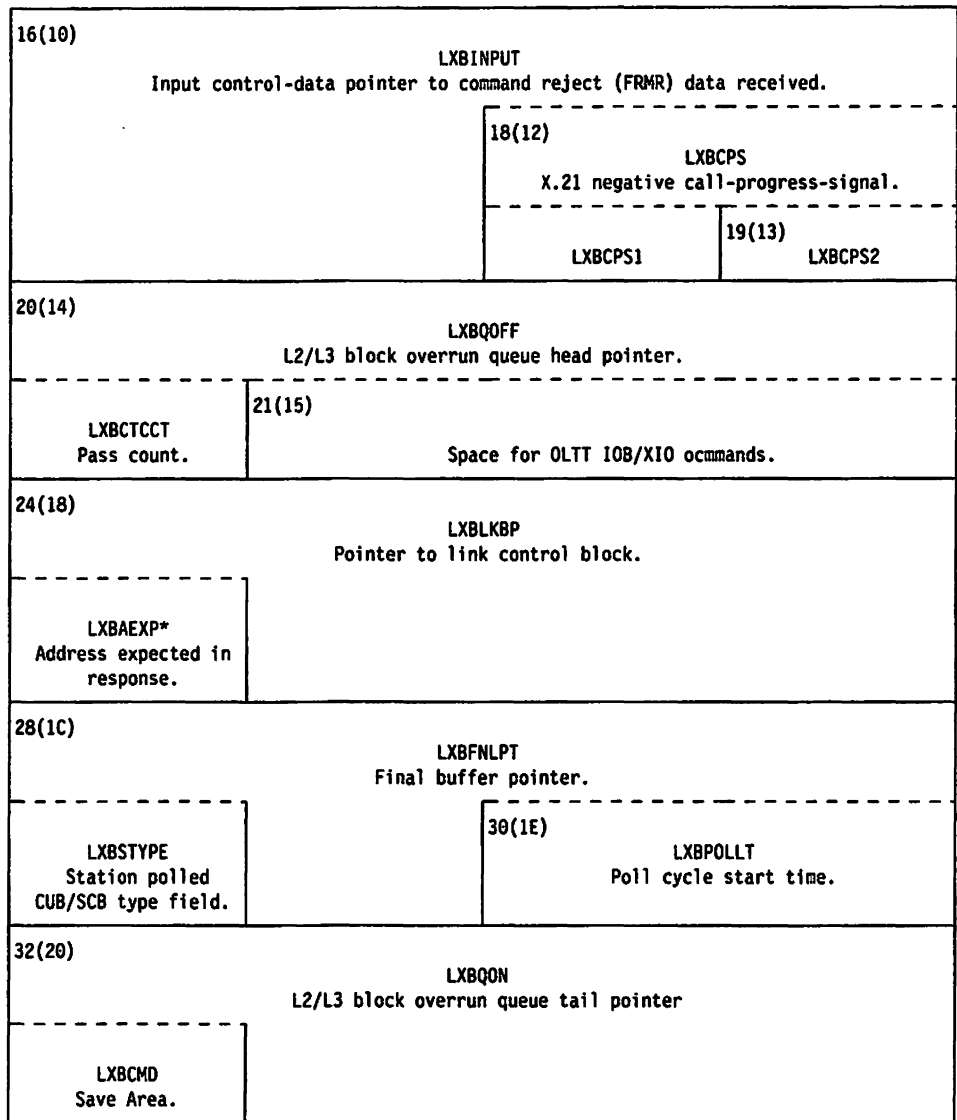
Offset/Field Name	Bit Pattern	Contents
20(14) LUXFLGS	1... .... .1.. .... ..1. .... ...1 1... .... .1.. .... ..1. .....1	LUX control vector flags. Sense data saved. Control vector X'35' saved. Control vector X'60' saved. Control vector X'35' includes BIND request code. Control vector X'35' deducted by node other than sense origin. Name is local. Subarea stage has adaptive session pacing. Subarea stage requested interactive mode.

Link XIO Control Block

Program: NCP
Size in bytes: 36(24)
Located in: ACB
Created by: NCP generation (SDLC links)
Pointer to: LKBACBP field in LKB
Function: Contains the status of SDLC link operations

0(0) LXBIMCTL* Immediate control command flags.	1(1) LXBCMAND* I/O command.	2(2) LXBCMODS* Command modifiers field.	
4(4) LXBSTAT*		6(6) LXBERST First error status. Set upon first recoverable error. (See LXBSTAT)	7(7) LXBHSTAT Hold SDLC status. (See LXBSTATC)
Command ending status field.	5(5) LXBSTATC* Completion code byte of status.		
8(8) LXBEREST First error extended status. (See LXBERTST)	9(9) LXBRTYCT Total ERP retry count. Underrun limit (127)	10(A) LXBBKSIZ Received block size (number of data characters stored).	
	LXBX2IRT Retry count X.21 out calls.	LXBRBLUC Received BLU command field. (See CCBRLUC for bit definitions.)	
12(C) LXBDATAP Pointer to first buffer of data to be transmitted.			
LXBEXTST* Extended error status.			

* Indicates a byte expansion follows.



* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Hex Value	Contents
0(0) LXBIMCTL		Immediate control command flags.
	X'02'	Forced deactivate immediate.
	X'80'	Reset Immediate issued.
	X'81'	Reset Immediate soft reset issued.
		Set Mode commands (for idle or busy lines)
	X'04'	Read line type.
	X'06'	Set text error retry limit.
	X'10'	Set receive buffer cutoff factor.
	X'12'	Start line trace.
	X'14'	Stop line trace.
	X'18'	Set operation link.
	X'1A'	Reset operational link.
	X'1C'	Set intensive mode (IM) active in SCBSTMOD.
	X'1E'	Set IM stopped for slowdown in SCBSTMOD.
	X'20'	Set IM stopped for SCV (IM) in SCBSTMOD.
	X'22'	Reset three IM bits in SCBSTMOD.
	X'26'	Test SCB bits.
	X'28'	Set SCB bits.
	X'2A'	Reset SCB bits.
	X'2C'	Set CCB bits.
	X'2E'	Reset CCB bits.
	X'30'	Test CCB bits.
	X'32'	Query/add/delete in SOT.
	X'3A'	Set subarea dial activity timer.
	X'3C'	Validate CV38 (short hold mode).
		Set Mode commands (idle lines only)
	X'05'	Set line adapter interface parameters.
	X'07'	Set line control procedure.
	X'08'	Zero CCBRLUC field.

Offset/Field Name	Hex Value	Contents
1(1) LXBCMAND		LXB command.
	X'00'	No I/O occurred.
	X'30'	Run SDLC link.
	X'40'	Run Link Problem Determination Aid (LPDA) test.
	X'83'	Disable.
	X'87'	Wrap.
	X'8D'	Enable.
	X'8F'	Dial.

Offset/Field Name	Bit Pattern	Contents
2(2) LXBCMODS	Byte 0	Command modifiers.
	x... ..	1 = Suppress ending a new command due to outstanding status.
	.x..	0 = Immediate end to new command when status is outstanding.
	..1.	1 = No retry.
	...x	0 = Retry.
	.... ..x	Ignore disconnect modes and time-outs when initiating a session.
	.... ..x	1 = Immediate retry if errors while normal polling.
	.... ..x	0 = If errors, retry at next normal poll cycle.
	.... ..x	1 = Do not release transmitted buffers.
	.... ..x	0 = Release transmitted buffers after ACK.
	Byte 1	
	x... ..	1 = Perform command reset step first.
	.x..	0 = Normal command execution.
	.x..	1 = Perform function to handle XID '07' in response to SNRM.
	.x..	0 = Normal command execution.

Offset/Field Name	Bit Pattern	Contents
4(4) LXBSTAT	1... .. .1... ..	<p>Extended error status (See LSBEXTST). Format exception—invalid SDLC format.</p> <ul style="list-style-type: none"> • Frame contained data (UA, SNRM, or SNRME). • Not a complete frame. • The following is a list of LXBSTATC values and the reason for the format exception: 0E = Rec REJ, line is not duplex. 1C = Rec RR or in NS Phase. 1E = Rec XID in RR or RNR Phase. A2 = Rec invalid SDLC command. A8 = Rec SDLC DISC. AC = Rec RD. B2 = Rec SDLC SNRM or SNRME. B6 = Rec SDLC RIM. BC = Rec UA in RR or RNR phase. BD = Sent SNRM or SNRME; did not rec UA. BF = Rec SDLC XID.
	..1.	Character sync check detected.
	...1	FCS error (data check). Run command error/exception phase field.
	.... 000.	No command active.
	.... 001.	SDLC I-format sent or SDLC RR sent.
	.... 010.	SDLC RNR sent.
	.... 011.	SDLC NS command sent.
	.... 100.	Transmit.
	.... 101.	Error while sending text I-format.
	.... 110.	Error while sending normal polling or response S-format.
	.... 111.	Error while sending NS control sequence.

Offset/Field Name	Bit Pattern	Contents
5(5) LXBSTATC		Completion code status byte.
	000.	Normal final status: Control information received in S or I-format.
	...0 000.	Time-out—received RR, RNR, or REJ.
	...0 101.	Test frame received or normal LPDA2 status.
	...0 110.	Partial acknowledgment—sequence number change or Negative acknowledgment—sequence number does not change.
	...0 111.	SDLC REJ received.
	...1 110.	SDLC RR received—positive acknowledgment (NS = NR). (For a channel-link, this indicates a successful XID exchange.)
	...1 111.	SDLC RNR received.
	001.	Normal final status: Data received in I-format.
	...0 000.	Time-out—received address and control fields.
	...0 010.	Buffer cutoff—exceeded buffer limit.
	...0 101.	Test frame received.
	...0 110.	Partial acknowledgment—sequence number change or Negative acknowledgment—sequence number does not change.
	...1 010.	End of Block—I-format received.
	011.	Normal final status: Data received in NS-format
	...0 000.	Time-out—flag received.
	...0 001.	SDLC FRMR received (no retry)—RECMS record has reason for FRMR.
	...0 010.	Buffer cutoff—exceeded buffer limit.
	...0 101.	Test frame received.
	...1 001.	End of text.
	...1 010.	SDLC NSI received.
	100.	Special 0 final status: Special status or control information received in NS-format.
	...0 000.	Time-out—nothing received. (For a channel-link, this means the CA slowdown timer expired.)
	...0 001.	Frame reject.
	...0 010.	Buffer pool depleted — no more buffers available.
	...0 011.	Modem test in progress or TI lead on when LPDA2 test attempted.
	...0 101.	Lost data.
	...0 110.	Reset—end run command.
	...0 111.	Invalid address received from secondary.
	...1 010.	Link level 2 test end.
	...1 011.	Poll stop.
	...1 100.	SDLC frame sent.
...1 110.	Disabled.	
...1 111.	Enabled.	

Offset/Field Name	Bit Pattern	Contents
5(5) LXBSTATC (continued)	101.	Special 1 SDLC final status: Control information received in S or NS-format, or a format error occurred in S or I-format.
	...0 000.	Time-out—received flag.
	...0 001.	Received invalid SDLC command (no retry). (For a channel-link, this means a channel command is received before an XID exchange completes.)
	...0 010.	Received invalid (incongruous) N(R) in I or S-format.
	...0 011.	Link activity time-out (secondary only for leased subarea link, primary or secondary for switched subarea link). (For a channel-link, this means the attention time-out expired.)
	...0 100.	Received SDLC DISC. (For a channel-link, this means a received channel Discontact or XID exchange failure.)
	...0 110.	Received SDLC RIM or SIM (no retry).
	...0 111.	Received SDLC SNRME.
	...1 000.	Record statistics—total retry count overflow or transmission count overflow.
	...1 001.	Received SDLC SNRM.
	...1 010.	Received SDLC RD (old RQD).
	...1 011.	Received SDLC DM (old ROL) (no entry).
	...1 100.	Received SDLC SIM.
	...1 110.	Received SDLC US (old NSA).
	...1 111.	Received SDLC XID. (For a channel-link, this means it received a channel XID that had incorrect length.)

Offset/Field Name	Bit Pattern	Contents
5(5) LXBSTATC (continued)	111.	Hardware final status
	...0 001.	Modem check—CTS dropped during command. (For a channel-link, this indicates MOSS panel Discontact.)
	...0 010.	<ul style="list-style-type: none"> • Backup timer expired because a line was down. • The line was automatically reset because the scanner went down.
	...0 011.	Transmit underrun limit exhausted.
	...0 100.	Adapter check:
		<ul style="list-style-type: none"> • Time has detected no level 2 interrupt when at least one was expected • Modem self-test failed to get a level 2 interrupt after placing the PCF in turnaround. • Enable or dial failed to get a level 2 interrupt after setting the PCF to set mode.
	...0 101.	(For a channel-link, this indicates the channel has entered ERP stat
	Adapter feedback check:	
	<ul style="list-style-type: none"> • Time detects an LCD of X'0F' which results from a hardware-detected error within the adapter. • Improper system generation for the adapter in use. 	
...0 1100	Equipment check. (For a channel-link, this indicates the 40-second ATO has expired.	
...0 111.	Modem check—DSR dropped during command.	

Offset/Field Name	Bit Pattern	Contents
5(5) LXBSTATC (continued)	111.	Hardware final status (Continued)
	...1 000.	Modem error—Set when the SCF modem error bit is on. <ul style="list-style-type: none"> Occurs when DSR drops during a transmit or receive operation. Can be set by timer. Set if CTS drops while transmitting.
	...1 001.	Transmit clock or CTS failure: <ul style="list-style-type: none"> During enable or write control operation, a Level 2 interrupt failed to follow line turn-around. During enable on a duplex line, CTS failed to come up. Time-out occurs with PCF of transmit initial (8).
	...1 010.	DSR "turn on" check—DSR fails to come up during an enable or dial operation. (For a channel-link, this indicates an Enable failure.)
	...1 011.	No cable installed.
	...1 100.	DSR "turn off" check—DSR fails to drop during a disable operation.
	...1 1010	CTS failure with TI lead up.
	...1 110.	Auto-call check: <ul style="list-style-type: none"> Initial dial PCF 'F' sees ACR, DLO, COS, or PND up. Dial PCF '4' sees ACR or COS up.
	1111 1111	Program failure: <ul style="list-style-type: none"> Line I/O code completed in an impossible status, (e.g. ENQ on SDLC line.) A negative data length was computed.
	.....X	Poll/final bit.

Offset/Field Name	Bit Pattern	Contents
12(C) LXBEXTST	1... .. .1.. .... ..1. .... ...1 1... 1.. .... ..1. 1	<p>Overrun is LXBSTAT bit 4 = 0.</p> <ul style="list-style-type: none"> • Lost character, PDF overlaid. • Flag received off boundary. <p>Underun is LXBSTAT bit 4 = 1. Character in PDF transmitted more than once. (Limit 127 retries LXBRTYCT.)</p> <p>X.21 time-out proceed to select.</p> <p>X.21 time-out ready for data.</p> <p>X.21 DCE clear occurred.</p> <p>Block overrun occurred. Level 3 block processing in progress when another block available from Level 2.</p> <p>X.21 time-out in clear sequence or LPDA2 dial failure.</p> <p>Abort receive:</p> <ul style="list-style-type: none"> • 7 consecutive 1 bits received. • X.21 negative CPS received. <p>Monitor count overflow. 64 temporary I-format receive errors have occurred.</p> <ul style="list-style-type: none"> • I-format receive data check. • I-format receive format checks. • I-format receive aborts.

Offset/Field Name	Bit Pattern	Contents
24(18) LXBAEXP	xxxx xxxx x.....	<p>Address expected in response.</p> <p>Address.</p> <p>Echo defeat address bit.</p>

Level 1 Control Block

Program: NCP, EP

Size in bytes: 128(80)

Created by: Shared-code module CXASCB calls generating macro CXTL1B

Pointer to: SYSL1BP field in XDA

Function: Contains all the data collected by level 1 in problem determination and ERP activities resulting from a level 1 interrupt. It is used by the level 1 module, CXBL1PM (3720) or CXBL1PMA (3745).

Name	Offset	Name	Offset
L1BABND	22 (16)	L1BL1XP	112 (70)
L1BABND2	82 (52)	L1BNL1S	24 (18)
L1BADNO	112 (70)	L1BPIOTA	102 (66)
L1BASTP	116 (74)	L1BPIO76	72 (48)
L1BBDPTR	104 (68)	L1BRDV	46 (2E)
L1BCAADR	104 (68)	L1BRDVH	45 (2D)
L1BCAB	68 (44)	L1BRDVPR	70 (46)
L1BCAR0D	96 (60)	L1BRST7E	34 (22)
L1BCAR0E	98 (62)	L1BSBFLG	120 (78)
L1BCAR0F	100 (64)	L1BSBTYP	116 (74)
L1BCAR00	84 (54)	L1BSCSPA	121 (79)
L1BCAR01	86 (56)	L1BSEST	126 (7E)
L1BCAR02	88 (58)	L1BSPR	108 (6C)
L1BCAR03	90 (5A)	L1BSTA	124 (7C)
L1BCAR06	92 (5C)	L1BSV7E	36 (24)
L1BCAR07	94 (5E)	L1BSX76	122 (7A)
L1BCASL1	78 (4E)	L1BXR7D	40 (28)
L1BCASL3	77 (4D)	L1BXR7E	4 (4)
L1BCLAB1	62 (3E)	L1BXR74	0 (0)
L1BCLAB2	64 (40)	L1BXR75	10 (A)
L1BCSCR	50 (32)	L1BXR76	8 (8)
L1BERFLG*	44 (2C)	L1BXR79	6 (6)
L1BERID	27 (1B)	L1B1CTA0	38 (26)
L1BERTYP	26 (1A)	L1B1CTD1	39 (27)
L1BFLAGS*	74 (4A)		
L1BFLGCA*	80 (50)		
L1BFLGLA*	75 (4B)		
L1BILIAR	12 (C)		
L1BILVL*	7 (7)		
L1BINST	20 (14)		
L1BINSTA	16 (10)		
L1BIOCI*	108 (6C)		
L1BIOH	28 (1C)		
L1BIOHTA	30 (1E)		
L1BIOHTD	32 (20)		
L1BLAB3	66 (42)		
L1BLAB4	52 (34)		
L1BLAB5	54 (36)		
L1BLAB6	56 (38)		
L1BLAB7	58 (3A)		
L1BLAB8	60 (3C)		
L1BLAEST	42 (2A)		
L1BLASLC	79 (4F)		
L1BLCAT	76 (4C)		
L1BLNVT	48 (30)		

0(0)		LIBXR74 (LIBLAR) External register 74 - lagging address register.	
4(4)	LIBXR7E CCU level 1 interrupt requests.	6(6)	LIBXR79 Utility register.
			7(7) LIBILVL* Level interrupted by level 1.
8(8)	LIBXR76 IOC level 1 interrupt requests.	10(A)	LIBXR75 AIO CCW register.
12(C) LIBILIAR Interrupted level IAR.			
16(10) LIBINSTA Instruction address for program checks.			
20(14)	LIBINST First 2 bytes of instruction.	22(16)	LIBABND Abend code for building a CRP entry.
24(18)	LIBNLIS Number of level 1 interrupts.	26(1A) LIBERTYP Box event record (BER) type.	27(1B) LIBERID BER ID.
28(1C)	LIBIOH IOH/IOHI image for PIO errors.	30(1E)	LIBIOHTA IOH/IOHI TA data.
32(20)	LIBIOHTD IOH/IOHI TD data.	34(22)	LIBRST7E Mask to reset 7E bit.
36(24)	LIBSV7E Save Area for X'7E'	38(26) LIBICTA0 TA for command on command error.	39(27) LIBICTD1 TD for command on command error.
40(28)	LIBXR7D CCU hardware check register.	42(2A)	LIBLAEST LA error status register. (3745 only)
			LIBCSESC CSP error status register. (3720 only)

* Indicates a byte expansion follows.

44(2C) LIBERFLG* BER flags.	45(2D) LIBRDVH Redrive hash.	46(2E) LIBRDV (LIBFRDV) Frame 2 redrive error reg.	
48(30) LIBLNVT Pointer to LNVT for line with command reject error. (See LIBCSCR)		50(32) LIBCSCR Error status for command reject due to second command issued during first command.	
		First command.	51(33) Second command.
52(34) LIBLAB4 Redrive error reg for LAB4.	54(36) LIBLAB5 Redrive error reg for LAB5.		
56(38) LIBLAB6 Redrive error reg for LAB6.	58(3A) LIBLAB7 Redrive error reg for LAB7.		
60(3C) LIBLAB8 Redrive error reg for LAB8.	62(3E) LIBCLAB1 Redrive error reg for CLAB1.		
64(40) LIBCLAB2 Redrive error reg for CLAB2.	66(42) LIBLAB3 Redrive error reg for LAB3.		
68(44) LIBCAB Redrive error reg for CAB.	70(46) LIBROVPR Redrive response to Poll command.		
72(48) LIBPIO76 X'76' when level 1 PIO operation fails.		74(4A) LIBFLAGS* Level 1 flags.	75(4B) LIBFLGLA* LA flags. (3745 only)
		LIBFLGTS* TSS flags. (3720 only)	
76(4C) LIBLCAT Count of lost CA trace records.	77(4D) LIBCASL3 Select mask for reselect of CA with level 3. (3745 only)	78(4E) LIBCASL1 Select mask for CA with level 1. (3745 only)	79(4F) LIBLASLC Select mask for LA with level 1. (3745 only)
	LIBCAA CA address for select (3720 only)	LIBCASL1 Address of CA with level 1. (3720 only)	LIBLASLC Physical CSP address. (3720 only)

* Indicates a byte expansion follows.

80(50) LIBFLGCA* CA flags.	82(52) LIBABND2 Abend code for system abend.		
84(54) LIBCAR00 (3745) LIBCAR60 (3720) X'0' - Level 3 interrupt initial selection control register.	86(56) LIBCAR01 (3745) LIBCAR61 (3720) X'1' - Level 3 interrupt initial selection address and command reg.		
88(58) LIBCAR02 (3745) LIBCAR62 (3720) X'2' - Level 3 interrupt data/status control register.	90(5A) LIBCAR03 (3745) LIBCAR63 (3720) X'3' - Level 3 interrupt ESC address and status byte register.		
92(5C) LIBCAR06 (3745) LIBCAR66 (3720) X'6' - CA level 3 interrupt NSC status/control register.	94(5E) LIBCAR07 (3745) LIBCAR67 (3720) X'7' - CA enable mask and NSC bits.		
96(60) LIBCAR0D (3745) LIBCAR6D (3720) X'D' - CA level 1 interrupt check register.	98(62) LIBCAR0E (3745) LIBCAR6E (3720) X'E' - Number and address of CA causing level 1 interrupt.		
100(64) LIBCAR0F (3745) LIBCAR6F (3720) X'F' - Selected CA level 3 interrupt.	102(66) LIBPIOTA TA for failing IOH in level 1.		
104(68) <p style="text-align: center;">LIBBDPTR Pointer to the board slot in the machine configuration table (MCT).</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; padding: 5px;"> LIBCAADR CA address. (3745) Reserved. (3720) </td> <td style="width: 70%;"></td> </tr> </table>		LIBCAADR CA address. (3745) Reserved. (3720)	
LIBCAADR CA address. (3745) Reserved. (3720)			
108(6C) <p style="text-align: center;">LIBSPR Fixed or shared pointer register.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; padding: 5px;"> LIBIOCI* IOC mask indicator for adapter raising the level 1 interrupt. </td> <td style="width: 70%;"></td> </tr> </table>		LIBIOCI* IOC mask indicator for adapter raising the level 1 interrupt.	
LIBIOCI* IOC mask indicator for adapter raising the level 1 interrupt.			

* Indicates a byte expansion follows.

112(70)		LIBLIXP Pointer to the LIB CB extension.	
LIBADNO CA/LA number for adapter causing the level 1 interrupt. (From field one of AIT) (3745 only)			
116(74)			
Reserved. (3745)			
		LIBASTP Pointer to the adapter status table. (3720)	
LIBSBTYP Saved BER type.			
120(78) LIBSBFLG Saved BER flag byte.	121(79) LIBSCSPA Saved CSP address.	122(7A) LIBSX76 Saved 76 image from level 1 IOH failure.	
124(7C) LIBSTA Saved TA image from level 1 failure.		126(7E) LIBSEST Saved CSP error status.	

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
7(7) L1BILVL	1... .. .1.. .. ..1. .... ...1	Level interrupted by level 1. Program level 2 interrupted. Program level 3 interrupted. Program level 4 interrupted. Program level 5 interrupted.

Offset/Field Name	Bit Pattern	Contents
44(2C) L1BERFLG	x... .. .1.. .. ..1. .. ...1 1.. .... .1.. .... ..1. .....1	Box event record flags. 1 = Control program is NCP or PEP. 0 = Control program is EP. Adapter down. Control program put adapter down. Redrive has been disabled (NCP only) or Error on invalid ESC (EP only). MOSS CACM time-out detected (L1BMCTD) (3745 only). Error on Get Error Status. CA is being disabled. IOH or IOHI on level 1 failed twice.

Offset/Field Name	Bit Pattern	Contents
74(4A) L1BFLAGS	1... .. .1.. .. ..1. .. ...1 xxxx	Level 1 flags. Abend at end of level 1 processing. Build a CRP entry at the end of level 1 processing. Unresolved interrupted level. Reselect the CA indicated in L1BCASL3 (3745) or L1BCAA (3720). Reserved.

Offset/Field Name	Bit Pattern	Contents
75(4B) L1BFLGLA	1... .. .1.. .. ..1. .. ...1 1.. .... .1.. .....xx	LA flags. Analyze status for LA. Get error status failed once for LA. Get error status failed twice for LA. LA is masked down. PIO error on a LA. Adapter detected error on a LA. Reserved.

Offset/Field Name	Bit Pattern	Contents
80(50) L1BFLGCA	Byte 0	CA flags.
	1... ..	Do not retry this CA operation.
	.1.. ...	Disable this CA.
	..1. ...	This CA is in level 3 service.
	...1 ...	EP had control.
	.... 1...	EP initial selection.
	.... .1..	EP data/status.
	.... ..1.	NCP initial selection.
	.... ...1	NCP data/status.
	Byte 1	
1... ..	Level 1 CA checks are reset.	
.1.. ...	Suppress-out monitor required.	
.... 1...	NEO had control.	

Offset/Field Name	Hex Value	Contents
108(6C) L1BIOCI		IOC indicator.
	X'00'	IOC1.
	X'80'	IOC2.

L1B Control Block Extension

Program: NCP, EP
Size in bytes: 24(18)
Created by: Shared-code module CXASCBA (3745) or CXASCB (3720) calls generating macro CXTL1X
Pointer to: L1BL1XP field in the L1B
Function: Contains data collected by level 1 on problem determination and ERP activities resulting from a level 1 interrupt. It is used by the level 1 router module.

For 3745

0(0)			L1XAITP Pointer to the adapter information table (AIT).		
4(4)			L1XADL1P Pointer to AIT entry corresponding to the adapter number raising the level 1 interrupt.		
8(8)			L1XCAL3P Pointer to AIT entry corresponding to the CA selected by level 3.		
12(C)	13(D)	14(E)			
L1XS1TA0 Switch CCU adapter TA0 for IOC 1.	L1XS2TA0 Switch CCU adapter TA0 for IOC 2.	L1XSWADE Switch CCU adapter error register.			
16(10)			18(12)		
L1XCAR08 CA register X'08' Auto-select chain check.			L1XCAR09 CA register X'09' Auto-select chain status.		
20(14)			22(16)		
L1XCAR0A CA register X'0A' Cycle steal chain status.			L1XCAR60 CA register Microcode check.		

For 3720

0(0)		L1XMCTP Pointer to the machine configuration table (MCT).	
4(4) - 23(17)		Reserved.	

Level 4 Router Control Block

Program: NCP, EP

Size in bytes: 8(8)

Located in: CXASCB or CXASCBA

Updated by: PCIL4 macro

Pointer to: SYSL4BP field in XDA

Referenced by: Level 4 router (CXAL4RTR) and the PCIL4 user macro

Function: Contains information used by the level 4 router (CXAL4RTR) and the PCIL4 user macro. The priority (specified by level 4 router processing and PCI interrupt request processing) is in the same order as the L4B (0 through 7).

0(0) L4BL45WT Level 4 or level 5 wait mask.	1(1) L4BLEASE Lease request.	2(2) L4BSLODN Slowdown request.	3(3) L4BDISPT Dispatcher request.
4(4) L4BMDNOF MOSS down or offline request.	5(5) L4BCRP CRP entry service.	6(6) L4BMOSSX MOSS transfer request.	7(7) L4FBT0 Fallback time-out request. (3745 only)
			----- Reserved. (3720 only)

MOSS Buffer Format

Program: NCP, EP

Size in bytes: 80(50) for mailbox-image; 76(4C) for wrap request; variable for box event record (BER)

Function: Used to pass information between the NCP or EP and the maintenance and operator subsystem (MOSS). The buffer contains two parts:

- A FID1 prefix, ECB and work area
- One of three request areas.

The request areas may contain:

- A mailbox-image
- Wrap request control and response results
- A BER.

The MBF does not contain a TH or RH. See the MBX for a summary of the in/out-mailbox request field used by each valid mailbox command.

0(0) - 41(29)

FID1 prefix, ECB, and work area.
(See PIU FID1 for format.)

Mailbox Image Request

		42(2A) Alignment bytes.	
44(2C) MBFCMAND** Mailbox command.	45(2D) MBFCNTRL** Mailbox control.	46(2E) MBFDATLN Data length or 0 if data is in NCP/EP buffer format.	
48(30) MBFDATAD Data address.			
52(34) MBFDATA2 Second data address field.			
MBFGPA General purpose field A.	53(35) MBFGPB General purpose field B.	54(36) MBFGPC General purpose field C.	55(37) MBFGPD General purpose field D.
MBFTH0 PIU TH byte 0. (Outgoing only)	MBFRH0 PIU RH byte 0. (Outgoing only)	MBFRU0 PIU RU byte 0. (Outgoing only)	MBFRU1 PIU RU byte 1. (Outgoing only)
MBFBFCT Number of buffers requested. (Request Buffer)			

** See the MBX for corresponding MBF byte expansions.

56(38) MBFGPE General purpose field E.	57(39) MBFGPF General purpose field F.	58(3A) MBFGPG General purpose field G.	59(3B) MBFGPH General purpose field H.
MBFRUB2 PIU RU byte 2. (Outgoing only)		MBFCSPAD Scanner address. (Connect Scanner command)	
MBFSENSE Sense code. (Incoming only)			
60(3C) MBFSTAT** Status byte.		62(3E) Reserved.	
MBFSTAT1 Request accepted or rejected.	61(3D) MBFSTAT2 Reject reason.		
64(40) MBFSTATA Status address (address of first buffer leased for MOSS).			
Reserved.			
68(44) - 75(4B) Reserved.			
76(4C) MBFBCTRL* Buffer control.	77(4D) Reserved.		

* Indicates a byte expansion follows.

** See the MBX for corresponding MBF byte expansions.

Wrap Request

		42(2A) MBFLIFAD Line interface address.	
44(2C) MBFCMND* Wrap command.	45(2D) MBFMODIF* Wrap modifier.	46(2E) MBFNUMWR Number of wraps.	47(2F) Reserved.
48(30) MBFTPSND Pointer to pattern to send.			
52(34) MBFTPEXP Pointer to pattern expected to be received.			

* Indicates a byte expansion follows.

Response Results

56(38) MBFTPBAD Pointer to first bad pattern.			
60(3C) MBFRSLT1* Wrap status byte 1. (Results of wrap test)	61(3D) MBFRSLT2* Wrap status byte 2.	62(3E) MBFNUMTR Number of transmissions attempted.	63(3F) MBFNUMRC Number of test patterns received.
64(40) MBFNMBD Number of test patterns received that did not match expected pattern.	65(41) MBFXSTAT* Wrap extended status bytes.		
	MBFXSCF Secondary control field. (Transmit)	66(42) MBFXLCS Line communication status. (Transmit)	67(43) MBFXSES Secondary ending status. (Transmit)
68(44) MBFXSTAT* Continued.			71(47) Reserved.
MBFRSCF SCF (Receive)	69(45) MBFRLCS LCS (Receive)	70(46) MBFRSES SES (Receive)	
72(48) Reserved.			

* Indicates a byte expansion follows.

Box Event Record (BER) Request

44(2C) MBFBER BER start.		45(2D) - 51(33)	42(2A) Alignment bytes.
BERs are variable in length and contain various types of information. See the BER.			

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
44(2C) MBFCMAND		Mailbox command—see MBXCMAND in the MBX for bit definitions and the MBX foldout for each command's mailbox fields.

Offset/Field Name	Hex Value	Contents
44(2C) MBFCMND		Wrap command.
	X'10'	Stop Wrap request by NCP or EP.
	X'20'	Stop Wrap request by MOSS.
	X'40'	Start Wrap request.
	X'80'	Initialize Wrap request.

Offset/Field Name	Bit Pattern	Contents
45(2D) MBFCNTRL		Mailbox control—see MBXCNTRL in the MBX for bit definitions.

Offset/Field Name	Bit Pattern	Contents
45(2D) MBFMODIF		Wrap modifier.
	.... X...	1 = Wrap leads. 0 = Wrap data.
	.... .X..	1 = External. 0 = LIC level.
	.... ..X.	1 = Modem. 0 = Cable.
	.... ...X	1 = Fixed number of wraps. 0 = Continuous wrap.

Offset/Field Name	Bit Pattern	Contents
60(3C) MBFSTAT		Status bytes—see MBXSTAT in the MBX for bit definitions and the MBX foldout for the valid status for each mailbox command.

Offset/Field Name	Bit Pattern/ Hex Value	Contents
60(3C) MBFRSLT1	x... .. X'00' X'40' X'41' X'42' X'80' X'81' X'82' X'83' X'84' X'85' X'86' X'87' X'88' X'89' X'8A'	Wrap status (results of wrap test). 1 = Not processed. 0 = Processed. Test completed with no errors. Test stopped by MOSS. Test stopped due to buffers-not-available. Test stopped by level 4 mailbox manager. Line not NCP/EP generated. Line active. Invalid sequence. Test not running. Line being switched; reissue wrap. Unable to initialize line to wrap mode. OEM line. Invalid command or parameter. Buffers not available. Non-op DUALCOM line (EP only). Panel line test in progress.

Offset/Field Name	Hex Value	Contents
61(3D) MBFRSLT2	X'02' X'04' X'08'	Wrap status byte 2. Backup timer time-out. CSP ending status error. Bad pattern found.

Offset/Field Name	Bit Pattern	Contents
65(41) MBFXSTAT	.... X... x..	Wrap extended status bytes. 1 = NCP. 0 = EP. 1 = Normal mode. 0 = Character mode.

Offset/Field Name	Bit Pattern	Contents
76(4C) MBFBCTRL	1... .. .1... .. ..1... ..	Mailbox image—Buffer control. EP request. NCP request. Mailbox manager set Wrap Test Results.

MOSS Mailbox

Program:	NCP, EP
Size in bytes:	32(20)
Created by:	NCP or PEP generation
Pointer to:	In mailbox—SYSMBIN field in XDA; Out mailbox—SYSMBOUT field in XDA
Function:	Depends whether it is the in- or out-box. The in-mailbox contains the <i>incoming request</i> from the maintenance and operator subsystem (MOSS) and the status returned by the mailbox manager. The out-mailbox contains the <i>outgoing request</i> to MOSS and the status returned from MOSS. See the MBX foldout for a summary of the in- or out-mailbox request fields used by each valid mailbox command.

In Mailbox (MOSS to NCP/EP)
Mailbox Request (MOSS Writes—NCP/EP Reads)

0(0) MBXCMAND* Mailbox command.	1(1) MBXCNTL* Mailbox control.	2(2) MBXDATLN Data length or 0 if data is in NCP/EP buffer format.	
4(4) MBXDATAD Data address (valid when MBXCNTL = B'1xxx xxxx').			
MBXCTL2 Control field 2.			
8(8) MBXDATA2 Second data address field. (Pointer to buffer used to send response.)			
9(9) MBXGPA General purpose field A.	9(9) MBXGPB General purpose field B.	10(A) MBXGPC General purpose field C.	11(B) MBXGPD General purpose field D.
MBXORLNA Old line's relative line number. (3745 only)		MBXNRLNA New line's relative number. (3745 only)	
MBXORLN Old line's relative line number. (3720 only)	MBXNRLN New line's relative line number. (3720 only)		
MBXBFCT Number of buffers requested.			
MBXLANO LA number. (3745 only)			
MBXCAPOS* CA position. (3745 only)			

* Indicates a byte expansion follows.

12(C) MBXGPE General purpose field E.	13(D) MBXGPF General purpose field F.	14(E) MBXGPG General purpose field G.	15(F) MBXGPH General purpose field H.
MBXSENSE Sense code bytes 1 and 2. (Used to send negative response)		MBXSENS2 Sense code bytes 3 and 4. (Used to send negative response)	
		MBXCSPAD Scanner address. (3720 only)	

* Indicates a byte expansion follows.

Mailbox Response (NCP/EP Writes—MOSS Reads)

16(10) MBXSTAT* Status bytes.	18(12) Reserved.	
MBXSTAT1* Request accepted or rejected.	17(11) MBXSTAT2* Reject reason.	
20(14) MBXSTATA Status address (address of first buffer leased for MOSS)		
Reserved.		
24(18) MBXCC* Completion code.	25(19) MBXPGMST* Program status. (3745 only)	26(1A) - 31(1F)
MBXPSCC Port swap completion code.		
Reserved.		

* Indicates a byte expansion follows.

Out Mailbox (NCP/EP to MOSS)
 Mailbox Request (NCP/EP Writes—MOSS Reads)

0(0) MBXCMAND* Mailbox command.	1(1) MBXCNTL* Mailbox control.	2(2) MBXDATLN Data length or 0 if data is in NCP/EP buffer format.	
4(4) MBXDATAD Data address (valid when MBXCNTL = B'1xxx xxxx').			
8(8) MBXGPA General purpose field A.	9(9) MBXGPB General purpose field B.	10(A) MBXGPC General purpose field C.	11(B) MBXGPD General purpose field D.
MBXTH0 PIU TH byte 0.	MBXRHB0 PIU RH byte 0.	MBXRUB0 PIU RU byte 0.	MBXRUB1 PIU RU byte 1.
12(C) MBXGPE General purpose field E.	13(D) MBXGPF General purpose field F.	14(E) MBXGPG General purpose field G.	15(F) MBXGPH General purpose field H.
MBXRUB2 PIU RU byte 2.			

* Indicates a byte expansion follows.

Mailbox Response (MOSS Writes—NCP/EP Reads)

16(10) MBXSTAT* Status bytes.		18(12) Reserved.
MBXSTAT1 Request accepted or rejected.	17(11) MBXSTAT2 Reject reason.	
20(14) MBXSTATA Status address.		
Reserved.		
24(18) - 31(1F) Reserved.		

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern/ Hex Value	Contents
0(0) MBXCMAND	x... .... .xx. X'01' X'03' X'06' X'07' X'08' X'09' X'0C' X'23' X'24' X'25' X'26' X'27' X'41' X'42' X'43' X'44' X'45'	Mailbox commands. Command indicator: 1 = Mailbox In command. 0 = Mailbox Out command. Command type: 00 = Normal command. 01 = Initialization command. 10 = CLDP command. 11 = Invalid. Mailbox Out Normal Commands Fallback complete (3745 only). Request fallback port swap (3745 only). Transfer PIU. Box Event Record. Buffers Now Available. Wrap Test Results. Time/Date Valid. Mailbox Out Initialization Commands Control Program Parameters. Request Hardware CDS. Control Program Initialization Complete. Request Hardware CDS or Reissue Port Swap. Request reissue port swap (3745 only) Mailbox Out CLDP Commands Control Program Loaded. Roll-in Saved Storage for Dump. IPL from Disk. Control Information. First Dump Record Built.

Offset/Field Name	Bit Pattern/ Hex Value	Contents
0(0) MBXCMAND (continued)		Mailbox In Normal Commands
	X'81'	Fallback (3745 only).
	X'82'	Switchback (3745 only).
	X'83'	Fallback port swap (3745 only).
	X'84'	Update CDS (3745 only).
	X'85'	Switchback complete (3745 only).
	X'86'	Transfer PIU.
	X'89'	Wrap Test Request.
	X'8B'	Disconnect line adapter (3745 only).
	X'8C'	Connect line adapter (3745 only).
	X'8D'	Connect scanner (3720 only).
	X'8E'	Request Buffer.
	X'8F'	Free Buffer.
	X'90'	MOSS Offline.
	X'91'	MOSS Online.
	X'92'	Port Swap.
	X'93'	Disconnect channel adapter (3745 only).
	X'94'	Connect channel adapter (3745 only).
	X'95'	Channel adapter chain update (3745 only).
	X'96'	Install channel adapter (3745 only).

Offset/Field Name	Bit Pattern/ Hex Value	Contents
0(0) MBXCMAND		Mailbox In Initialization Commands
	X'A3'	Control Program Parameters Saved.
	X'A4'	CDS Information Available.
	X'B2'	Reissue Port Swap.
		Mailbox In CLDP Commands
	X'C1'	Scanner IPL Complete.
	X'C2'	Roll-In Complete.
	X'C3'	IPL from Disk Complete.
	X'C4'	Control Information Response.
	X'C5'	First Dump Record Complete.

Offset/Field Name	Bit Pattern	Contents
1(1) MBXCNTL	1... .... .x.. x... x.. x.	Mailbox control. Data address field valid. Data format: 1 = Data in NCP or EP buffers. 0 = NCP or EP buffers not used. PIU routing (In only): 1 = Broadcast PIU to all owning SSCPs. 0 = PIU has its DAF. Second data address field (used with bit 6; valid only for Transfer PIU command). 1 = Second address in MBXDATA2. 0 = No second address. Send response requested by MOSS (when bit 5 = 1): 1 = Send positive response to host using the buffer pointed to by MBXDATA2; then send Reply PIU using MBXDATAD. 0 = Send negative response to host using the buffer pointed to by MBXDATA2 and the sense code in MBXSENSE.

Offset/Field Name	Hex Value	Contents
8(8) MBXCAPOS	X'01'–X'10'	Channel adapter position. (3745 only) Channel adapter position.

Offset/Field Name Bit Pattern	Offset/Field Name Bit Pattern	Contents
16(10) MBXSTAT1	17(11) MBXSTAT2	Status bytes.
1... ....	.... ....	Request is accepted. (In/Out)
1... 1...	.... ....	Keep the buffers or data. (Out)
1... .1..	.... ....	Free the buffers or data. (Out)
.1.. ....	.... ....	Request is rejected. (In/Out)
.1..	1...	Buffers not available. (In)
.1.. ....	.1..	Function not supported. (In)
.1.. ....	..1.	Invalid command. (In/Out)
.1.. ....	...1	MOSS down or MOSS offline. (In)
.1.. ....	.... 1...	Invalid parameters. (In/Out)
.1.. ....	.... .1..	Fallback in progress (3745 only).
.1.. ....	.... ..1	MOSS unable to queue SNA request. (Out)
..xx ....	.... ....	Reserved.
.... ..xx	.... ....	Reserved.
.....	.... ..xx	Reserved.

Offset/Field Name	Hex Value	Contents
16(10) MBXSTAT		Status bytes.
	X'8000'	Accepted.
	X'8800'	Accepted: Keep buffer(s).
	X'8400'	Accepted: Free buffer(s).
	X'4080'	Rejected: Buffers not available.
	X'4040'	Rejected: Function not supported.
	X'4020'	Rejected: Invalid command.
	X'4010'	Rejected: MOSS down/offline.
	X'4008'	Rejected: Invalid parameters.
	X'4004'	Rejected: Fallback in progress (3745 only).
	X'4001'	Rejected: MOSS unable to queue SNA request.

Offset/Field Name	Hex Value	Contents
24(18) MBXCC		Completion code.
		CMD X'83' Fallback Port Swap (3745 only)
		CMD X'92' Port Swap
		CMD X'B2' Reissue Port Swap
	X'00'	Port swap complete.
	X'01'	New port is already defined.
	X'02'	Old port is undefined.
	X'03'	Old port is not inactive.
	X'04'	Old line is a non-compatible NEO line.
	X'05'	Old port is an EP line.
	X'06'	PSTT is full (3720 only).
	X'07'	Adapter types mismatch (3745 only).
	X'08'	New RLN not associated with any line adapter (3745 only).
	X'09'	Old RLN not associated with any line adapter (3745 only).
	X'0A'	One line switched to this CCU; other line originally attached to this CCU (3745 only).
	X'80'	Fallback port swap out of sequence (3745 only).
	X'81'	Fallback not in progress: NCP has the full configuration (3745 only).
	X'82'	Fallback not in progress: NCP does not have the full configuration (3745 only).
		CMD X'81' Fallback (3745 only)
	X'00'	Fallback in progress.
	X'01'	Fallback already in progress.
		CMD X'82' Switchback (3745 only)
	X'00'	Switchback complete.
	X'01'	NCP does not have the whole configuration.
	X'02'	Resources to be switched still owned by SSCPs and/or TGs on channels to be switched.
		CMD X'84' Update CDS (3745 only)
	X'00'	Update CDS complete.
	X'01'	CA or LA not attached to this CCU.
	X'02'	CA or LA not installed.
	X'03'	CA or LA currently operative.
	X'10'	Invalid port range.
	X'11'	Port(s) currently defined in CDS.
	X'20'	CA not CACM mode disconnected.
	X'21'	CA not bypassed from both ASC/CSGC.
	X'22'	CA not "Install in Progress."
	X'23'	CA currently installed.
	X'24'	Function already performed.
	X'25'	CA cannot be bypassed from both ASC/CSGC.

Offset/Field Name	Hex Value	Contents
24(18) MBXCC (continued)		CMD X'8B' Disconnect Line Adapter (3745 only)
	X'00'	Request complete.
	X'02'	LA not attached to this CCU.
	X'03'	LA not installed.
	X'04'	Resource to be disconnected still owned by SSCPs.
		CMD X'8C' Connect Line Adapter (3745 only)
	X'00'	Request complete.
	X'02'	LA not attached to this CCU.
	X'03'	LA not installed.
		CMD X'93' Disconnect CA (3745)
	X'00'	Disconnect CA complete.
	X'02'	CA not attached to this CCU.
	X'03'	CA not installed.
	X'04'	Function already performed.
	X'05'	Disable already in progress (normal).
	X'06'	Disable already in progress (CA ERP Inop detected).
	X'07'	Disable initiated.
	X'08'	CA in use by NCP/EP/NEO.
	X'09'	PBF detected by level 1.
	X'0A'	ASCF detected by level 1.
		CMD X'94' Connect CA (3745)
	X'00'	Connect CA complete.
	X'02'	CA not attached to this CCU.
	X'03'	CA not installed.
	X'04'	CA not inserted into ASC and CSGC.
	X'05'	CA not CACM mode disconnected.
	X'06'	Invalid CA state: Pending level 3 found active.
	X'07'	Invalid CA state: CA found interface enabled.
	X'08'	Invalid CA state: Level 1/level 3 CA enable failure.
	X'09'	CA is in either ASC or CSGC, but not both.
	X'0A'	CA is not operative.
	X'0B'	PBF detected by level 1.
	X'0C'	IOHF, threshold reached at level 1.
	X'0D'	ASCF detected by level 1.
		CMD X'95' CA Chain Update (3745)
	X'00'	CA chain updata complete.
	X'02'	CA not attached to this CCU.
	X'03'	CA not installed.
	X'04'	Function already performed.
	X'05'	CA not CACM mode disconnected.
X'07'	CA cannot be bypassed from ASC.	
X'09'	CA cannot be bypassed from CSGC.	
X'0A'	CA is not operative.	
X'0B'	IOHF, threshold reached at level 1; perform selective reset.	
X'0D'	PBF detected by level 1.	

Offset/Field Name	Hex Value	Contents
24(18) MBXCC (continued)	X'00' X'02' X'03' X'04'	CMD X'96' Install CA (3745) Set/Reset complete. CA not attached to this CCU. CA currently installed. Function already performed.

Offset/Field Name	Bit Pattern	Contents
25(19) MBXPGMST	1... .. .1.. .. ..1. .. ...1 1.. 1..	Program status. (3745 only) Pointer to the owners data area available at MBXSTATA (NCP only). CA in use by EP. CA in use by NCP. CA in use by NEO. Other MOSS CA function in progress for EP. Disable in progress.

Mailbox Command Requests (3720 only)

Displacement (Hex)		1	2-3	4-7	8	8	8	8	9	9	9	9-B	A	A	B	B	C	C	C-D	D	E	E-F	E-F	F
Description		Control	Data Length	Data Address	General Purpose Field A	Old Line's Relative Line Num.	PIU TH Byte 0	Numbers Buffers Required	General Purpose Field B	New Line's Relative Line Num.	PIU RH Byte 0	Second Data Address	General Purpose Field C	PIU RU Bytes 0	General Purpose Field D	PIU RU Bytes 1	General Purpose Field E	PIU RU Bytes 2	Sense Code Bytes 1,2	General Purpose Field F	General Purpose Field G	Sense Code Bytes 3,4	Scanner Address	General Purpose Field H
Code (Hex)	Mailbox Commands																							
06	Transfer PIU-REQMS	1100 0000	0	↑ PIU			X			X			X	X	X	X	X	X	0	0				0
	Transfer PIU-DISPSTOR	1100 0000	0	↑ PIU			X			X			X	X	X	X	X	X	0	0				0
	Transfer PIU-IPL	1100 0000	0	↑ PIU			X			X			X	X	X	X	X	X	0	0				0
07	Box Event Record (BER)	1100 0000	0	↑ BER	0			0					0	0	0	0	0	0	0	0	0			0
08	Buffers Now Available	0	0	0	0			0					0	0	0	0	0	0	0	0	0			0
09	Wrap Test Results	1100 0000	0	↑ Result Buf	0			0					0	0	0	0	0	0	0	0	0			0
0C	Time/Date Validation	0	0	0	0			0					0	0	0	0	0	0	0	0	0			0
23	CP Parameters Available	1000 0000	CDS leng	↑ CPIT	0			0					0	0	0	0	0	0	0	0	0			0
24	Request Hardware CDS	1000 0000	CDS leng	↑ CDS	0			0					0	0	0	0	0	0	0	0	0			0
25	CP Initialization Complete	0	0	0	0			0					0	0	0	0	0	0	0	0	0			0
26	Request Hardware CDS or Reissue Port Swap	1000 0000	CDS leng	↑ CDS	0			0					0	0	0	0	0	0	0	0	0			0
41	Control Program Loaded	0	0	0	0			0					0	0	0	0	0	0	0	0	0			0
42	Roll-In Saved Storage	1000 0000	Roll leng	↑ Roll-In	0			0					0	0	0	0	0	0	0	0	0			0
43	IPL from Disk	0	0	0	0			0					0	0	0	0	0	0	0	0	0			0
44	Control Information	Note	CP size	↑ CP	0			0					0	0	0	0	0	0	0	0	0			0
45	First Dump Record Build	1000 0000	1st Dump REC leng	↑ 1st Dump REC	0			0					0	0	0	0	0	0	0	0	0			0



X = Valid field or status for that command

Note: Bit 0 = 0 if Control program entry point or size is valid.
Bit 0 = 1 if Control program entry point or size is not valid.

Mailbox Command Requests (3720 only) (continued)

Displacement (Hex)		1	2-3	4-7	8	8	8	8	9	9	9	9-B	A	A	B	B	C	C	C-D	D	E	E-F	E-F	F
Description		Control	Data Length	Data Address	General Purpose Field A	Old Line's Relative Line Num	PIU TH Byte 0	Numbers Buffers Required	General Purpose Field B	New Line's Relative Line Num	PIU RH Byte 0	Second Data Address	General Purpose Field C	PIU RU Byte 0	General Purpose Field D	PIU RU Byte 1	General Purpose Field E	PIU RU Byte 2	Sense Code Bytes 1,2	General Purpose Field F	General Purpose Field G	Sense Code Bytes 3,4	Scanner Address	General Purpose Field H
Code (Hex)	Mailbox Commands																							
Transfer PIU	88	REQMS Negative Response	0000 0100	0	0	0						↑ REQMS							X			X		
		REQMS Pos Resp & RECFMS	1100 0110	0	↑ RECFMS	0						↑ REQMS					0			0	0			0
		Unsolicited RECFMS	1100 1000	0	↑ RECFMS	0			0				0	0	0					0	0			0
		DISPSTOR Negative Response	0000 0100	0	0	0						↑ DISPSTOR							X			X		
		DISPSTOR Pos Resp & RECSTOR	1100 0110	0	↑ RECSTOR	0						↑ DISPSTOR					0			0	0			0
		DISPSTOR Pos Resp No Data	0000 0110	0	0	0						↑ DISPSTOR					0			0	0			0
		IPL Negative Response	0000 0100	0	0	0						↑ IPL							X			X		
		IPL Pos Resp No Data	0000 0110	0	0	0						↑ IPL					0			0	0			0
89	Wrap Test	1100 0000	0	↑ Request Buf	0			0					0	0	0				0	0			0	
8D	Connect Scanner	0	0	0	0			0					0	0	0				0				X	
8E	Request Buffer	0	0	0			X	0					0	0	0				0	0			0	
8F	Free Buffer	1100 0000	0	↑ Buffer	0			0					0	0	0				0	0			0	
90	MOSS Offline	0	0	0	0			0					0	0	0				0	0			0	
91	MOSS Online	0	0	0	0			0					0	0	0				0	0			0	
92	Request Port Swap	0	0	0		X				X			0	0	0				0	0			0	
A3	CP Parameters Saved	0	0	0	0			0					0	0	0				0	0			0	
A4	CDS Information Available	1000 0000	CDS leng	↑ CDS	0			0					0	0	0				0	0			0	
B2	Request Reissue Port Swap	0	0	0		X				X			0	0	0				0	0			0	
C1	Scanner IPL Complete	1000 0000	CSP list	↑ CSP list	0			0					0	0	0				0	0			0	
C2	Roll-In Complete	1000 0000	Roll leng/0	↑ Roll-In	0			0					0	0	0				0	0			0	
C3	IPL from Disk Complete	1000 0000	0	↑ CP	0						↑ Last byte in CP						0		0	0			0	
C4	Control Info Response	0	0	0	0			0					0	0	0				0	0			0	
C5	First Dump Rec Complete	0	0	0	0			0					0	0	0				0	0			0	



X = Valid field or status for that command

Note: Bit 0 = 0 if Control program entry point or size is valid.
 Bit 0 = 1 if Control program entry point or size is not valid.

Mailbox Command Responses (3720 only)

Code (Hex)	Mailbox Commands	Mailbox Response										14-17 Status Address	18 Completion Code (Port Swap)
		Respected					Accepted						
Displacement (Hex)	Description	4001	4008	4010	4020	4040	4080	8000	8400	8800			
06	Transfer PIU-REQMS	X								X		0	
	Transfer PIU-DISPSTOR	X								X		0	
	Transfer PIU-IPL	X								X		0	
07	Box Event Record (BER)									X	X	0	
08	Buffers Now Available									X		0	
09	Wrap Test Results								X			0	
0C	Time/Date Validation									X		0	
23	CP Parameters Available									X		0	
24	Request Hardware CDS									X		0	
25	CP Initialization Complete									X		0	
28	Request Hardware CDS or Reissue Port Swap											0	
41	Control Program Loaded									X		0	
42	Roll-In Saved Storage									X		0	
43	IPL From Disk									X		0	
44	Control Information									X		0	
45	First Dump Record Built									X		0	

X = Valid field or status for that command

NCP Reads

MOSS Writes

Out Mailbox (NCP to MOSS)

Mailbox Command Responses (3720 only) (continued)

		Mailbox Response											
		Mailbox Status (Hex)											
		Rejected					Accepted						
		4001	4008	4010	4020	4040	4080	8000	8400	8800			
Description		Unable to Queue SNA Request	Invalid Parameters	MOSS Down or Offline	Invalid Command	Function Not Supported	CCU Buffers Not Available	Request Accepted	Free Buffers or Data	Keep Buffers or Data	Status Address	Completion Code (Port Swap)	
Displacement (Hex)		10-11										14-17	18
Code (Hex)	Mailbox Commands												
B8	REQMS Negative Response		X	X	X		X	X			0		
	REQMS Pos Resp & RECFMS		X	X	X		X	X			0		
	Unsolicited RECFMS		X	X	X	X	X	X			0		
	DISPSTOR Negative Response		X	X	X		X	X			0		
	DISPSTOR Pos Resp & RECSTOR		X	X	X		X	X			0		
	DISPSTOR Pos Resp No Data		X	X	X		X	X			0		
	IPL Negative Response		X	X	X		X	X			0		
	IPL Pos Resp No Data		X	X	X		X	X			0		
B9	Wrap Test		X	X	X		X	X			0		
BD	Connect Scanner		X	X	X		X	X			0		
BE	Request Buffer		X	X	X		X	X			Buffer		
BF	Free Buffer		X	X	X			X			0		
BD	MOSS Offline			X	X			X			0		
B1	MOSS Online			X	X		X	X			CPIT		
B2	Request Port Swap				X			X				X	
A3	CP Parameters Saved				X			X			0		
A4	CDS Information Available				X			X			0		
B2	Request Reissue Port Swap				X			X				X	
C1	Scanner IPL Complete				X			X			0		
C2	Roll-In Complete				X			X			0		
C3	IPL From Disk Complete		X		X			X			0		
C4	Control Information Resp.				X			X			0		
C5	First Dump Record Complete				X			X			0		

X = Valid field or status for that command

← NCP Writes

MOSS Reads →

↑ Buffer
↓ Mailbox (MOSS to NCP)

Mailbox Command Requests (3745 only)

Code (Hex)	Mailbox Commands	Displacement (Hex)																											
		1	2-3	4	4-7	8	8	8-9	8	8	8	8	8	A-B	8	8	8-B	A	A	B	B	C	C	C-D	D	E	F	F	F
	Description	Control	Data Length	Control Field 2	Data Address	General Purpose Field A	Old Line's Relative Line Num.	Old Line's Rel. Line Num.	PIU TH Byte 0	Channel Adapter Position	Number of Buffers Required	Line Adapter Number	General Purpose Field B	New Line's Rel. Line Num.	New Line's Relative Line Num	PIU RH Byte 0	Second Data Address	General Purpose Field C	PIU RU Byte 0	General Purpose Field D	PIU RU Byte 1	General Purpose Field E	PIU RU Byte 2	Sense Code Bytes 1,2	General Purpose Field F	General Purpose Field G	Sense Code Bytes 3,4	Scanner Address	General Purpose Field H
01	Fallback Complete	0	0		0	0						0						0	0	0				0	0				0
03	Request Fallback Port Swap	0	0		0	0	X					0	X					0	0	0				0	0				0
06	Transfer PIU-REQMS	1100 0000	0		↑ PIU				X						X				X	X		X		0	0				0
	Transfer PIU-DISPSTOR	1100 0000	0		↑ PIU				X						X				X	X		X		0	0				0
	Transfer PIU-IPL	1100 0000	0		↑ PIU				X						X				X	X		X		0	0				0
07	Box Event Record (BER)	1100 0000	0		↑ BER	0						0						0	0	0				0	0				0
08	Buffers Now Available	0	0		0	0						0						0	0	0				0	0				0
09	Wrap Test Results	1100 0000	0		↑ Result Buf	0						0						0	0	0				0	0				0
0C	Time/Date Validation	0	0		0	0						0						0	0	0				0	0				0
23	CP Parameters Available	1000 0000	CDS leng		↑ CPIT	0						0						0	0	0				0	0				0
24	Request Hardware CDS	1000 0000	CDS leng		↑ CDS	0						0						0	0	0				0	0				0
25	CP Initialization Complete	0	0		0	0						0						0	0	0				0	0				0
26	Request Hardware CDS or Reissue Port Swap	1000 0000	CDS leng		↑ CDS	0						0						0	0	0				0	0				0
27	Request Reissue Port Swap	0	0		0	0	X					0	X					0	0	0				0	0				0
41	Control Program Loaded	0	0		0	0						0						0	0	0				0	0				0
42	Roll-In Saved Storage	1000 0000	Roll leng		↑ Roll-In	0						0						0	0	0				0	0				0
43	IPL from Disk	0	0		0	0						0						0	0	0				0	0				0
44	Control Information	Note	CP size	X	↑ CP	0						0						0	0	0				0	0				0
45	First Dump Record Build	1000 0000	1st Dump REC leng		↑ 1st Dump REC	0						0						0	0	0				0	0				0



X = Valid field or status for that command

Note: Bit 0=0 if Control program entry point or size is valid.
Bit 0=1 if Control program entry point or size is not valid.

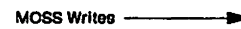
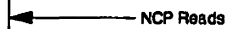
Mailbox Command Requests (3745 only) (continued)

Mailbox Command Responses (3745 only)

		Mailbox Response													
		Mailbox Status (Hex)										Status Address	Completion Code (Port Swap)	Program Status	
		Rejected					Accepted								
		4001	4004	4008	4010	4020	4040	4080	8000	8400	8800				
Description		Unable to Queue SNA Request	Fallback in progress	Invalid Parameters	MOSS Down or Offline	Invalid Command	Function Not Supported	CCU Buffers Not Available	Request Accepted	Free Buffers or Data	Keep Buffers or Data				
Code (Hex)	Mailbox Commands											14-17	18	19	
Displacement (Hex)		10-11													
01	Fallback Complete					X			X			0			
03	Request Fallback Port Swap					X			X			0			
06	Transfer PIU-REQMS	X				X					X	0			
	Transfer PIU-DISPSTOR	X				X					X	0			
	Transfer PIU-IPL	X				X					X	0			
07	Box Event Record (BER)					X				X	X	0			
08	Buffers Now Available					X			X			0			
09	Wrap Test Results					X				X		0			
0C	Time/Date Validation					X			X			0			
23	CP Parameters Available					X			X			0			
24	Request Hardware CDS					X			X			0			
25	CP Initialization Complete					X			X			0			
	Request Hardware CDS Or Reissue Port Swap														
	Request Reissue Port Swap					X			X			0			
41	Control Program Loaded					X			X			0			
42	Roll-In Saved Storage					X			X			0			
43	IPL From Disk					X			X			0			
44	Control Information					X			X			0			
45	Fast Dump Record Built					X			X			0			



X = Valid field or status for that command



Mailbox Command Responses (3745 only) (continued)

		Mailbox Response													
		Mailbox Status (Hex)													
		Rejected						Accepted							
		4001	4004	4008	4010	4020	4040	4080	8000	8400	8800				
Description		Unable to Queue SNA Request	Fallback in progress	Invalid Parameters	MOSS Down or Offline	Invalid Command	Function Not Supported	CCU Buffers Not Available	Request Accepted	Free Buffers or Data	Keep Buffers or Data	Status Address	Completion Code (Port Swap)	Program Status	
Code (Hex)	Displacement (Hex)	10-11											14-17	18	19
Mailbox Commands															
81	Fallback				X	X	X	X	X			0	X		
82	Switchback		X		X	X	X		X			0	X		
83	Fallback Port Swap			X	X		X		X			0	X		
84	Update CDS			X	X	X	X		X			0	X		
85	Switchback Complete		X		X	X	X		X			0	X		
86	REQMS Negative Response		X	X	X	X		X	X			0			
	REQMS Pos Resp & RECFMS			X	X	X		X	X			0			
	Unsolicited RECFMS			X	X	X	X	X	X			0			
	DISPSTOR Negative Response			X	X	X		X	X			0			
	DISPSTOR Pos Res & RECSTOR			X	X	X		X	X			0			
	DISPSTOR Pos Resp No Data			X	X	X		X	X			0			
	IPL Negative Response			X	X	X		X	X			0			
86	IPL Pos Resp No Data			X	X	X		X	X			0			
89	Wrap Test			X	X	X		X	X			0			
8B	Disconnect Line Adapter		X	X	X	X			X			↑ ODA	X		
8C	Connect Line Adapter		X	X	X	X			X			0	X		
8D	Connect Scanner			X	X	X		X	X			0			
8E	Request Buffer			X	X	X		X	X			↑ Buffer			
8F	Free Buffer			X	X	X			X						
8D	MOSS Offline				X	X			X						
91	MOSS Online					X		X	X			↑ CPIT			
92	Request Port Swap					X			X				X	X	
93	Disconnect Channel Adapter		X	X		X	X		X			↑ ODA	X	0	
94	Connect Channel Adapter		X	X		X	X		X			0	X		
95	Channel Adapter Chain Update		X	X		X	X		X			0	X	0	
96	Install Channel Adapter		X	X		X	X		X			0	X	0	
A3	CP Parameters Saved					X			X			0			
A4	CDS Information Available					X			X			0			
B2	Request Reissue Port Swap					X			X			0	X		
C1	Scanner IPL Complete					X			X			0			
C2	Roll-In Complete					X			X			0			
C3	IPL From Disk Complete			X		X			X			0			
C4	Control Information Resp.					X			X			0			
C5	First Dump Record Complete					X			X			0			

↑ In Mailbox (MOSS to NCP)

X = Valid filed or status for that command ← NCP Writes MOSS Reads →

Machine Configuration Table (3720 only)

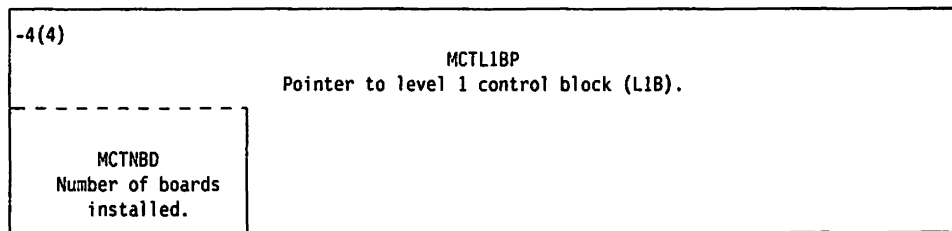
Program: NCP, EP

Size in bytes: 196(C4) plus prefix

Created by: Shared code module CXASCB calls the generating macro CXTMCT

Pointer to: L1XMCTP field in the L1X

Function: Contains identification information about all boards in the controller. This includes masks for initiating PIO operations to retrieve error information from the redrive cards for the boards and from the adapters attached to the boards. The MCT is laid out in subblocks of 16 bytes, one for each possible board in the controller. This table is filled in during initialization by CXFCDSIN by taking the necessary data directly from the CDS subset passed by MOSS. The address of each board subblock is calculated by transforming the redrive address.



* Indicates a byte expansion follows.

Common format for each subblock of 16 bytes. See table for offsets.

n MCTTYPE* Board type.	n+1 MCTID* Board ID.	n+2 MCTRDVM* TA mask for redrive.	
n+4 MCTCA* CAs installed on board.	n+5 MCTCSP1* Identifier for first CSP/TRA on board.	n+6 MCTCSP2* Identifier for second CSP/TRA on board.	n+7 MCTLIBOF* LIB offset to a halfword that contains redrive error registers for the corresponding board.
n+8 MCTCSPM1* Mask to read CSP1/TRAI error register.		n+10 MCTLNVT LNVT address of the first line on the board.	
n+12 Reserved.		n+14 MCTCSPM2* Mask to read CSP2/TRAI error register.	

* Indicates a byte expansion follows.

Table of Field Offsets by Board Type***

Field Name	Offset to Field									
	FDRV Board	LAB4 Board	LAB5 Board	LAB6 Board	LAB7 Board	LAB8 Board	CLAB1/ C2LB	CLAB2/ C2LB2	LAB3 Board	CAB Board
MCTTYPE	0(0)	48(30)	64(40)	80(50)	96(60)	112(70)	128(80)	144(90)	160(A0)	176(B0)
MCTID	1(1)	49(31)	65(41)	81(51)	97(61)	113(71)	129(81)	145(91)	161(A1)	177(B1)
MCTRDVM	2(2)	50(32)	66(42)	82(52)	98(62)	114(72)	130(82)	146(92)	162(A2)	178(B2)
MCTCA	**	**	**	**	**	**	132(84)	148(94)	**	180(B4)
MCTCSP1	**	53(35)	69(45)	85(55)	101(65)	117(75)	133(85)	149(95)	165(A5)	**
MCTCSP2	**	54(36)	70(46)	86(56)	102(66)	118(76)	134(86)	150(96)	166(A6)	**
MCT1BOF	7(7)	55(37)	71(47)	87(57)	103(67)	119(77)	135(87)	151(97)	167(A7)	183(B7)
MCTCSPM1	**	56(38)	72(48)	88(58)	104(68)	120(78)	136(88)	152(98)	168(A8)	**
MCTCSPM2	**	62(3E)	78(4E)	94(5E)	110(6E)	126(7E)	142(8E)	158(9E)	174(AE)	**

Bytes 16(10) through 47(2F) are reserved.
 ** Reserved byte when not applicable to that board.
 *** Some of these boards are not allowed on the 3720.
 They will be marked as "not installed" in the MCTTYPE field.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
n MCTTYPE	10.. .... ..00 0001 ..00 0010 ..00 0100 ..00 1000	Board type. Board not installed. CLAB/C2LB/TRLA. CAB. LAB. Frame redrive (FDRV).

Offset/Field Name	Bit Pattern	Contents
n + 1 MCTID	0000 0001 0000 0010 0000 0011 0000 0100 0000 0001 0000 0010 0000 0000	Board identifier. CLAB1/TRLA-1 if MCTTYPE = X'01'. CLAB2/TRLA-2 if MCTTYPE = X'01'. C2LB if MCTTYPE = X'01'. C2LB2 if MCTTYPE = X'01'. LAB type A if MCTTYPE = X'04'. LAB type B if MCTTYPE = X'04'. For CAB and FDRV.

Offset/Field Name	Hex Value	Contents
<i>n</i> +2 MCTRDVM	X'4080' X'4082' X'4084' X'4086' X'4180' X'4186' X'4188' X'418A' X'418C' X'418E'	TA mask for redrive. CLAB1/C2LB/TRLA-1 mask. CLAB2/C2LB2/TRLA-2 mask. LAB3 mask. CAB mask. FDRV mask. LAB4 mask. LAB5 mask. LAB6 mask. LAB7 mask. LAB8 mask.

Offset/Field Name	Bit Pattern	Contents
<i>n</i> +4 MCTCA	0000 0000.... ...1.... ..1. .... .1.. 1.. ...1 ......1.	CAs installed on board. No CAs installed. CA position 1 installed. CA position 2 installed. CA position 3 installed. CA position 4 installed. CA position 5 installed. CA position 6 installed. If multiple CAs are installed on a board, the values are ORed.

Offset/Field Name	Bit Pattern	Contents
<i>n</i> +5 MCTCSP1 <i>n</i> +6 MCTCSP2	x... 000. 010. 001. 0..x .........1..	Identifier for first/second CSP on board. 1 = CSP/TRA not installed. 0 = CSP/TRA installed. CSP on CLAB or LAB A. CSP/TRA on LAB B. CSP on C2LB. 1 = CSP2. 0 = CSP1. Token ring adapter installed.

Offset/Field Name	Hex Value	Contents
<i>n</i> + 7 MCTL1BOF	X'2E' X'34' X'36' X'38' X'3A' X'3C' X'3E' X'40' X'42' X'44'	L1B offset to a halfword that contains redrive error registers for the corresponding board. Offset into L1B for FDRDV. Offset into L1B for LAB4. Offset into L1B for LAB5. Offset into L1B for LAB6. Offset into L1B for LAB7. Offset into L1B for LAB8. Offset into L1B for CLAB1 or C2LB. Offset into L1B for CLAB2 or C2LB2. Offset into L1B for LAB3. Offset into L1B for CAB.

Offset/Field Name	Hex Value	Contents
<i>n</i> + 8 MCTCSPM1	X'1011' X'1111' X'1211' X'1311' X'1411' X'1511' X'1611' X'1711' X'4AD5' X'4BD5' X'4CD5' X'4DD5' X'4ED5' X'4FD5'	Mask for Get-Error-Status operation to CSP #1 on LAB type B. CLAB1 or C2LB mask. CLAB2 or C2LB2 mask. LAB3 mask. LAB4 mask. LAB5 mask. LAB6 mask. LAB7 mask. LAB8 mask. Mask for Get-Error-Status operation to TRA #1 on LAB type B. LAB3 mask. LAB4 mask. LAB5 mask. LAB6 mask. LAB7 mask. LAB8 mask.

Offset/Field Name	Hex Value	Contents
n + 14 MCTCSPM2		Mask for Get-Error-Status operation to CSP #2 on LAB type B.
	X'2011'	CLAB1 or C2LB mask.
	X'2111'	CLAB2 or C2LB2 mask.
	X'2211'	LAB3 mask.
	X'2311'	LAB4 mask.
	X'2411'	LAB5 mask.
	X'2511'	LAB6 mask.
	X'2611'	LAB7 mask.
	X'2711'	LAB8 mask.
		Mask for Get-Error Status operation to TRA #2 on LAB type B.
	X'48D7'	TRLA-1 mask.
	X'4AD7'	LAB3 mask.
	X'4BD7'	LAB4 mask.
	X'4CD7'	LAB5 mask.
	X'4DD7'	LAB6 mask.
	X'4ED7'	LAB7 mask.
X'4FD7'	LAB8 mask.	

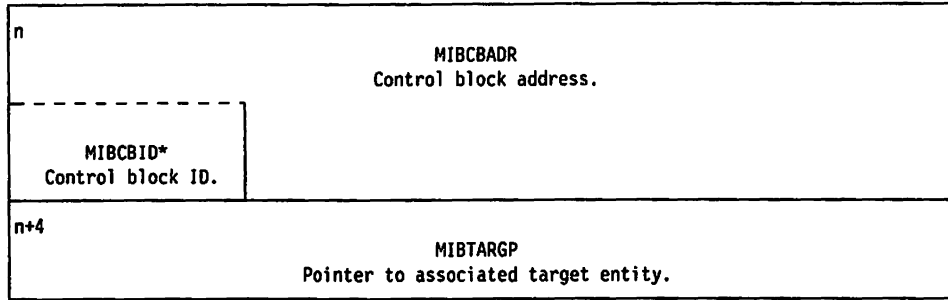
NMVT Information Block

Program: NCP
Size in bytes: 108(6C)
Created by: NCP generation
Pointer to: SYSMIBP in HWE
Function: Contains control information and pointers for network management vector transport (NMVT) processing

0(0)			
MIBPIUP Pointer to the NMVT request PIU.			
4(4)			
MIBRPIUP Pointer to the NMVT prototype reply PIU.			
8(8)			
MIBCMDVP Pointer to the NMVT command subvector.			
12(C)	13(D)	14(E)	15(F)
Reserved.	MIBRPYFL* Reply flag.	MIBSALTE Number of SNA address list targets.	MIBUSNPM Unsolicited SNP mask.
16(10)			
MIBFBUFF Pointer to the function related buffer.			
20(14)			
MIBMIGS1 Migration save NMVT first buffer.			
24(18)			
MIBMIGS2 Migration save time subvector buffer.			
28(1C) - 107(68)			
10 doublewords of resource ID, resource address, and a pointer to the target entity with which they are associated. (See Resource Entry Format)			

* Indicates a byte expansion follows.

Resource Entry Format



* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
13(D) MIBRPYFL	x... .. .xx. .... ...x	Reply flag. 1 = Solicited data. 0 = Unsolicited data. Network management vector transport (NMVT) position within group: 10 = First NMVT of a group. 11 = Middle NMVT of a group. 01 = Last NMVT of a group. 00 = Only NMVT. 1 = A SNA address list subvector is in the NMVT. (Does not apply to session informa- tion retrieval.) 0 = No SNA address list.

Offset/Field Name	Hex Value	Contents
n MIBCBI0	X'01' X'03' X'06' X'0A' X'0B' X'15'	Control block ID. Common physical unit block (CUB). Device based control block (DVB). Programmed resource logical unit block exten- sion (NLX). Line control block (LKB-SDLC). Line control block (LCB-SS/BSC). Station control block (SCB).

MOSS Interface Control Block

Program: NCP

Size in bytes: 80(50) for Version 5 Release 1
 88(58) for Version 5 Release 2

Created by: CXASCB or CXASCBA.

Pointer to: SYSMIFP field in XDA.

Function: Contains the outbound-, hold-, and cleanup QCBs, and status and control information for the maintenance and operator subsystem (MOSS)

0(0) Reserved.	1(1) MIFCTRL1* Mailbox mgr. control byte 1. (Down/offline processing control)	2(2) MIFCTRL2* Mailbox mgr. control byte 2. (Wrap test state)	3(3) MIFCTRL3* Mailbox mgr. control byte 3.
4(4) MIFLIFAD Line interface address.		6(6) MIFTMOUT Time-out count.	7(7) MIFTMEXP Time-out expired.
8(8) MIFXFERC* Dump transfer control flags.	9(9) MIFSNPM SNP mask for dump requester.	10(A) MIFALERT* Alert user action qualifier.	11(B) MIFSTAT* Fallback status. (3745 only) Reserved. (3720 only)
12(C) MIFWRPP Pointer to the level 5 manager control block (WRP).			
16(10) MIFBOUT Fallback time-out count. (3745 only) Reserved. (3720 only)		18(12) MIFFBEXP Fallback timer expired. (3745 only) Reserved. (3720 only)	
20(14) MIFFBUFF Fallback transmit buffer pointer. (3745 only) Reserved. (3720 only)			

* Indicates a byte expansion follows.

24(18)		MIFR6SA The register X'06' contents saved in CXAMINTR. (Version 5 Release 2 only)	
28(1C)	MIFTPOUT Transfer PIU out (Version 5 Release 2 only)	30(1E)	MIFTPEXP Transfer PIU MBX (Version 5 Release 2 only)

MOSS Outbound QCB (MIFOBQCB)

Note: For Version 5 Release 1 subtract 8(8) from each of the following offsets.

32(20)		MIMIECB Pointer to the first element in the outbound queue.	
	MIMMCBD Major control block displacement divided by 2.		
36(24)		MIMLECB Pointer to the last element in the outbound queue.	
40(28)		MIMLINK Pointer to the next QCB in the outbound queue.	
	MIMPRKEY Protection key.		
44(2C)	MIMSTAT Task and queue status.	45(2D)	Reserved.

Hold QCB (MIFHQCB)

Note: For Version 5 Release 1 subtract 8(8) from each of the following offsets.

48(30)		MIHIECB Pointer to the first element in the hold queue.
MIHMCBD Major control block displacement divided by 2.		
52(34)		MIHLECB Pointer to the last element in the hold queue.
56(38)		MIHLINK Pointer to the next QCB in the hold queue.
MIHPRKEY Protection key.		
60(3C)	MIHSTAT Task and queue status.	61(3D) Reserved.

Cleanup QCB (MIFCUQCB)

Note: For Version 5 Release 1 subtract 8(8) from each of the following offsets.

64(40)		MICIECB Pointer to the first element in the cleanup queue.
MICMCBD Major control block displacement divided by 2.		
68(44)		MICLECB Pointer to the last element in the cleanup queue.
72(48)		MICLINK Pointer to the next QCB in the cleanup queue.
MICPRKEY Protection key.		
76(4C)	MICSTAT Task and queue status.	77(4D) Reserved.

Mailbox Trace Facility

Note: For Version 5 Release 1 subtract 8(8) from each of the following offsets.

80(50)	MIFMFTP Pointer to the mailbox trace facility (MTF).
84(54)	MIFENTRY Pointer to the next available entry in MTF.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
1(1) MIFCTRL1	1... .. .1.. .. ..1. .... ...x xxx. .....1	Mailbox manager control byte 1. (Down/Offline processing control.) MOSS down/offline in progress. Send SSCP alert message. Send stop wrap. Reserved. Set wrap preprocessing.

Offset/Field Name	Bit Pattern/ Hex Value	Contents
2(2) MIFCTRL2	1... .. .11. .... ...1 1... X'00' X'80' X'90' X'A0' X'C0'	Mailbox manager control byte 2. (Wrap test state.) Global wrap in progress. Wrap test is active. Reset in progress. Stop wrap in progress. Wrap in reset. Wrap initialization in progress. Wrap reset in progress. Wrap test is running. Wrap initialized.

Offset/Field Name	Bit Pattern	Contents
3(3) MIFCTRL3	1... .. .1.. .. .... .1.. .... ..1. .... ...1 ..xx x...	Mailbox manager control byte 3. Out-mailbox is busy. MOSS busy with Transfer PIU OUT MBX. Switchback forced deactivates in progress (3745 only). Switchback complete ready to receive (3745 only). Switchback complete in progress (3745 only). Reserved.

Offset/Field Name	Bit Pattern	Contents
8(8) MIFXFERC	.1.. x.xx xxxx	Dump transfer control flags. Dump request came from EP. Reserved.

Offset/Field Name	Hex Value	Contents
10(A) MIFALERT	X'C1' X'C2' X'C3'	Alert user action qualifier. NCP detected time-out. NCP detected interface error. MOSS detected inoperative.

Offset/Field Name	Bit Pattern	Contents
11(B) MIFSTAT	1... .... .1.. .... ..1. .... ...1 1.. .... .1.. .... ..1. .... ...1 0000 x0xx 1000 0000 1100 x100 1010 x000 1001 x100 1xxx xxx1	Fallback status (3745 only) Fallback in progress. Request for fallback port swaps in progress. Fallback port swap in progress. Fallback completion in progress. Fallback adapter already processed. Fallback buffer on queue. Fallback has timed-out. Fallback abnormal termination. Fallback State Reset. Fallback in progress. Request for fallback port swaps. Fallback port swaps in progress. Fallback completion in progress state. Fallback abnormal termination.

SDLC Monitor Mode Link

Program: NCP
Size in bytes: Variable
Created by: NCP generation
Pointer to: CXTMLT in the link-edit map
Function: Contains one 8-byte entry for each SDLC line to be monitored

0(0) MLTSTAT* Monitor mode link status.	1(1) INOP or contacted byte.	2(2) MLTSEQN Function manager date sequence number.
4(4) MLTLKBP Pointer to the LKB.		
n MLTEND Zeros indicate end of MLT.		

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) MLTSTAT		SDLC monitor mode link status.
	1... ..	ACTLINK pending.
	.1.. ..	ACTLINK complete.
	...1..	ACTLINK error.

NMVT Major Vector Table

Program: NCP
Size in bytes: 8(8)
Created by: NCP generation
Pointer to: CXTMMVT in the link-edit map
Function: Contains in each entry a valid network management vector transport (NMVT) major vector key and a pointer to a table of valid commands for the major vector

0(0)	MMVTKEY NMVT major vector key.	2(2)	Reserved.
4(4)	MMVTMSCT Pointer to major vector command table.		

Modem Parameter Table

Program: NCP

Size in bytes: 80(50)

Created by: NCP generation

Pointer to: CXTMPT in the link-edit map

Function: Represents an internal table of LPDA2 commands for unsolicited LK-EVENT or PDSTATS NMVT requests. The table contains four entries of 20 bytes each. The entries appear in the MPT in the following index-value order:

1. LPDA2 command for point-to-point or multipoint lines
2. Reserved
3. LPDA2 command to the primary circuit of tailed lines
4. LPDA2 command to the secondary circuit of tailed lines.

1. LPDA2 Command for Point-to-Point or Multipoint Lines.

0(0) LPDA2 command chaining flag. X'00' (No chaining)	1(1) Timer X'0078' (12 seconds).		3(3) Reserved.
4(4) Address field. X'FD'	5(5) LPDA2 SDLC command. X'1B'	6(6) LPDA2 unique header. X'05'	7(7) LPDA2 unique header. X'10'
8(8) LPDA2 unique header. X'42'	9(9) LPDA2 unique header. X'08'	10(A) LPDA2 unique header. X'21'	11(B) LPDA2 unique header. X'84'
12(C) LPDA2 unique header. X'10'	13(D) LPDA2 unique header. X'42'	14(E) Identifier field.*	
16(10) Link segment level. X'01' (Primary circuit)	17(11) Modem address. X'FF' (See note)	18(12) Modem command. X'1A' (Modem and Line Analysis command)	19(13) Reserved.

* Indicates a byte expansion follows.

Note: A modem address of X'FF' indicates that NCP will substitute the true address in the command buffer.

2. Reserved

3. LPDA2 Command to the Primary Circuit of Tailed Lines.

0(0) LPDA2 command chaining flag. X'01' (Chain to 4)	1(1) Timer X'0078' (12 seconds).		3(3) Reserved.
4(4) Address field. X'FD'	5(5) LPDA2 SDLC command. X'1B'	6(6) LPDA2 unique header. X'05'	7(7) LPDA2 unique header. X'10'
8(8) LPDA2 unique header. X'42'	9(9) LPDA2 unique header. X'08'	10(A) LPDA2 unique header. X'21'	11(B) LPDA2 unique header. X'84'
12(C) LPDA2 unique header. X'10'	13(D) LPDA2 unique header. X'42'	14(E) Identifier field.*	
16(10) Link segment level. X'01' (Primary circuit)	17(11) Modem address. X'FD' (General poll address)	18(12) Modem command. X'1A' (Modem and Line Analysis command)	19(13) Reserved.

* Indicates a byte expansion follows.

4. LPDA2 Command to the Secondary Circuit of Tailed Lines.

0(0) LPDA2 command chaining flag. X'00' (No chaining)	1(1) Timer X'0078' (12 seconds).		3(3) Reserved.
4(4) Address field. X'FD'	5(5) LPDA2 SDLC command. X'18'	6(6) LPDA2 unique header. X'05'	7(7) LPDA2 unique header. X'10'
8(8) LPDA2 unique header. X'42'	9(9) LPDA2 unique header. X'08'	10(A) LPDA2 unique header. X'21'	11(B) LPDA2 unique header. X'84'
12(C) LPDA2 unique header. X'10'	13(D) LPDA2 unique header. X'42'	14(E) Identifier field.*	
16(10) Link segment level. X'02' (Secondary circuit)	17(11) Modem address. X'FF' (See note)	18(12) Modem command. X'1A' (Modem and Line Analysis command)	19(13) Reserved.

* Indicates a byte expansion follows.

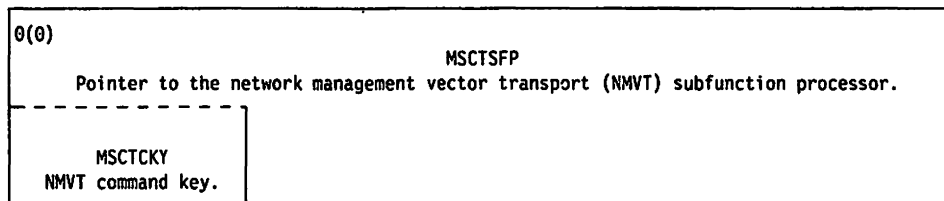
Note: A modem address of X'FF' indicates that NCP will substitute the true address in the command buffer.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
14(E)	Byte 0 1... .. .1.. .. ..0. .... ...x	Identifier flags. LPDA2 command. Data speed. Always 0 (indicates command). Reason for command (set by NCP): 1 = Permanent line or station/terminal error. 0 = Solicited request or unsolicited statistical event.
	.... .xxx Byte 1 xxxx xxxx	Reserved. Reserved.

NMVT Command and Subfunction Router Table

Program: NCP
Size in bytes: 4(4) for each entry.
Created by: NCP generation
Pointer to: MMVTMSCT in the MMVT
Function: Contains in each entry a valid command subvector key for a given PU-NMVT major vector and a pointer to a routing to receive control based on the command



Mailbox Trace Facility

- Program:** NCP, EP
- Size in bytes:** 32 entries of 32(20) bytes each plus one ending byte for a total of 1025(401) bytes.
- Located in:** CXASCB
- Created by:** CXASCB calling macro CXTMIF to generate the MIF
 The MTF immediately follows the MIF control block.
- Referenced by:** CXAMINTR, CXAMXFER, CXAMINTS, and CXAMDNOF
- Pointer to:** MIFMFTP field in the MIF control block
- Function:** Each mailbox trace entry contains a trace identifier followed by one of the following:
- In-mailbox request and status
 - Out-mailbox request (no status)
 - Out-mailbox status (no request)
 - MOSS down request.

0(0)	MTFLIT* Trace identifier.	2(2) - 31(1F)
Copy of in or out mailbox request or status. (left justified)		
32(20)	MTFLIT* Trace identifier.	34(22) - 63(3F)
Copy of in or out mailbox request or status. (left justified)		
.		
.		
.		
1024(400)	X'FF'	

* Indicates a byte expansion follows.

Note: Each byte that is not traced for the current entry (no status or no request) will contain a X'F0'

Byte Expansions

Offset/Field Name	Characters	Contents
0(0) MTFFLIT	"IS" "0" "S" "DN"	Trace identifier. In-mailbox request and status. Out-mailbox request. Out-mailbox status. MOSS Down request.

NEO Global Control Block

Program: NCP
Size in bytes: 84(54)
Created by: NCP generation
Pointer to: SYSNEOGP field in HWX
Function: Contains a parameter/status area to be used for an interface between NCP and NEO modules for specified functions. There is a parameter/status area for all levels (1, 2, 3, 4, and 5) and a pointer to the NEO Router control block.

0(0)		NEOG1P1 Level 1 parameter 1.
NEOG1OP* Level 1 operation.		
4(4) Reserved.		
8(8) NEOG1ST* Level 1 status.	9(9)	Reserved.
12(C) Reserved.		
16(10)		NEOG2P1 Level 2 parameter 1.
NEOG2OP Level 2 operation.		
20(14) Reserved.		
24(18) NEOG2ST Level 2 status.	25(19)	Reserved.
28(1C) Reserved.		

* Indicates a byte expansion follows.

32(20)		NEOG3P1 Level 3 parameter 1.	
NEOG3OP Level 3 operation.			
36(24) Reserved.			
40(28) NEOG3ST Level 3 status.	41(29) Reserved.		
44(2C) Reserved.			
48(30)		NEOG4P1 Level 4 parameter 1.	
NEOG4OP* Level 4 operation.			
52(34) Reserved.			
56(38) NEOG4ST* Level 4 status.	57(39) Reserved.		
60(3C) Reserved.			
64(40)		NEOG5P1 Level 5 parameter 1.	
NEOG5OP Level 5 Operation.			
68(44) Reserved.			
72(48) NEOG5ST Level 5 status.	73(49) Reserved.		
76(4C) Reserved.			
80(50)		NEOGRTRP NEO global functions router table pointer.	

* Indicates a byte expansion follows.

NEO Global Entry

0(0)		NEOGP1 NEOG parameter 1.
NEOGP* NEOG operation.		
4(4) Reserved.		
8(8) NEOGST* NEOG status.	9(9)	Reserved.
12(C) Reserved.		

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Hex Value	Contents
0(0) NEOGP		NEOG Operation.
0(0) NEOG1OP		NEO Operation (Level 1)
	X'19'	CACM level 1 Error:Power Block Failure.
	X'1A'	CACM level 1 Error:Auto Selection Failure.
	X'1B'	CACM level 1 Error:IOH Failure.

Offset/Field Name	Hex Value	Contents
0(0) NEOGOP 48(30) NEOG4OP		NEOG Operation. NEO Operation (level 4).
	X'01'	NEO fallback operation (3745 only).
	X'02'	NEO switchback operation (3745 only).
	X'03'	Delete port operation.
	X'04'	Add port operation.
	X'05'	Disconnect line adapter operation (3745 only).
	X'06'	Connect line adapter operation (3745 only).
	X'07'	Add channel adapter operation (3745 only).
	X'08'	Delete channel adapter operation (3745 only).
	X'09'	Disconnect channel adapter operation (3745 only).
	X'0A'	Connect channel adapter operation (3745 only).
	X'0B'	Port swap operation.
	X'10'	CACM disconnect CA in use check (3745 only).
	X'11'	CACM initiate disconnect CA (3745 only).
	X'12'	CACM disconnect CA complete (3745 only).
	X'13'	CACM connect CA initialize (3745 only).
	X'14'	CACM connect CA cancel (3745 only).
	X'15'	CACM update CDS insert CA (3745 only).
	X'16'	CACM update CDS delete CA (3745 only).
	X'17'	CACM update CDS change CA (3745 only).
	X'18'	CACM autoselection chain insert (3745 only).

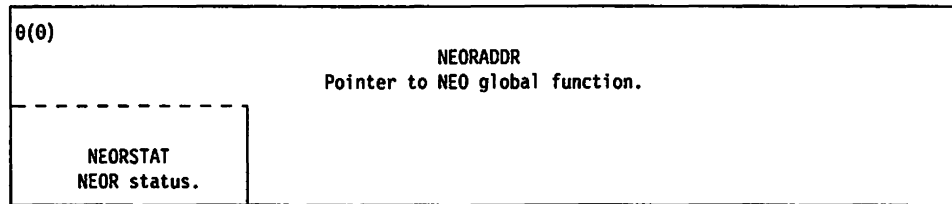
Offset/Field Name	Hex Value	Contents
8(8) NEOGST 8(8) NEOG1ST		NEOG Status. NEO status (Level 1)
	X'10'	CA in use by NEO.

Offset/Field Name	Hex Value	Contents
8(8) NEOGST 56(38) NEOG4ST		NEOG Status. NEO Status (level 4).
	X'00'	Operation complete.
	X'01'	Operation failed.

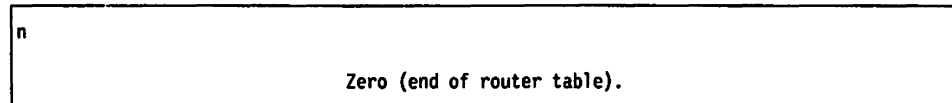
NEO Router Control Block

Program: NCP
Size in bytes: Variable, 4 bytes per entry
Created by: NCP generation
Pointer to: NEOGRTRP field in NEOG
Function: Contains pointer to NEO modules which use the NEO global (NEOG) interface between NCP and NEO

Entry



Trailer



NCP-Activated Explicit Routes (ER) Table

Program: NCP

Size in bytes: Variable; when ERLIMIT = 8: SALIMIT + 1 bytes, when ERLIMIT = 16: 2*(SALIMIT + 1) bytes

Created by: NCP initialization, one per network

Pointer to NET: RMBNETP field in the Route Management Block (RMB)

Function: Holds one-byte elements when ERLIMIT = 8 and holds two-byte elements when ERLIMIT = 16 that correspond to the network subarea address. Each one-byte or two-byte element is a mask of the explicit routes for which NCP has sent out an NC.ER.ACT request. The first element in the NET is always zero because subarea zero is an invalid network subarea address.

ERLIMIT = 8

0(0) Invalid (X'00')	1(1) Mask of explicit routes (ER) for which NCP has sent an NC.ER.ACT request.	2(2) Mask of explicit routes (ER) for which NCP has sent an NC.ER.ACT request.	SALIMIT Mask of explicit routes (ER) for which NCP has sent an NC.ER.ACT request.
-------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	--------------------------------------------------------------------------------------

ERLIMIT = 16

0(0) Invalid (X'0000')	2(2) Mask of explicit routes (ER) for which NCP has sent an NC.ER.ACT request.
4(4) Mask of explicit routes (ER) for which NCP has sent an NC.ER.ACT request.	6(6) Mask of explicit routes (ER) for which NCP has sent an NC.ER.ACT request.
⋮	⋮
(SALIMIT-1)*2 Mask of explicit routes (ER) for which NCP has sent an NC.ER.ACT request.	(SALIMIT)*2 Mask of explicit routes (ER) for which NCP has sent an NC.ER.ACT request.

Network Interconnect Control Block

Program: NCP

Size in bytes: 32(20)

Created by: NCP generation

Pointer to: NLBNIB field in NLB

NVTFNIB field points to the NIB in the chain of NIBs.

Function: Contains information about a cross-network logical unit and holds information necessary for the gateway address transform. There is one NIB for each gateway NLB.

0(0) - 7(7)	NIBNETID Network ID.
8(8) - 15(F)	NIBRNAME Resource name.
16(10)	NIBNLBP Pointer to the NLB.
NIBIUXCT Number of NLXs in use.	
20(14)	NIBNIBP Pointer to the next NIB.
NIBFLGS* NIB flags.	
24(18)	NIBHSBPP Pointer to the first NIX in a chain of in-use half-session control block.
28(1C)	NIBHSBFP Pointer to the final NIX in a chain of in-use half-session control block.

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
20(14) NIBFLGS	x... .. .1.. .. ..1. .. ...1 1...	NIB flags. Session type: 1 = SSCP session. 0 = LU session. NLB represents the primary LU only. No parallel sessions are allowed. The name is predefined. The name is assigned.

Network Interconnect Extension

Program: NCP

Size in bytes: 64(40)

Created by: NCP generation

Pointer to: NLXNIX field in NLX. NVXHSBPP field points to the first NIX in the half-session control block pool; NVXHSBFP field points to the final NIX. NIBHSBPP field points to the first NIX in a chain of in-use half-session control blocks; NIBHSBFP field points to the final NIX.

Function: Contains information needed to support a cross-network session and represents a half session together with its attached NLX. There is one NIX for each gateway NLX.

0(0)	NIXNEXT Pointer to the next NIX in chain of in-use half-session control blocks (HSCBs).
4(4) - 11(8)	NIXNETID Network ID.
12(C) - 19(13)	NIXRNAME Resource name.
20(14)	NIXNLXP Pointer to the NLX.
NIXNRSPM Notify response SNP mask.	

24(18)			NIXONIX Pointer to the other network NIX.			
28(1C)	NIXSCSNP Shared control SNP mask.	29(1D)	NIXSNSTA* Sequence number status information.	30(1E)	NIXDINF Deactivation information. Notify response sequence number.	
32(20) - 37(25)			NIXSSCP SSCP ID.			
			38(26)	NIXSTAT1* Session status flags.	39(27)	NIXSTAT2* Session status flags.
40(28) - 47(2F)			NIXARSI ACTCDRM response sequence indicator.			
NIXF0FLG* FID0 status.		41(29)	NIXF0RC FID0 response counter.			
48(30)			NIXOUTB1 Last outgoing PIU sequence number.			
50(32)			NIXOUTB2 Next-to-last outgoing PIU sequence number.			
52(34)			NIXINB1 Last incoming PIU sequence number.			
54(36)			NIXINB2 Next-to-last incoming PIU sequence number.			
56(38)			NIXSPSBA Session partner subarea address.			
NIXSPSBH High two bytes of subarea.			58(3A)	NIXSPSBL Low two bytes of subarea.		
60(3C)			NIXNSCP Pointer to NSC allocated to this session. (Secondary NIX only)			
NIXSTAT3* NPA status flag. (Secondary NIX only)		NIXSSTP Pointer to NPA SESSION START if no NSC allocated. (Secondary NIX only)				

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
29(1D) NIXSNSTA	1... .... .1.. .... ..1. .... ...1	Sequence Number Status Information. Last outgoing PIU was expedited. Next-to-last outgoing PIU was expedited. Last incoming PIU was expedited. Next-to-last incoming PIU was expedited.

Offset/Field Name	Bit Pattern	Contents
38(26) NIXSTAT1	1... .... .x.. .... ..x. .... ...1 1.. .... .1.. .... ..1. .... ...1	Session Status Flags. In use. Session type: 1 = SSCP. 0 = LU. Session polarity: 1 = Primary if the session is LU; or session initiator if the session is SSCP. 0 = Secondary if the session is LU; or not the session initiator if the session is SSCP. Retain control blocks. Destination LU real address is received. Virtual route ID list is received. Name substitution list is received. Destination LU.

Offset/Field Name	Bit Pattern	Contents
39(27) NIXSTAT2	1... .... .1.. .... ..1. .... ...1 1.. .... .1.. .... ..1. .... ...1	Session Status Flags. Session established. Virtual route attached. Normal session deactivation pending; processing DACTCDRM for SSCP. Normal deactivation is in progress for the LU. DACTCDRM/UNBIND sent. Notify pending. FIDO session. Predefined NIX. Extended network addressing supported by host.

Offset/Field Name	Bit Pattern	Contents
40(28) NIXF0FLG	1... .. .1.. .. ..1. .. ...1 1.. .... .x.. .... ..x.	FID0 Status Flags. Reset immediate sent. Disconnect sent. SSA sent. Set destination mode process. Retry just completed. 1 = Start retry sequence. 0 = Retry failed. 1 = Activation retry needed. 0 = Deactivation retry needed.

Offset/Field Name	Bit Pattern	Contents
60(3C) NIXSTAT3	1... .. .1.. .. ..1. .. ...1 1.. .... ..x.	NPA Status Flags. NPM Session Start required. NPM Session Start delayed. NPM Session End required. NPM Session End delayed. NSC allocated to NIX. Session checked for NPM collection already.

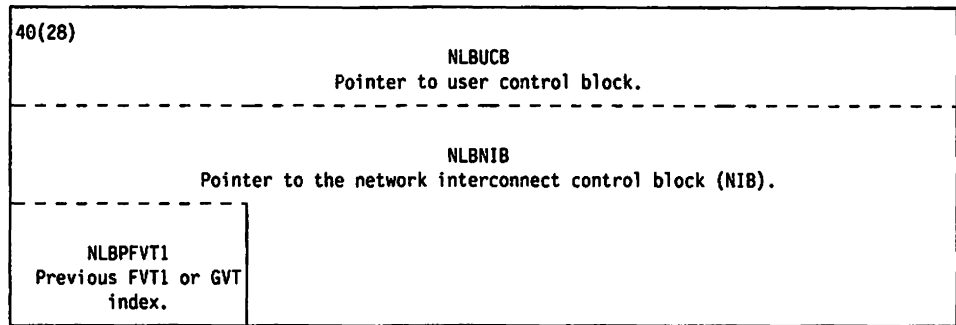
Programmed Resource Logical Unit Block

Program: NCP
Size in bytes: 44(2C) plus prefix
Created by: NCP generation
Pointer to: LUVLUB field in LUV; RVTRP field in RVT
Function: Contains information about a programmed resource logical unit

-4(4)
 For the prefix format for the NLB, see the network performance analyzer prefix (NPF) control block.

0(0) - 23(17) Queue control block.			
24(18) NLBOFSET Offset to first NLB extension.	25(19) NLBPFVT3 Previous FVT3 index.	26(1A) NLBNETAD Element address of programmed resource logical unit.	
28(1C) NLBNPB Pointer to NPB.			
----- NLBNVTE Pointer to the network vector table (NVT) entry.			
----- NLBTYPE Block identifier field X'04'.			
32(20) NLBFLGS* NLB flags.	33(21) NLBNOTFY* Notify task information byte.	34(22) NLBPFVT2 Previous FVT2 index	35(23) NLBRCBO Offset to RCB.
36(24) NLBFVT Pointer to FVT or GVT.			
----- NLBBCFVT Current FVT or GVT index.			

* Indicates a byte expansion follows.



Byte Expansions

Offset/Field Name	Bit Pattern	Contents
32(20) NLBFLGS	1... .. 1... ..	NLB flags. NLB is a gateway resource. Resource is eligible for NPA data collection.

Offset/Field Name	Bit Pattern	Contents
33(21) NLBNOTFY	1... .. .1.. .. ..1. .... ...1 1... ... .1.. ... ..1. ... ..1	Notify task information byte. Resource undergoing auto network shutdown. Resource entered held state. Resource exited held state. Deactivate virtual route status received. Virtual route inoperative status received. Lost session partner. Notify received. Session information retrieval is globally enabled.

Note: NLBOFSET must have the same displacement in the NLB as LUOFSET has in the LUB. The NLB fields must remain in the same relative positions as their counterparts in the LUB, NLX, NPB, and VLB.

Programmed Resource Logical Unit Block Extension

Program: NCP
Size in bytes: 44(2C)
Created by: NCP generation
Pointer to: NLB via offset in NLBOFSET field and UICNLXP field in the user interface control block (UIC)
Function: Contains information about a programmed resource logical unit

0(0) - 23(17)			
Queue control block.			
24(18) NLXOFSET Offset to next NLX extension.	25(19) NLXPFVT3 Previous FVT3 index	26(1A) NLXSPART Element address of session partner.	
28(1C) NLXNLB Pointer to associated NLB.			
NLXTYPE Block identifier field X'08'.			
32(20) NLXTNUM Number of this extension.	33(21) NLXNOTFY* Notify task information byte.	34(22) NLXPFVT2 Previous FVT2 index.	35(23) NLXRCB0 Offset to RCB.
36(24) NLXFVT Pointer to FVT or GVT.			
NLXCFVT Current FVT index.			
40(28) NLXUCB Pointer to user control block.			
NLXNIX Pointer to the network interconnect extension for gateway NLXs.			
NLXPFVT1 Previous FVT1 index.			

* Indicates a byte expansion follows.

Note: NLXOFSET must have the same displacement in the NLX as LUAOFSET in the LU-LU process queue control block of the LUB and NLXSPART must have the same displacement as LUASPART. The NLX fields must remain in the same relative positions as their counterparts in the NLB, NPB, and VLB.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
33(21) NLXNOTFY	1... .... .1.. .... ..1. .... ...1 1.. .... .1.. .... ..1. .....1	Notify task information byte. Resource undergoing ANS. Resource entered held state. Resource exited held state. Deactivate virtual route status received. Virtual route inoperative status received. Lost session partner. Notify received. Session information retrieval is globally enabled.

Network Names Table

Program: NCP
Size in bytes: 10(A) header plus 10(A) entries
Created by: Initialization routine CXFPOOLI
Pointer to: SYSNNTP field in the HWX
Function: Use to store network names referenced by index stored in the BXI and LUX

Header

0(0) NNTUSE0 Number of networks defined in NCP.	2(2) NNTENTRS Number of NNT entries.
4(4) NNTAVENT Number of available NNT entries.	6(6) NNTMNAVE Minimum number of available NNT entries.
8(8) NNTLIUSE Index of last in-use NNT entry.	

NNT Entry

0(0) NNTNDATA* Name data.	2(2) - 9(9) NNTNAME
Network name. (left justified, blank filled)	

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern Byte 0	Bit Pattern Byte 1	Contents
0(0) NNTNDATA	xx.. .... ..xx xxxx	.... .... xxxx xxxx	Name data. Name type: 00 = Network ID. 01 = Control point name. Number of uses of this name.

Programmed Resource Physical Unit Block

Program: NCP
Size in bytes: 48(30)
Created by: NCP generation
Pointer to: PUV CUB field in PUV; NLBNPB field in NLB; RVTRP field in RVT
Function: Contains information about a programmed resource physical unit

0(0) - 23(17)			
Queue control block.			
24(18)	25(19)	26(1A)	
Reserved.	NPBPFVT3 Previous FVT3 index.	NPBNETAD Element address of programmed resource physical unit.	
28(1C)			
NPBVLB Pointer to VLB.			
NPBTYP Block identifier field X'02'.			
32(20)	33(21)	34(22)	35(23)
NPBSNP SNP mask - Identifies owning SSCP.	NPBNOTFY* Notify task information byte.	NPBPFVT2 Previous FVT2 index.	NPBRCBO Offset to RCB.
36(24)			
NPBFVT Pointer to FVT.			
NPBCFVT Current FVT index.			
40(28)			
NPBUCB Pointer to user control block.			
NPBPFVT1 Previous FVT1 index.			
44(2C)			
NPBLUVT Pointer to LU vector table.			

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
33(21) NPBNOTFY	1... .... .1.. .... ..1. .... ...1 1.. .... .1.. .....1.	Notify task information byte. Resource undergoing auto network shutdown. Virtual route entered held state. Virtual route exited held state. Deactivate virtual route status received. Virtual route inoperative status. Lost session partner. Notify received.

Network Performance Monitor Prefix

Program: NCP
Size in bytes: Variable; (up to 12 bytes) depending upon the control block
Located in: The beginning of the CUB, DVB, LCB, LKB, LUB, NLB, PSB, or SCB if the resource is eligible for NPA
Function: Contains status information and the pointer to the counter queue element (See NQE)

For LCB Control Block

-12(C) <p style="text-align: center;">NPFABRCV Temporary characters received counter.</p>	-10(A) <p style="text-align: center;">NPFABSNT Temporary characters sent counter.</p>
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For LCB and LKB Control Blocks

-8(8) <p style="text-align: center;">NPFACICT Active resource counter.</p>	-7(7) <p style="text-align: center;">NPFABFLG* Link processing flags.</p>	-6(6) <p style="text-align: center;">Reserved.</p>
-----------------------------------------------------------------------------------	----------------------------------------------------------------------------------	-------------------------------------------------------

* Indicates a byte expansion follows.

For CUB, DVB, LCB, LUB, NLB, PSB, and SCB Control Blocks

-4(4) <p style="text-align: center;">NPFQUEL Pointer to counter queue element (NQE).</p>	<div style="border: 1px dashed black; padding: 5px; width: fit-content;"> <p style="text-align: center;">NPFFLAGS* Collection type indicators.</p> </div>
-------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
-7(-7) NPFABFLG	1.....	Line processing flags. Block received indicator (BSC).

Offset/Field Name	Bit Pattern	Contents
-4(-4) NPFFLAGS	1... .... .1.. .... ..1. .... ...1 1... .... .1.. .... ..x. .... ...1 1... .... .1.. .... ..1.	Collection type indicators. Message data being acquired. Character data being acquired. Poll data being acquired. Error data being acquired. Retransmission data being acquired. Queue length data being acquired. Reserved. Poll send indicator. For Communication Control Unit (CCU) collection CCU utilization data being acquired. Buffer data being acquired. Channel queue data being acquired.

NPA Counter Queue Block

Program: NCP
Size in bytes: 96(60)
Created by: NCP generation
Pointer to: SYSNQB in HWE
Function: Controls the accumulation and forwarding of NPA statistics

0(0)	NQBTIME NPA time value.	
4(4)	NQBLMTNO Number of queue elements.	6(6) NQBAVLCT Number of queue elements available.
8(8)	NQBC0TOP First free queue element.	
	NQBCOLBC Needed buffers for 256 byte PIU.	
12(C)	NQBC0BOT Last free queue element.	
	NQBNANP Number of active network performance capable NPMs.	
16(10)	NQBC1TOP Top of interval queue 1.	
20(14)	NQBC1BOT Bottom of interval queue 1.	
24(18)	NQBC2TOP Top of interval queue 2.	
28(1C)	NQBC2BOT Bottom of interval queue 2.	
32(20)	NQBC3TOP Top of interval queue 3.	

36(24)	NQBC3BOT Bottom of interval queue 3.
40(28)	NQBC4TOP Top of interval queue 4.
44(2C)	NQBC4BOT Bottom of interval queue 4.
48(30)	NQBC5TOP Top of interval queue 5.
52(34)	NQBC5BOT Bottom of interval queue 5.
56(38)	NQBC6TOP Top of interval queue 6.
60(3C)	NQBC6BOT Bottom of interval queue 6.
64(40)	NQBC7TOP Top of interval queue 7.
68(44)	NQBC7BOT Bottom of interval queue 7.
72(48)	NQBC8TOP Top of interval queue 8.
76(4C)	NQBC8BOT Bottom of interval queue 8.
80(50)	NQBC9TOP Top of interval queue 9.
84(54)	NQBC9BOT Bottom of interval queue 9.
88(58)	NQBCATOP Top of interval queue 10.
92(5C)	NQBCABOT Bottom of interval queue 10.

NPA Counter Queue Element

Program: NCP
Size in bytes: 40(28)
Created by: NCP generation
Pointer to: The NPA prefix of the resource that will be undergoing NPA collection
Function: Accumulates the statistics for the resource that is undergoing NPA collection

0(0)		NQEFWD Pointer to the next element in queue. Zero if last in the queue.	
4(4)		NQEBWD Pointer to the previous element in the queue. Zero if first in queue.	
NQEPFLGS* Queue element processing flags.			
8(8)		10(A)	
NQEFLAGS* Interval queue flags.		NQERSADR Element address of resource.	
12(C)		13(D)	
NQERTYPE* Type of resource.		NQERLEN Length of resource record data in this element. Resource record data is from NQERID to end of element.	
		14(E)	
		NQELFLGS Resource record flags.	
		15(F)	
		NQENFLG1* Flag byte 0.	
		NQENFLG2* Flag byte 1.	
		NQECFLG1* CCU/NCP flag byte 0.	
		NQECFLG2* CCU/NCP flag byte 1.	

* Indicates a byte expansion follows.

16(10)		NQELFCC Value for Communication Control Unit (CCU) free cycle count.	
		NQELUCC Value for CCU used cycle count/8 (CUC format)	
NQELTPS Value for total PIUs sent.		18(12)	NQELTPR Value for total PIUs received.
20(14)			
NQELTBS Value for total bytes sent.			
NQELFBQ Value for free buffer queue length.		22(16)	NQELFBH Value for free buffer high water mark.
24(18)			
NQELTBR Value for total bytes received.			
NQELFBL Value for free buffer low water mark.		26(1A)	NQELCIQ Value for channel intermediate queue.
28(1C)		30(1E)	
NQELROQ Value for resource outbound.		NQELTPC Value for total poll count.	
NQELCHQ Value for channel hold queue.		NQELSL Value in tenths of second of time in slowdown.	
32(20)		34(22)	
NQELPPC Value for positive poll count.		NQELERR Value for total error count.	
NQELSLM Value for buffer count limit for slowdown entry.		NQELMXF Maximum available NCP buffers.	
36(24)		38(26)	
NQELRPC Value for retransmitted PIU count.		NQELRBC Value for retransmitted character count.	
NQELCYS Value for Communication Control Unit (CCU) cycle speed.		Reserved.	

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
4(4) NQEPFLGS	1... .. .1.. .. ..1.	Queue element processing flags. Ignore overflow—PIUs sent count. Ignore overflow—PIUs received count. Ignore overflow—errors count.

Offset/Field Name	Bit Pattern	Contents
8(8) NQEFLAGS	Byte 0 xxxx xx.. .... .1. .... ..1	Interval queue flags. The flag is on for the queue in which the resource is being collected. All flags are off if on a free queue. Reserved. Queue 10. Queue 9.
	Byte 1 1... .. .1.. .. ..1. .... ...1 1.. .... .1.. .... ..1. .... ..1	Queue 8. Queue 7. Queue 6. Queue 5. Queue 4. Queue 3. Queue 2. Queue 1.

Offset/Field Name	Bit Pattern	Contents
12(C) NQERTYPE	1... .. .1.. .. ..1. .... ...1 ........ ..1. .... ..1	Type of resource whose date is included. CCU = Communications Control Unit. CCU/NCP Resource Indicator. Bit 7 is always off if bit 0 is on. Link or BSC line. If bit 7 = 1, the resource is an SDLC link. If bit 7 = 0, the resource is a BSC line. PU or BSC cluster. If bit 7 = 1, the resource is an SDLC PU. If bit 7 = 0, the resource is a BSC cluster. LU or BSC terminal. If bit 7 = 1, the resource is an SDLC LU. If bit 7 = 0, the resource is a BSC terminal. Programmed resource logical unit. Bit 7 is always 1 when bit 6 = 1 SNA boundary resource.

Offset/Field Name	Bit Pattern	Contents
14(E) NQENFLG1	x.xx xxx. .1.. .. .... ..1	INN and BNN Resources Flag byte 0. Reserved. Double overflow has occurred. Overflow NQELRBC.

Offset/Field Name	Bit Pattern	Contents
14(E) NQECFLG1	1... .. ..1... .. ...1... .. ....1... ..	Communication Control Unit/NCP (CCU/NCP) Resources Flag Byte 0 Communication control unit utilization value is in cycle utilization counter format. Double overflow has occurred.

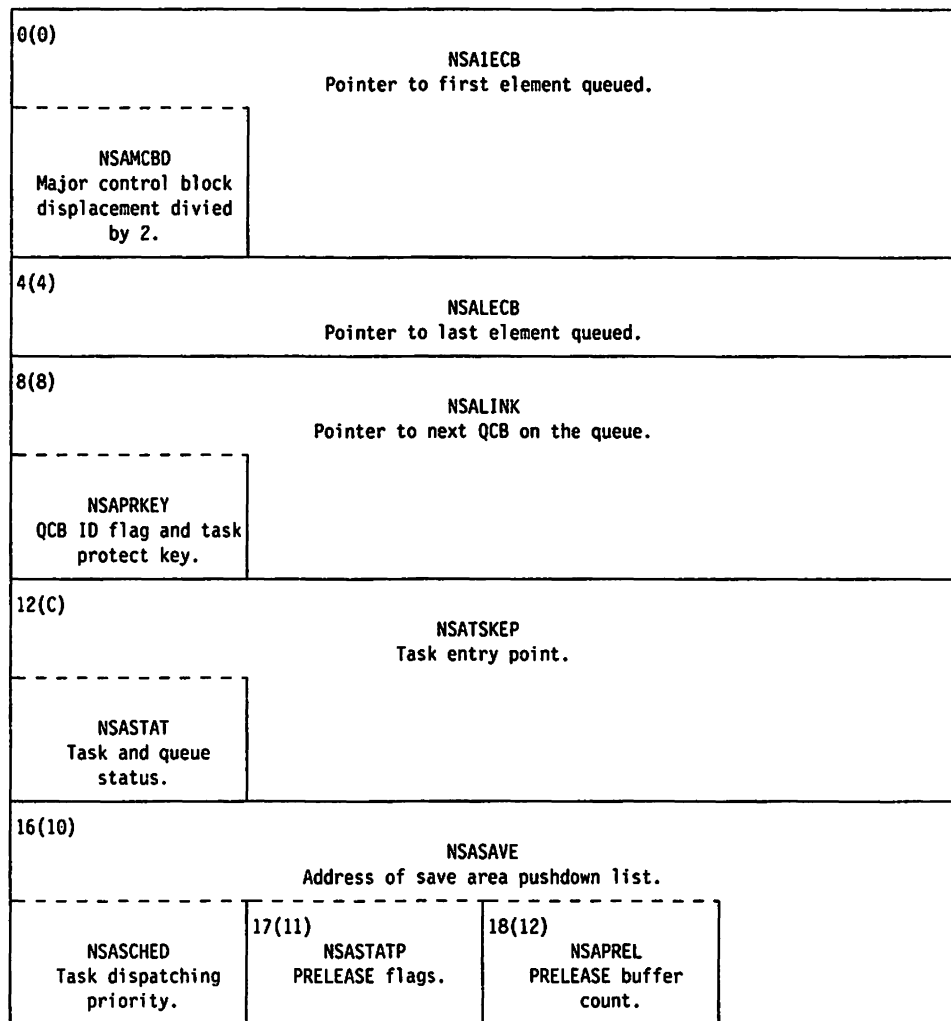
Offset/Field Name	Bit Pattern	Contents
15(F) NQENFLG2	1... .. .1... .. ..1... .. ...1... .. ....1... .. .... .1... .. .... ..1... .. .... ...1... ..	Flag byte 1. Overflow NQELRPC. Overflow NQELERR. Overflow NQELPPC. Overflow NQELTPC. Overflow NQELTBR. Overflow NQELTBS. Overflow NQELTPR. Overflow NQELTPS.

Offset/Field Name	Bit Pattern	Contents
15(F) NQECFLG2	.... ..1... .. .... ...1... ..	CCU/NCP Flag Byte 1. Overflow NQELSL. Overflow NQELFCC or NQELUCC.

NPA Session Accounting Block

Program: NCP
Size in bytes: 84(54)
Created by: NCP generation
Pointer to: SYSNSAP field in the HWX
Function: Used to manage NPA session accounting and notification of dynamically reconfigured resources

Session Accounting Queue
 (See QCB for input queues for all bit definitions.)



20(14)		
NSALUNK Pointer to previous QCB on the queue.		
NSABHSCB BHR scheduling bits.		
24(18)		
NSANBPB Pointer to the NPA NPB.		
NSASSTAT* NSA session accounting status.		
28(1C)		
NSASEQN Sequence number of last session accounting PIU sent to NPA.		
32(20)		
NSATBCT Threshold value for byte counts.		
36(24)	38(26)	39(27)
NSATPCT Threshold value for PIU.	NSADRTO* DR history - TON status.	NSANADR Number of active DR capable NPMs.
40(28)		
NSANSCF Pointer to first NSC in chain.		
NSANLXM Number of active sessions accounting capable NPMs.		
44(2C)		
NSANSCL Pointer to last NSC in chain.		
NSACOLBC Buffers needed for 256 byte PIU.		
48(30)	50(32)	
NSARVTF Address of first element in RVT chain.	NSARVTL Address of last element in RVT chain.	

* Indicates a byte expansion follows.

52(34) NSANAGH No. of active GW session acct. capable NPMs.	53(35) Reserved.	54(36) NSAGTPCT GW threshold value for PIU.
56(38) NSAGTBCT GW threshold value for byte counts.		
60(3C) NSAPF1 BF Session Acct. PIU frequency range 1.	62(3E) NSAPF2 BF Session Acct. PIU frequency range 2.	
64(40) NSAPF3 BF Session Acct. PIU frequency range 3.	66(42) NSAPF4 BF Session Acct. PIU frequency range 4.	
68(44) NSAPF5 BF Session Acct. PIU frequency range 5.	70(46) NSAPF6 BF Session Acct. PIU frequency range 6.	
72(48) NSAGPF1 GW Session Acct. PIU frequency range 1.	74(4A) NSAGPF2 GW Session Acct. PIU frequency range 2.	
76(4C) NSAGPF3 GW Session Acct. PIU frequency range 3.	78(4E) NSAGPF4 GW Session Acct. PIU frequency range 4.	
80(50) NSAGPF5 GW Session Acct. PIU frequency range 5.	82(52) NSAGPF6 GW Session Acct. PIU frequency range 6.	

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
24(18) NSASSTAT	1... .. .1.. .. ..1. .. ...1 1.. .... .1.. .... ..1. .....X	NSA session accounting status. Session accounting is enabled. Session accounting for SLU sessions supported. Session accounting for PLU sessions supported. VREVENT issued. GW session accounting is enabled. GW session accounting is active. PIU Frequency Range Counters Included in NSCs. Reserved.

Offset/Field Name	Bit Pattern	Contents
38(26) NSADRTO	1... .. .1.. .. ..1. .. ...X xxxx	DR history - TON status. DR has occurred. End of DR history. PIU must be sent to NPM. Takover Notification required. Reserved.

NPA Session Counters

Program: NCP

Size in bytes: If distribution counts are included, 80(50); otherwise, 52(34).

Created by: NCP initialization

Pointer to: BXIEXTP field in the BXI, or LUXEXT field in the LUX, or LTXNEXT field in the LTX depending on the position of the NSC within the BSB extension chain; NIXNSCP if allocated to a NIX

Function: Keep counts of PIUs and bytes flowing on an LU-LU session

0(0)		
NSCNEXT** Pointer to next NSC in pool or pointer to next BSB extension.		

NSCSASP*** Subarea address of the session partner LU.		
4(4)		
NSCCBP** Pointer to the BSB or NIX.		

NSCBSBP** Pointer to the BSB.		

NSCLUEL*** Element address of the LU.		6(6) NSCSPEL*** Element address of the session partner LU.
8(8) NSCSTAT* NSC session status.	9(9) NSCBSBID Control Block ID X'1C'.	10(A) NSCSEQN Sequence number for last control vector sent.
12(C)		
NSCFWD Pointer to next element in NSA chain of NSCs.		

NSCOVRF* Overflow errors.		

- * Indicates a byte expansion follows.
- ** Indicates that this field definition is used when the NSC is in the pool or when it is allocated and chained to a Control Block.
- *** Indicates that this field definition is used when the NSC is allocated and not chained to a control block.

16(10)	NSCRTPC Received text PIU count.		18(12)	NSCTTPC Transmitted text PIU count.	
20(14)	NSCRTBC Received text byte count.				
24(18)	NSCTTBC Transmitted text byte count.				
28(1C)	NSCRCPC Received control PIU count.		30(1E)	NSCTCPC Transmitted control PIU count.	
32(20)	NSCRCBC Received control byte count.				
36(24)	NSCTCBC Transmitted control byte count.				
40(28)	NSCSALU**** Subarea address of the LU.				
44(2C)	NSCEXTP Pointer to NSC extensions.				
	NSCEXTS* Extension Status.				
NSCPNNT***** NNT index of NETID for the PLU.			NSCSNNT***** NNT index of NETID for the SLU.		
48(30)	NSCPCSB* Status byte.	49(31) Reserved.	50(32)	NSCOVRF1* Rcvd Dist Counter Overflow Errors.	51(33) NSCOVRF2* Xmit Dist Counter Overflow Errors.

- * Indicates a byte expansion follows.
- ** Indicates that this field definition is used when the NSC is in the pool or when it is allocated and chained to a Control Block.
- **** For SNI Sessions only, reserved for boundary function.
- ***** For SNI Sessions only, and only if there are no extension blocks.

52(34) NSCRPF1 Received PIU Distribution Range 1 Count.	54(36) NSCRPF2 Received PIU Distribution Range 2 Count.
56(38) NSCRPF3 Received PIU Distribution Range 3 Count.	58(3A) NSCRPF4 Received PIU Distribution Range 4 Count.
60(3C) NSCRPF5 Received PIU Distribution Range 5 Count.	62(3E) NSCRPF6 Received PIU Distribution Range 6 Count.
64(40) NSCRPOR Received PIU Out of Range Count.	66(42) NSCTPF1 Transmitted PIU Distribution Range 1 Count.
68(44) NSCTPF2 Transmitted PIU Distribution Range 2 Count.	70(46) NSCTPF3 Transmitted PIU Distribution Range 3 Count.
72(48) NSCTPF4 Transmitted PIU Distribution Range 4 Count.	74(4A) NSCTPF5 Transmitted PIU Distribution Range 5 Count.
76(4C) NSCTPF6 Transmitted PIU Distribution Range 6 Count.	78(4E) NSCTPOR Transmitted PIU Out of Range Count.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
8(8) NSCSTAT	1... .. .1.. .. ..1. .... ...1 x... .... .1.. .... ..1. .... ..x	NSC Session Status. NSC allocated bit. (NSCALLC) NPA Session Start Required. (NSCSSR) NPA Session Start Delayed. (NSCSSD) NPA Session End Delayed. (NSCSED) Primary/Secondary indicator: 1 = NSC is for Primary Session 0 = NSC is for Secondary Session. Counter exceeded threshold. (NSCCET) NSC is in an NSA chain. Reserved.

Offset/Field Name	Bit Pattern	Contents
12(C) NSCOVRF	1... .. .1.. .. ..1. .... ...1 1... .... .1.. .... ..1. .... ....1	Counter overflow errors byte. Received Text PIU count overflowed field. Transmitted Text PIU count overflowed field. Received Text Byte count overflowed field. Transmitted Text Byte count overflowed field. Received Control PIU count overflowed field. Transmitted Control PIU count overflowed field. Received Control Byte count overflowed field. Transmitted Control Byte count overflowed field.

Offset/Field Name	Bit Pattern	Contents
44(2C) NSCEXTS	1... .. .1.. .. ..1. .... ...1 xxxx	NSC Extension Status. CV60 Saved. Session Start/End Time/Date Saved. Alias Names Saved. Real Names Saved. Reserved.

Offset/Field Name	Bit Pattern	Contents
48(30) NSCPCSB	x... .. .x.. .. ..xx x... xxx	Status Byte. Type of last received PIU: 1 = Last PIU was control. 0 = Last PIU was text. Type of last transmitted PIU: 1 = Last PIU was control. 0 = Last PIU was text. Session Type: 00 = BNN LU-LU Session 01 = SNI LU-LU Session 10 = SNI SSCP-SSCP Session 11 = SNI FID0 Session. NSC has extensions indicator: 1 = NSC has extensions. 0 = NSC doesn't have exten. Reserved.

Offset/Field Name	Bit Pattern	Contents
50(32) NSCOVERF1	1... .. .1.. .. ..1. .... ...1 1... .... .1.. .... ..1. .....X	NSC Overflow Errors Byte 1. Received PIU Dist Range 1 overflow. Received PIU Dist Range 2 overflow. Received PIU Dist Range 3 overflow. Received PIU Dist Range 4 overflow. Received PIU Dist Range 5 overflow. Received PIU Dist Range 6 overflow. Received PIU out of Range overflow. Reserved.

Offset/Field Name	Bit Pattern	Contents
51(33) NSCOVERF2	1... .. .1.. .. ..1. .... ...1 1... .... .1.. .... ..1. .....X	NSC Overflow Errors Byte 2. Transmit PIU Dist Range 1 overflow. Transmit PIU Dist Range 2 overflow. Transmit PIU Dist Range 3 overflow. Transmit PIU Dist Range 4 overflow. Transmit PIU Dist Range 5 overflow. Transmit PIU Dist Range 6 overflow. Transmit PIU out of Range overflow. Reserved.

NPA Sequence Number and Pacing Control Block

Program: NCP
Size in bytes: 20(14)
Created by: NCP generation
Pointer to: NLXUCB field in the NLX
Function: Holds pacing and sequence number information for NPA LUs

0(0) NSPPSQN PIU sequence number for APPL-LU.		2(2) NSPPACE Pacing count.	
4(4) NSPPACNT Number of PIUs sent since pacing response received.		6(6) Reserved.	7(7) NSPWCNT VR window count.
8(8) - 15(F) NSPNAME Session partner LU name.			
16(10) NSPSTAT* Status.	17(11) NSPTONS* TON PIU status.	18(12) Reserved.	

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
16(10) NSPSTAT		Status.
	1... ..	Takeover Notification required.
	.1.	NPM is accounting data capable.
	..1.	NPM is network performance capable.
	...1	NPM is DR Notification capable.
	.... 1..	NPM wants to receive Takeover Notification.
	.... .1.	NPM session is active.
	.... ..1.	NPM is GW session accounting capable.
	.....X	Reserved.

Offset/Field Name	Bit Pattern	Contents
17(11) NSPTONS	1... .. .1.. .. ..1. .. ...1 1.. .... .1.. .....xx	Takover Notification PIU status. DR history is forthcoming. Receiver is primary for session accounting data. Receiver is primary for and will receive DR Notification. Receiver is primary for Network Performance Data. Reset RRT to genned NCP level. Receiver is primary for GW session accounting. Reserved.

Non Sequential Queue

Program: NCP
Size in bytes: 24(18)
Created by: NCP generation
Pointer to: QPBNSQP field in the QPB
Function: Provides a path by which function management data FID1 PIUs are passed to the connection point manager-in (CXDCPSI) to be sent to all SSCPs (as required) that are in session with the NCP

Format:

Standard Input QCB
Task—CXDNEOPS
Priority—Immediate
Reentrant—No

NPM Session Counter Extensions Block

Program: NCP
Size in bytes: 20(14)
Created by: NCP initialization
Pointer to: NSCEXTP in first in chain, NSXNEXT of previous NSX in chain if not first in chain
Function: There are four types of NSXs: A CV60 saved extension, a session start/end time and date extension, a alias names extension and a real names extension. These are used to save session accounting information.

CV60 Saved Extension to the NSC

0(0)		NSXNEXT Pointer to next NSX in NSC extension chain or the next NSX in the NSX pool.	
NSXSTAT* Extension status.			
4(4) - 11(B)		NSXPCID Procedure correlator ID (PCID).	
12(C)	NSXCNT NNT index for the name portion of the fully qualified CP name.	14(E)	NSXNNT NNT index for the NETID portion of the fully qualified CP name.
16(10) Reserved.			

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) NSXSTAT	1... .. .xxx xxxx	Extension Status. NSX Allocated. Type Extension 000 = CV60 Saved Reserved.

Session Start/End Time and Date Extension to the NSC

0(0) NSXNEXT Pointer to next NSX in NSC extension chain or the next NSX in the NSX pool.			
NSXSTAT* Extension status.			
4(4) NSXSSJD** Julian date of session start (yddd).		6(6) NSXSEJD** Julian date of session end (yddd).	
8(8) NSXSSHH Hour of session start.	9(9) NSXSSMM Minute of session start.	10(A) NSXSSSS Second of session start.	11(B) NSXSEHH Hour of session end.
12(C) NSXSEMM Minute of session end.	13(D) NSXSESS Second of session end.	14(E) NSXPLID*** LNID of adjacent Network-PLU side.	15(F) NSXSLID*** LNID of adjacent Network-SLU side.
16(10) NSXPNT*** NNT index of NETID for the PLU.		18(12) NSXSNNT*** NNT index of NETID for the SLU.	

- * Indicates a byte expansion follows.
- ** Date consists of three nibbles used for julian day and the upper nibble for the current year difference from the year of the gen.
- *** SNI Sessions only.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) NSXSTAT		Extension Status.
	1... ..	NSX Allocated.
	.xxx ..	Type Extension 001 = Session Start/End.
	.... 1...	Time and Date Session Start Time/Date Saved.
	.... .1..	Inaccurate Session Start Time/Date.
	.... ..1.	Session End Time/Date Saved.
	.... ...1	Inaccurate Session End Time/Date.

Alias Names Extension to the NSC

(SNI sessions only)

0(0)	NSXNEXT Pointer to next NSX in NSC extension chain or the next NSX in the NSX pool.
NSXSTAT* Extension status.	
4(4) - 11(B)	NSXAPLU** Alias name of the PLU.
12(C) - 19(13)	NSXASLU** Alias name of the SLU.

* Indicates a byte expansion follows.

** Left-justified padded with blanks.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) NSXSTAT	1... .. .xxx xxxx	Extension Status. NSX Allocated. Type Extension 011 = Alias Names. Reserved.

Real Names Extension to the NSC

(SNI sessions only)

0(0)	NSXNEXT Pointer to next NSX in NSC extension chain or the next NSX in the NSX pool.
NSXSTAT* Extension status.	
4(4) - 11(8)	NSXRPLU** Real name of the PLU.
12(C) - 19(13)	NSXRSLU** Real name of the SLU.

* Indicates a byte expansion follows.

** Left-justified padded with blanks.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
0(0) NSXSTAT	1... .... .xxx xxxx	Extension Status. NSX Allocated. Type Extension 010 = Real Names. Reserved.

Network Vector Table

Program: NCP
Size in bytes: 8 plus 44(2C) bytes per entry
Created by: NCP generation
Pointer to: SYSNVTP field in HWE
Function: Contains an entry for each network defined in the NCP. Each entry holds network specific information.

NVT Header

0(0)			
NVTNVX Pointer to the network vector table extension (NVX).			
4(4)	5(5)	6(6)	7(7)
NVTNENT Number of entries.	NVTENTS Entry size.	Reserved.	Reserved.

NVT Entry

0(0) - 7(7)			
NVTNWID Network ID.			
8(8)	10(A)	11(B)	
NVTADRPS Address of NCP physical services to this network.	Reserved.	Reserved.	
12(C)			
NVTSUBA NCP subarea.			
16(10)			
NVTSTIP Pointer to the subarea index table (SIT) of this network.			
NVTLNID Local network ID.			
20(14)			
NVT RVTP Pointer to the resource vector table (RVT) of this network.			
NVTFLGS* NVT flags.			

* Indicates a byte expansion follows.

24(18)		
NVTVITP Pointer to the virtual route subarea index table (VIT) of this network.		
28(1C)		
NVTFNIB Pointer to the first network interconnection block (NIB) in the chain of NIBs.		
32(20)		
NVTLNIB Pointer to the last network interconnect block (NIB) in the chain of NIBs.		
NVTSLIM Maximum half-session control blocks per NIB.		
36(24)		
NVTRMBP Pointer to the route management block (RMB) of this network.		
40(28)	42(2A)	
NVTNTLIM Maximum number of half-session control blocks for this network.	NVTNTUSE Number of used half-session control blocks for this network.	
44(2C)	46(2E)	47(2F)
NVTNSALIM* SALIMIT for this network.	NVTERLIM* ERLIMIT for this network.	Reserved.

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
20(14) NVTFLGS	1... ..	NVT flags. ACTPUs are allowed from the SSCPs in this network.

Offset/Field Name	Bit Pattern	Contents
44(2C) NVTNSALIM	X'00FF' X'01FF' X'03FF' X'07FF' X'0FFF' X'1FFF' X'3FFF' X'7FFF' X'FFFF'	SALIMIT for this network. SALIMIT = 255 SALIMIT = 511 SALIMIT = 1023 SALIMIT = 2047 SALIMIT = 4095 SALIMIT = 8191 SALIMIT = 16383 SALIMIT = 32767 SALIMIT = 65535

Offset/Field Name	Bit Pattern	Contents
46(2E) NVTERLIM	X'08' X'10'	ERLIMIT for this network. ERLIMIT = 8 ERLIMIT = 16

Network Vector Table Extension

Program: NCP
Size in bytes: 40(28)
Created by: NCP generation
Pointer to: NVTNVX field in the NVT header
Function: Provides an extension to the Network Vector Table (NVT)

0(0)	NVXEMLP Pointer to the ER-to-VR mapping list.
4(4)	NVXAVQ Pointer to the activate virtual route (ACTVR) QCB.
8(8)	NVXDAVQ Pointer to the deactivate virtual route (DACTVR) QCB.
12(C)	NVXRTQ Pointer to the route test QCB.
16(10)	NVXUIC Pointer to the user interface control block.
20(14)	NVXERACT Sequence number of the next activate explicit route (ER.ACT) sent by the NCP.
24(18)	NVXHSBPP Pointer to the first NIX in the half-session control block pool.
28(1C)	NVXHSBFP Pointer to the final NIX in the half-session control block pool.
32(20)	NVXFCTP Pointer to the flow control parameter table (FCT).
36(24)	NVXVOSP Pointer to the VR Out-of-Sequence (VOS) queue.

Owners Data Area (3745 only)

Program: NCP
Size in bytes: 196(C4)
Created by: NCP generation
Pointer to: SYSODAP field in HWX
Function: Contains information about the owners of resources or the network name and subarea of a host using a TG during a conditional switchback operation or during a conditional disconnect line adapter operation

Header

0(0) ODANUM Number of entries.	2(2) ODALEA A link element address.
--------------------------------------	-------------------------------------------

Entry

4(4) - 11(B) ODANAME Network name of host using channel TG or name of SSCP found to own a LA or BNN CA.
12(C) ODASUB Subarea address or zeros.

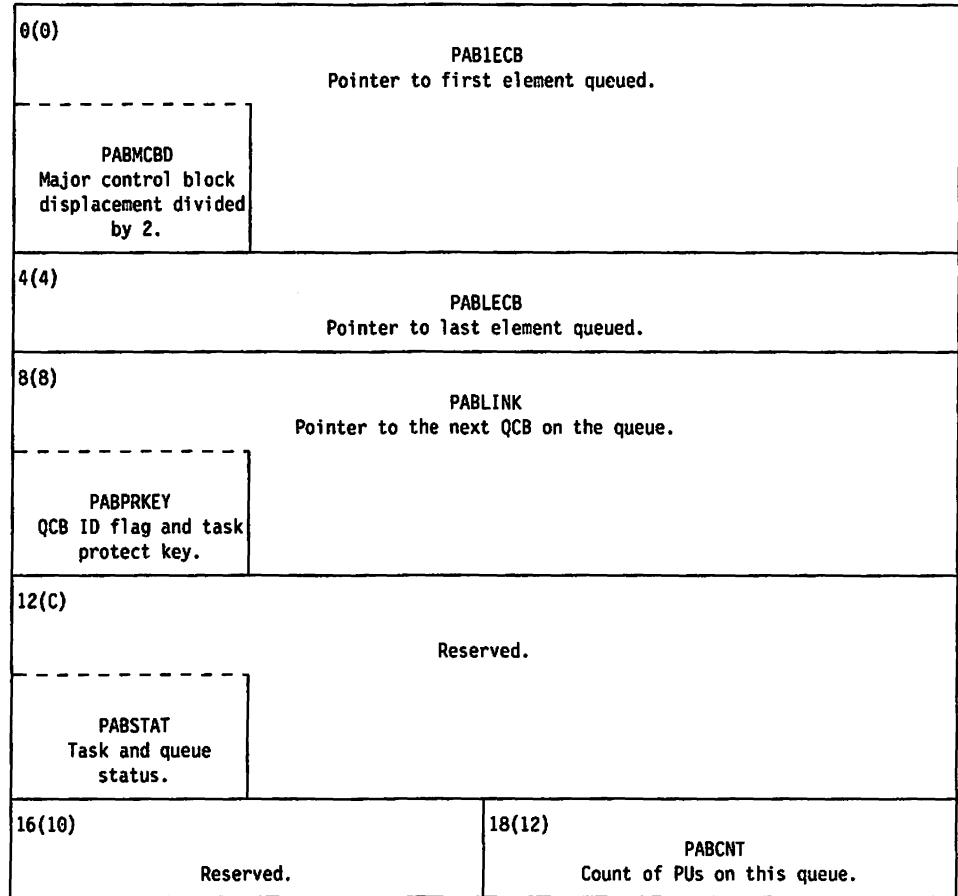
Online Terminal Test Control Block

Program: NCP
Size in bytes: 44(2C)
Located in: Dynamically allocated buffer
Created by: When a BTU Test command is received
Pointer to: DVBSDRT field in DVB when in online test mode
Function: Contains status flags and counters from diagnostic I/O operations

0(0) - 7(7)		
OLTCTRS Counters.		
8(8) - 15(F)		
OLTFLGS Flags. (This field can also be used for counters.)		
16(10)	18(12)	19(13)
OLTSTAT Status field (same as IOBSTAT).	OLTEXST Extended status field (same as IOBEXTST).	Reserved.
20(14)	21(15)	22(16)
OLTPHER Phase error-converted.	OLTFSTS First status-converted.	OLTFNLS Final status-converted.
24(18)	26(1A)	
OLTCCMAD Current relative command address.	Reserved.	
28(1C)		
OLTEMP Temporary fullword and halfword work area.		
32(20)		
OLTFBAD Address of first CBU buffer.		
36(24)		
OLTLCBAD LCB address.		
OLTXFER Maximum buffers in Read subblock.		
40(28)		
OLTCBAD Current command buffer address.		
OLTCTBOF Offset into current buffer.		

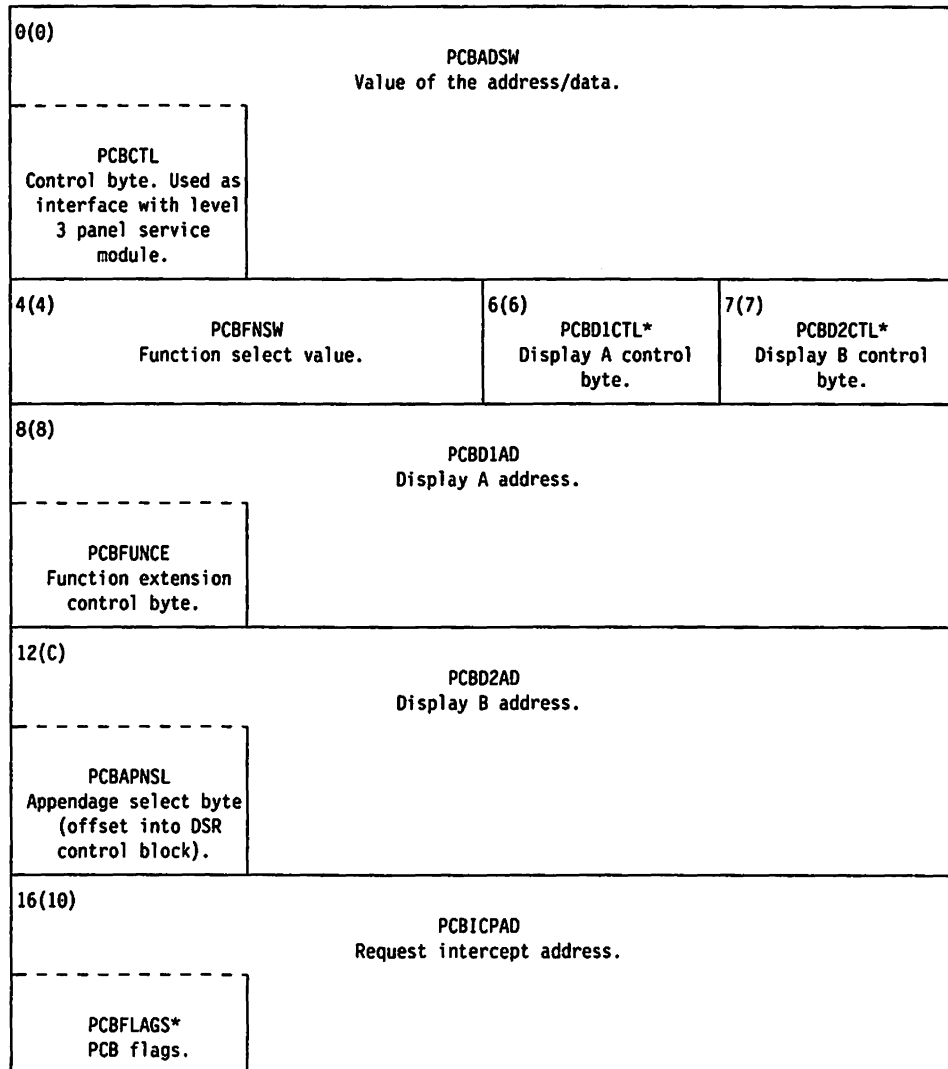
PU Pool Anchor Block

Program: NCP
Size in bytes: 20(14)
Created by: PUDRPOOL or LUDRPOOL in NCP system generation
Pointer to: SYSPABP field in HWX
Function: Contains the QCB and count of CUB elements that are in the dynamic reconfiguration pool



Panel Control Block

Program: NCP
Size in bytes: 30(1E)
Created by: NCP generation
Pointer to: SYSPDBP field in HWE
Function: Provides an area through which information is passed between modules for control panel or console operation



* Indicates a byte expansion follows.

20(14) PCBDRTE MOSS display rate count.	21(15) Reserved.
24(18) PCBSTOAD Address of current storage to be displayed or altered.	
PCBINCR* Storage length to be displayed or altered.	
28(1C) Reserved.	

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
6(6) PCBD1CTL	.... .x 0000 000. 0000 001. 0000 010. 0000 011. 0000 100. 0000 101.	1 = Display once and then NO-OP. 0 = Continuous display. NO-OP. 22-bit direct (PCBD1AD). Halfword storage indirect (PCBD1AD). 22-bit storage indirect (PCBD1AD). External register. Byte storage indirect (PCBD1AD).

Offset/Field Name	Bit Pattern	Contents
7(7) PCBD2CTL	.... .x 0000 000. 0000 001. 0000 010. 0000 011. 0000 100. 0000 101.	1 = Display once and then NO-OP. 0 = Continuous display. NO-OP. 22-bit direct (PCBD2AD). Halfword storage indirect (PCBD2AD). 22-bit storage indirect (PCBD2AD). External register. Byte storage indirect (PCBD2AD).

Offset/Field Name	Bit Pattern	Contents
16(10) PCBFLAGS	1... xxxx	PCB flags. Panel Function 40 in progress. Reserved.

Offset/Field Name	Hex Value	Contents
24(18) PCBINCR	X'01' X'02' X'04'	Storage length to be displayed or altered. Store byte. Store halfword. Store 22-bit word.

Path Information Unit (FID0)

Program: NCP
Size in bytes: 62(3E) plus variable-length text plus prefix
Function: Basic unit of transmission in the network. The FID0 PIU is used for requests directed to BSC and start-stop devices.

Notes:

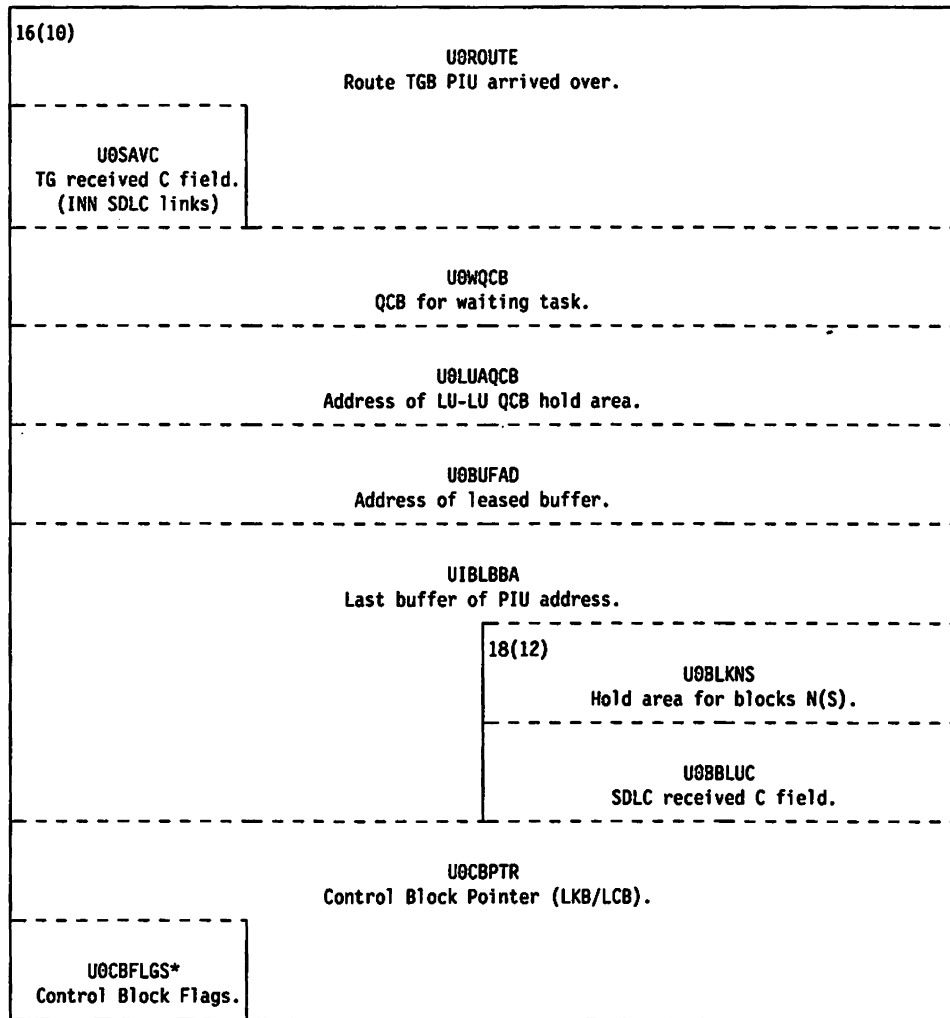
1. This PIU layout is as it appears in an NCP buffer. The basic PIU begins with the transmission header. See "PIU Formats in NCP Buffers" for the relationship of the buffer offset to the PIU offset as seen in traces.
2. When the buffer has been released the address where the buffer was released is stored in the fullword at 64(40).

Buffer Prefix

-4(4) U0BHTG Buffer tag.	-3(3) U0BUFTAG Buffer overlay check. X'C2'	-2(2) U0VVTI Buffer virtual route vector table index.	
0(0) U0BUFCHN Buffer prefix chain field.			
4(4) U0COPYF Copy field.		6(6) U0OFFSET Buffer prefix data offset field.	7(7) U0DATCNT Buffer prefix data count field.
U0COPCT Copy count.	5(5) U0COPYS Copy status.		

Event Control Block

8(8) U0ECHN ECB chain pointer.		
U0ESTAT Event status flags.		
12(C) U0CSTAT Block status flags.	13(D) Reserved.	14(E) U0TMINT Set time interval, as specified by SETIME macro.
U0TCNT PIU0 text count.		



* Indicates a byte expansion follows.

Internal Work Area

20(14)		UOSAVACB TGB ACB address over which PIU was received. (INN SDLC links)	
		UIBØXSCB SCB address over which PIU was transmitted	
24(18)	UIHRCCW Number of host read CCWs.	26(1A)	Alignment bytes.
	UØERBST* ER broadcast status.		
	UIBØTYPE Equal to the first byte of destination RVT.		
	UØCPNST CP notification status (SNP mask).	25(19)	
		UIBØSTAT* UIB status.	
		UIBØINOP Remember to send IPL or RPO to the SSCP.	
28(1C)	Alignment bytes.		30(1E)
			THØVVT VVTI field.
32(20)	THØSNP SNP mask.	33(21)	Alignment bytes.
36(24)	THØTSK LPDA task pointer save area.		
40(28)	Alignment bytes.		

* Indicates a byte expansion follows.

Transmission Header (TH)

	42(2A) TH0B0* TH byte 0.	43(2B) Reserved.
44(2C) TH0DAF Destination element address.	46(2E) TH0OAF Origin element address.	
48(30) TH0SNF Sequence number.	50(32) TH0DCF Count (RH + RU).	

* Indicates a byte expansion follows.

Request/Response Header (RH)

52(34) RH0B0* RH byte 0. (See Section 5)	53(35) RH0B1* RH byte 1.	54(36) RH0B2* RH byte 2.	55(37) RH0PAD NLDM session sequence number.
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* Indicates a byte expansion follows.

Request Response Unit (RU)

56(38) RU0CMD BTU command. (See Section 3)	57(39) RU0MOD BTU command modifier. (See Section 3)	58(3A) RU0FLG BTU flags. (See BTU)
60(3C) RU0SRP BTU system response. (See Section 8)	61(3D) RU0LRP BTU extended response. (See Section 8)	62(3E) RU0LRP Text field. (Variable length)

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
16(10) U0CBFLGS	x... ..	Control Block Flags Control Block Type 0 = LKB Pointer. 1 = LCB Pointer.

Offset/Field Name	Hex Value	Contents
24(18) U0ERBST	X'00' X'yy'	ER broadcast status. Not suspended. Suspended. (Value is the displacement into the SVT.)

Offset/Field Name	Hex Value	Contents
25(19) UIB0STAT	X'80' X'01' X'02' X'03' X'04' X'05' X'06'	UIB status. Recurrent PIU/sensitive data indicator. Invalid DAF. Unrecoverable path error. Unrecoverable station error. Invalid DCF. Incomplete header. Format error.

Offset/Field Name	Bit Pattern	Contents
42(2A) TH0B0	..00 ........ ...X	Transmission header byte 0. FID0 BSC/SS node. 1 = Expedited flow. 0 = Normal flow.

Offset/Field Name	Bit Pattern	Contents
52(34) RH0B0	x... x... .... .x..	Request/response byte 0. 1 = Response. 0 = Request. 1 = Formatted. 0 = Unformatted. 1 = Sense data included. (See Section 9.) 0 = No sense data included.

Offset/Field Name	Bit Pattern	Contents
53(35) RH0B1	1... .... ...1 ........ .1.. .... .1.	Request/response byte 1. Definite response 1 requested/sent. Exception response requested/sent. Larger window requested for adaptive session pacing. Queued response indicator on.

Path Information Unit (FID1)

Program: NCP
Size in bytes: 60(3C) plus variable-length text plus prefix
Function: Basic unit of transmission in the network. The FID1 PIU is used for transmission between the host, local NCP, and remote NCP.

Notes:

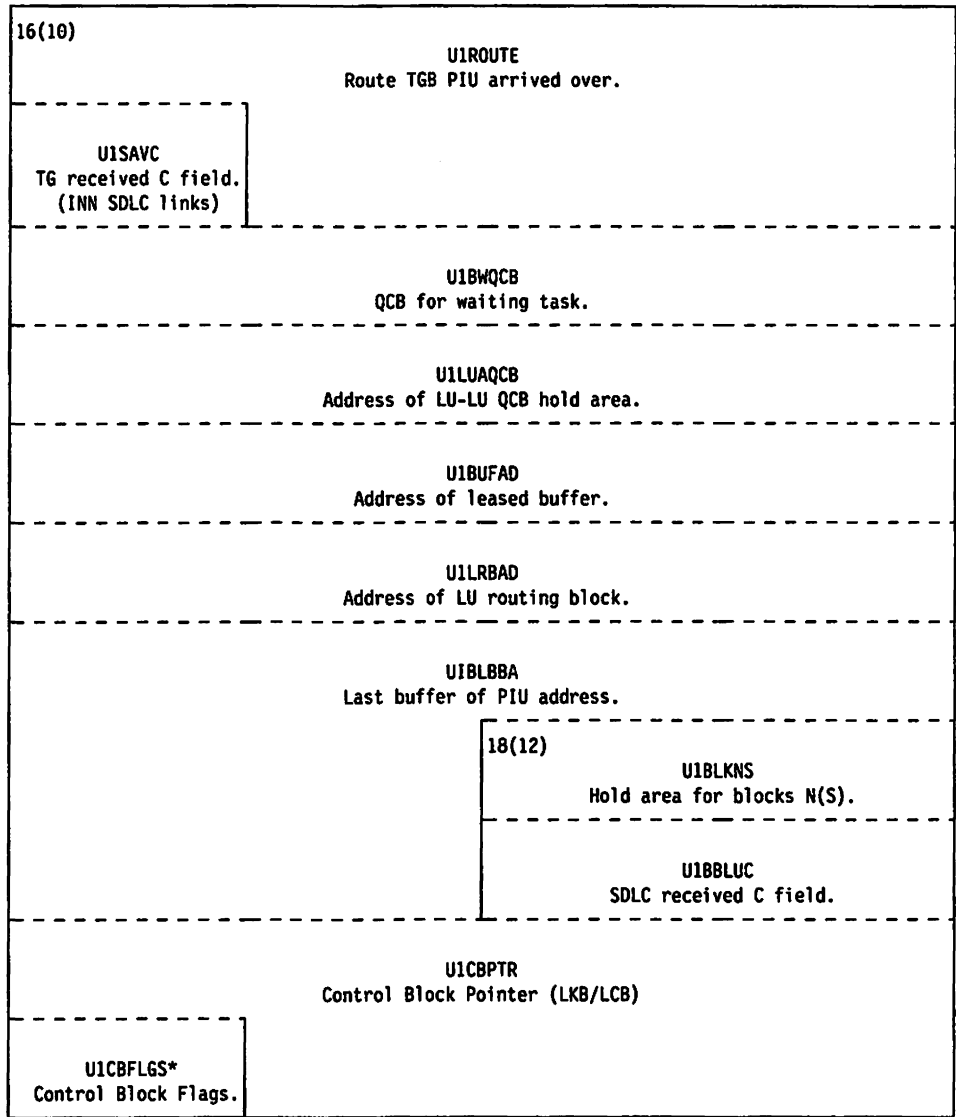
1. This PIU layout is as it appears in an NCP buffer. The basic PIU begins with the transmission header. See "PIU Formats in NCP Buffers" for the relationship of the buffer offset to the PIU offset as seen in traces.
2. When the buffer has been released the address where the buffer was released is stored in the fullword at 64(40).

Buffer Prefix

-4(4) U1BHTG Buffer tag.	-3(3) U1BUFTAG Buffer overlay check. X'C2'	-2(2) U1VVTI Buffer virtual route vector table index.	
0(0) U1BUFCHN Buffer prefix chain field.			
4(4) U1COPYPF Copy field.		6(6) U1OFFSET Buffer prefix data offset field.	7(7) U1DATCNT Buffer prefix data count field.
U1COPCT Copy count.	5(5) U1COPYS Copy status.		

Event Control Block

8(8) U1ECHN ECB chain pointer.		
U1ESTAT Event status flags.		
12(C) U1CSTAT Block status flags.	13(0) Reserved.	14(E) U1TMINT Set time interval, as specified by SETIME macro.
		U1END1 Queued SDLC status.
		U1TCNT PIU1 text count.



* Indicates a byte expansion follows.

Internal Work Area

20(14)		UISAVACB TGB ACB address over which PIU was received. (INN SDLC links)		
		UIBIXSCB SCB address over which PIU was transmitted. (All SDLC links)		
UIVRVVTI Virtual Vector table index (if on the VOS queue).		22(16)	UIRECSQ Next expected sequence number for the VR (if on the VOS Queue).	
24(18)	UIHRCCW Number of host read CCWs.	26(1A)	Alignment bytes.	
	UIERBST* ER broadcast status.			
	UIBITYPE Equal to the first byte of destination RVT.			
	UICPNST CP notification status (SNP mask).			
	UIVRLNID LNID (if on VOS queue).	25(19)		UIB1STAT* UIB status.
		UIB1INOP Remember to send IPL or RPO to the SSCP.		
		UI1SDST ER tested status.		
		UIBFLSD Buffer leased count for NTRI INN.		

* Indicates a byte expansion follows.

Internal Work Area (cont.)

28(1C) Alignment bytes.		30(1E) TH1VVT VVTI field.	
32(20) TH1SNP SNP mask.	33(21) Alignment bytes.		
36(24) TH1TSK LPDA task pointer save area.			
40(28) Alignment bytes.			

Transmission Header

Note: Correlate fields between FID1 and FID4 by address only.

		42(2A) TH1B0* TH byte 0.	43(2B) Reserved.
44(2C) TH1DAF Destination element address.		46(2E) TH1OAF Origin element address.	
48(30) TH1SNF Sequence number.		50(32) TH1DCF Count (RH + RU).	

* Indicates a byte expansion follows.

Request/Response Header (RH)

52(34) RH1B0* RH byte 0. (See Section 5)	53(35) RH1B1* RH byte 1.	54(36) RH1B2* RH byte 2.
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* Indicates a byte expansion follows.

Request Response Unit (RU)

(General format for all commands not listed after the RU)

		55(37) RU1BT0 First byte of prefix for SSCP-FM requests. (See Section 5)
		RU1RC0 Request code for non SSCP-FM requests. (See Section 5)
56(38) RU1BT1 Second byte of prefix for SSCP-FM requests. (See Section 5)	57(39) RU1RC2 Request code for SSCP-FM requests. (See Section 5)	58(3A) RU1NA* Element address for SSCP-FM requests.

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
16(10) U1CBFLGS	x... ..	Control Block Flags Control Block Type 0 = LKB Pointer. 1 = LCB Pointer.

Offset/Field Name	Hex Value	Contents
24(18) U1ERBST	X'00' X'yy'	ER broadcast status. Not suspended. Suspended. (Value is the displacement into the SVT.)

Offset/Field Name	Hex Value	Contents
25(19) UIB1STAT	X'80' X'01' X'02' X'03' X'04' X'05' X'06' X'00' X'01' X'02' X'03' X'04' X'05' X'06' X'07' X'09'	UIB status. Recurrent PIU/sensitive data indicator. Invalid DAF. Unrecoverable path error. Unrecoverable station error. Invalid DCF. Incomplete header. Format error. For PEP Switch Good switch. Good switch. Line trace active. Line active. Panel line test active. Wrap active. Postponed processing. Transparent mode waiting for host write (EP only). Already switched.

Offset/Field Name	Bit Pattern	Contents
42(2A) TH1B0	..01 01.. 10.. 11.. 00.. .... ..x. .... ...x	Transmission header byte 0. FID1 intermediate node. Last segment. First segment. Only segment. Middle segment. 1 = Primary-to-secondary flow. 0 = Secondary-to-primary flow. 1 = Expedited flow. 0 = Normal flow.

Offset/Field Name	Bit Pattern	Contents
52(34) RH1B0	x... .. . .00. .... .01. .... .10. .... .11. x... .... .1.. .... ..11.... ..10.... ..01.... ..00	Request/response byte 0. 1 = Response. 0 = Request. Function management data (see Section 5). Network control (see Section 5). Data flow control (see Section 5). Session control (see Section 5). 1 = Formatted. 0 = Unformatted. 1 = Sense data included (see Section 9). 0 = No sense data. Only element. First element. Last element. Middle element.

Offset/Field Name	Bit Pattern	Contents
53(35) RH1B1	1... .. ..1. .... ...1 ........ .1.. .... ..1. .....1	RH byte 1. Definite response 1 requested/sent. Definite response 2 requested/sent. Exception response requested/sent. Larger window requested for adaptive session pacing. Queued response indicator on. Pace.

Offset/Field Name	Bit Pattern	Contents
54(36) RH1B2	1... .. ..1. .... ..1. .... ...1 ........ .1..	RH byte 2. Begin bracket. End bracket. Change direction (HDX only). Request change of direction. Logging.

Offset/Field Name	Hex Value	Contents
58(3A) RU1NA	Byte 0 X'01' X'02'	SSCP-FM LSA reason code. Unexpected physical outage. Controlled node disconnected.

Path Information Unit (FID2)

Program: NCP

Size in bytes: 60(3C) plus variable-length text plus prefix

Function: Basic unit of transmission in the network. The FID2 PIU is used for transmission between the NCP and the cluster control unit.

Notes:

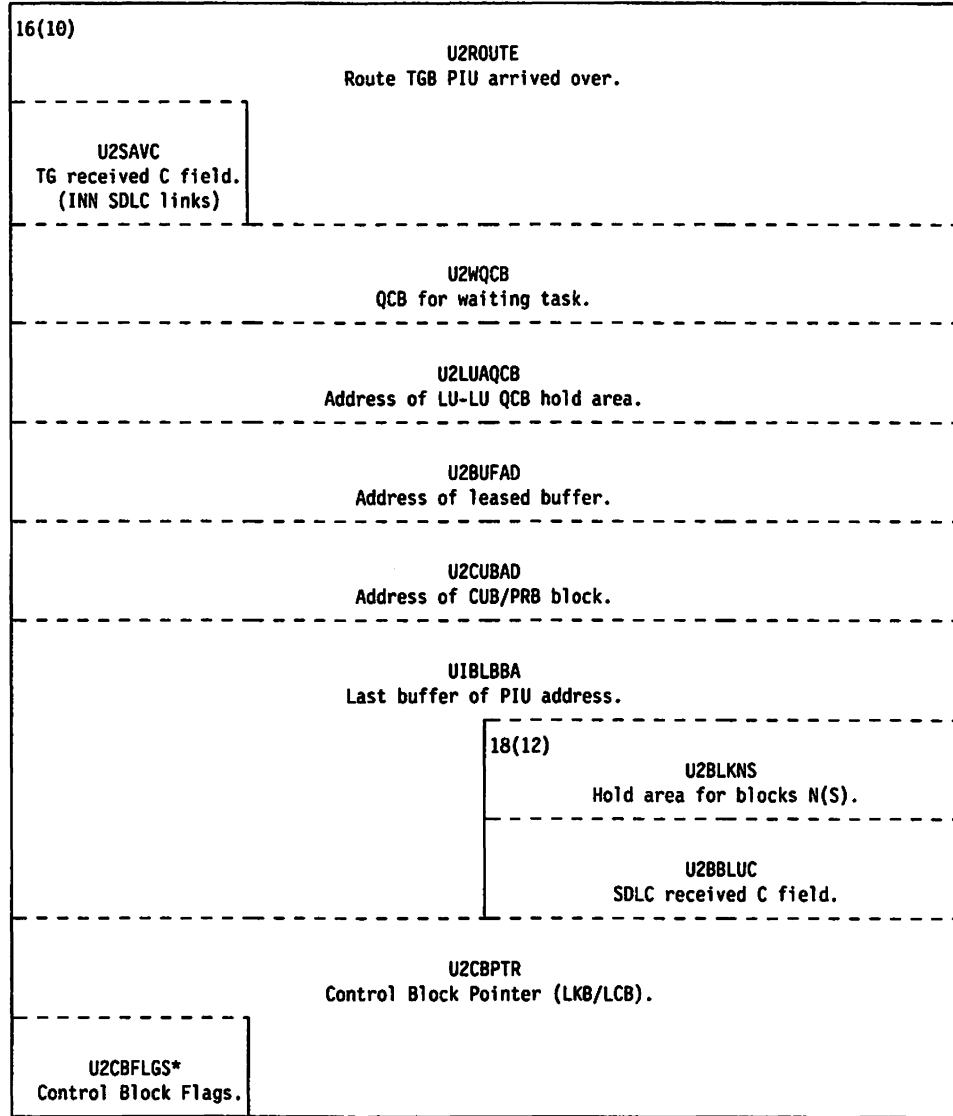
1. This PIU layout is as it appears in an NCP buffer. The basic PIU begins with the transmission header. See "PIU Formats in NCP Buffers" for the relationship of the buffer offset to the PIU offset as seen in traces.
2. When the buffer has been released the address where the buffer was released is stored in the fullword at 64(40).

Buffer Prefix

-4(4) U2BHTG Buffer tag.	-3(3) U2BUFTAG Buffer overlay check. X'C2'	-2(2) U2VVTI Buffer virtual route vector table index.	
0(0) U2BUFCHN Buffer prefix chain field.			
4(4) U2COPYF Copy field.		6(6) U2OFFSET Buffer prefix data offset field.	7(7) U2DATCNT Buffer prefix data count field.
U2COPCT Copy count.	5(5) U2COPYS Copy status.		

Event Control Block

8(8) U2ECHN ECB chain pointer.		
U2ESTAT Event status flags.		
12(C) U2CSTAT Block status flags.	13(D) Reserved.	14(E) U2TMINT Set time interval as specified by SETIME macro.
		U2TCNT PIU2 text count.



* Indicates a byte expansion follows.

Internal Work Area

20(14)		U2SAVACB TG ACB address over which PIU was received. (INN SDLC links)	
		UIB2XSCB SCB address over which PIU was transmitted. (All SDLC links)	
U2VRVVTI Virtual Vector table index (if on the VOS queue).		22(16)	U2RECSQ Next expected sequence number for the VR (if on the VOS queue).
24(18)		26(1A)	
UIHRCCW Number of host read CCWs.		Alignment bytes.	
U2ERBST* ER broadcast status.			
UIB2TYPE Equal to the first byte of destination RVT.			
U2CPNST CP notification status (SNP mask).			
U2VRLNID LNID (if on VOS queue).			
25(19)			
UIB2STAT* UIB status.			
		U2TSDST ER tested status.	
		UIB2INOP Remember to send IPL or RPD to the SSCP.	
		U2BFLSD Buffer leased count for NTRI INN.	

* Indicates a byte expansion follows.

Internal Work Area (cont.)

28(1C) Alignment bytes.		30(1E) TH2VVT VVTI field.	
32(20) TH2SNP SNP mask.	33(21) Alignment bytes.		
36(24) TH2TSK LPDA task pointer save area.			
40(28) Alignment bytes.		42(2A) TH2LLEN Length of data in the FID2 Data (plus link header (LH) size).	
44(2C) Reserved.	45(2D) TH2LHFCD* Link header function code.		

* Indicates a byte expansion follows.

Transmission Header

		46(2E) TH2B0* TH byte 0.	47(2F) Reserved.
48(30) TH2DAF Destination element address.	49(31) TH2OAF Origin element address.	50(32) TH2SNF Sequence number field.	

* Indicates a byte expansion follows.

Request/Response Header (RH)

52(34) RH2B0* RH byte 0. (See Section 5)	53(35) RH2B1* RH byte 1.	54(36) RH2B2* RH byte 2.
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* Indicates a byte expansion follows.

Request Response Unit (RU)

		55(37) RU2BT0 First byte of prefix for SSCP-FM requests. (See Section 5)
		RU2RC0 Request code for non SSCP-FM requests. (See Section 5)
56(38) RU2BT1 Second byte of prefix for SSCP-FM requests. (See Section 5)	57(39) RU2RC2 Request code for SSCP-FM requests. (See Section 5)	58(3A) RU2NA Element address for SSCP-FM requests.

* Indicates a byte expansion follows.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
16(10) U2CBFLGS	x... ..	Control Block Flags Control Block Type 0 = LKB Pointer. 1 = LCB Pointer.

Offset/Field Name	Hex Value	Contents
24(18) U2ERBST	X'00' X'yy'	ER broadcast status. Not suspended. Suspended. (Value is the displacement into the SVT.)

Offset/Field Name	Hex Value	Contents
25(19) UIB2STAT	X'80' X'01' X'02' X'03' X'04' X'05' X'06'	UIB status. Recurrent PIU/sensitive data indicator. Invalid DAF. Unrecoverable path error. Unrecoverable station error. Invalid DCF. Incomplete header. Format error.

Offset/Field Name	Hex Value	Contents
45(2D) TH2LHFC	X'00' X'05' X'06' X'FF'	Link header function code. (Line headers precede FID2 data over a channel.) Data for PIU with link header. (Host T2.1 and NCP can send.) Request XID exchange. (NCP sends.) Set blocking delay. (Host T2.1 sends.) Reserved.

Offset/Field Name	Bit Pattern	Contents
46(2E) TH2B0	..10 01.. 10.. 11.. 00.. .... ..1. .... ...x	Transmission header byte 0. FID2 cluster node. Last segment. First segment. Only segment. Middle segment. BIND issued by this NCP's outboard PLU. 1 = Expedited flow. 0 = Normal flow.

Offset/Field Name	Bit Pattern	Contents
52(34) RH2B0	x... xx.. x.. .... .x.. .... ..11.... ..10.... ..01.... ..00	Request/response byte 0. 1 = Response. 0 = Request. 00 = Function management data (see Section 5). 01 = Network control (see Section 5). 10 = Data flow control (see Section 5). 11 = Session control (see Section 5). 1 = Formatted. 0 = Unformatted. 1 = Sense data included (see Section 9). 0 = No sense data. Only element. First element. Last element. Middle element.

Offset/Field Name	Bit Pattern	Contents
53(35) RH2B1	1... .. .1.. .. ...1 .. .... .1.. .... ..1. .... ..1	RH byte 1. Definite response 1 requested/sent. Definite response 2 requested/sent. Exception response requested/sent. Larger window requested for adaptive session pacing. Queued response indicator on. Pace.

Offset/Field Name	Bit Pattern	Contents
54(36) RH2B2	1... .. .1.. .. ..1. .... ...1 x.. .... ..1	RH byte 2. Begin bracket. End bracket. Change direction (HDX only). Request change direction. Reserved. Logging.

Path Information Unit (FID3)

Program: NCP
Size in bytes: 60(3C) plus variable-length text plus prefix
Function: Basic unit of transmission in the network. The FID3 PIU is used for transmission between the NCP and a terminal node.

Notes:

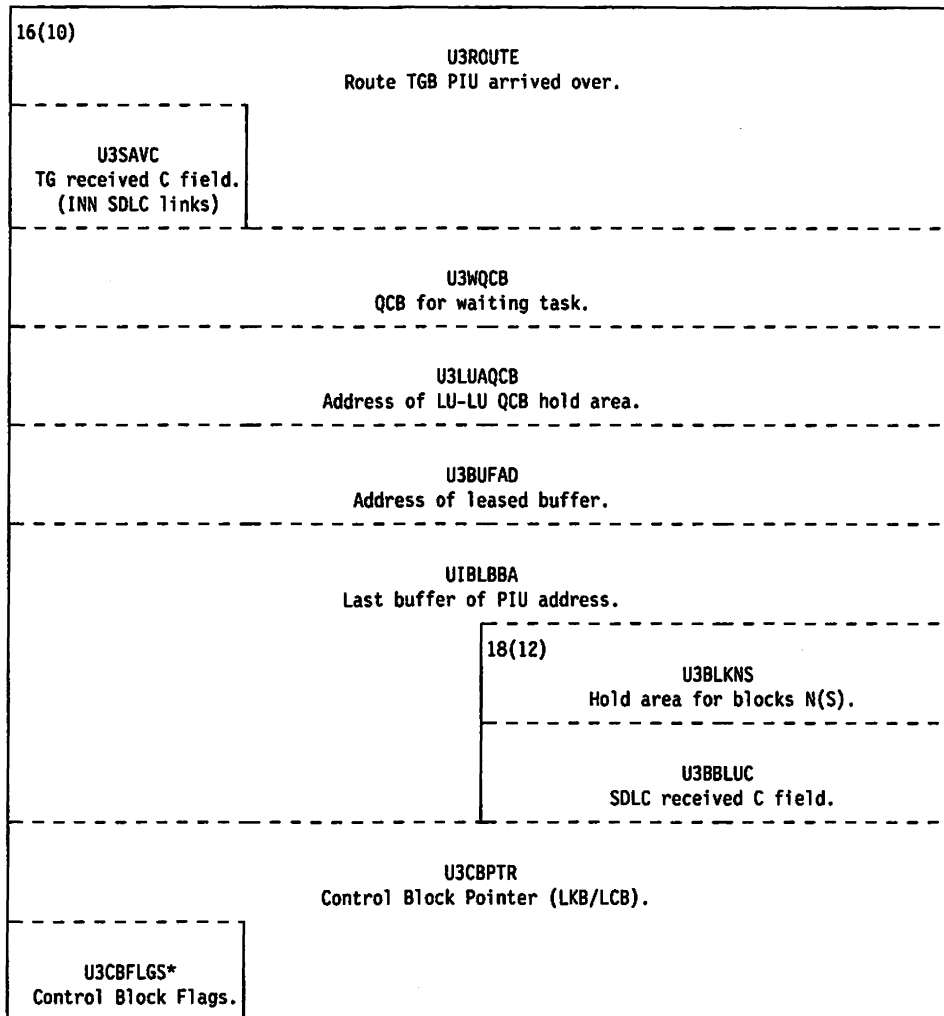
1. This PIU layout is as it appears in an NCP buffer. The basic PIU begins with the transmission header. See "PIU Formats in NCP Buffers" for the relationship of the buffer offset to the PIU offset as seen in traces.
2. When the buffer has been released the address where the buffer was released is stored in the fullword at 64(40).

Buffer Prefix

-4(4) U3BHTG Buffer tag.	-3(3) U3BUFTAG Buffer overlay check. X'C2'	-2(2) U3VVTI Buffer virtual route vector table index.	
0(0) U3BUFCHN Buffer prefix chain field.			
4(4) U3COPYF Copy field.		6(6) U3OFFSET Buffer prefix data offset field.	7(7) U3DATCNT Buffer prefix data count field.
U3COPCT Copy count.	5(5) U3COPYS Copy status.		

Event Control Block

8(8) U3ECHN ECB chain pointer.		
U3ESTAT Event status flags.		
12(C) U3CSTAT Block status flags.	13(D) Reserved.	14(E) U3TMINT Set time interval, as specified by SETIME macro.
		U3TCNT PIU3 text count.



* Indicates a byte expansion follows.

Internal Work Area

20(14)		U3SAVACB TG ACB address over which PIU was received. (INN SDLC links)		
		UIB3XSCB SCB address over which PIU was transmitted. (All SDLC links)		
U3VRVVTI Virtual Vector table index (if on the VOS queue).		22(16)	U3RECSQ Next expected sequence number for the VR (if on the VOS queue).	
24(18)		26(1A)		
UIHRCCW Number of host read CCWs.		Alignment bytes.		
U3ERBST* ER broadcast status.				
UIB3TYPE Equal to the first byte of destination RVT.				
U3CPNST CP notification status (SNP mask).				
U3VRLNID LNID (if on VOS queue).	25(19)			UIB3STAT* UIB status.
				UIB3INOP Remember to send IPL or RPO to the SSCP.
				U3TSDST ER status tested.
		U3BFLSD Buffer leased count for NTRI INN.		

* Indicates a byte expansion follows.

Internal Work Area (cont.)

28(1C) Alignment bytes.		30(1E) TH3VVT VVTI field.	
32(20) TH3SNP SNP mask.	33(21) Alignment bytes.		
36(24) TH3TSK LPDA task pointer save area.			
40(28) Alignment bytes.			

Transmission Header

50(32) TH3B0* TH byte 0.	51(33) TH3DA0F* Local session ID.
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* Indicates a byte expansion follows.

Request/Response Header (RH)

52(34) RH3B0* RH byte 0. (See Section 5)	53(35) RH3B1* RH byte 1.	54(36) RH3B2* RH byte 2.
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* Indicates a byte expansion follows.

Request Response Unit (RU)

		55(37) RU3BT0 First byte of prefix for SSCP-FM requests. (See Section 5)	
		RU3RC0 Request code for non SSCP-FM requests. (See Section 5)	
56(38) RU3BT1 Second byte of prefix for SSCP-FM requests. (See Section 5)	57(39) RU3RC2 Request code for SSCP-FM requests. (See Section 5)	58(3A) RU3NA Element address for SSCP-FM requests.	

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
16(10) U3CBFLGS	x... ..	Control Block Flags Control Block Type 0 = LKB Pointer. 1 = LCB Pointer.

Offset/Field Name	Hex Value	Contents
24(18) U3ERBST	X'00' X'yy'	ER broadcast status. Not suspended. Suspended. (Value is the displacement into the SVT.)

Offset/Field Name	Hex Value	Contents
25(19) UIB3STAT	X'80' X'01' X'02' X'03' X'04' X'05' X'06'	UIB status. Recurrent PIU/sensitive data indicator. Invalid DAF. Unrecoverable path error. Unrecoverable station error. Invalid DCF. Incomplete header. Format error.

Offset/Field Name	Bit Pattern	Contents
50(32) TH3B0	..11 01.. 10.. 11.. 00.. .... ...x	Transmission header byte 0. FID3 terminal node. Last segment. First segment. Only segment. Middle segment. 1 = Expedited flow. 0 = Normal flow.

Offset/Field Name	Bit Pattern	Contents
51(33) TH3DAOF	x... .. .x.. .... ..xx xxxx	Local session ID. 1 = To/from LU. 0 = To/from SSCP. 1 = To/from logical unit. 0 = To/from physical unit. Local address of station.

Offset/Field Name	Bit Pattern	Contents
52(34) RH3B0	x... .. ..xx. x... .... .x.. .... ..11.... ..10.... ..01.... ..00	Request/response byte 0. 1 = Response. 0 = Request. 00 = Function management data. (See Section 5.) 01 = Network control. (See Section 5.) 10 = Data flow control. (See Section 5.) 11 = Session control. (See Section 5.) 1 = Formatted. 0 = Unformatted. 1 = Sense data included. (See Section 9.) 0 = No sense data. Only element. First element. Last element. Middle element.

Offset/Field Name	Bit Pattern	Contents
53(35) RH3B1	1... .. ..1. .... ...1 ........ .1.. .... ..1. .....1	Request/response byte 1. Definite response 1 requested/sent. Definite response 2 requested/sent. Exception response requested/sent. Larger window requested for adapter session pacing. Queued response indicator on. Pace.

Offset/Field Name	Bit Pattern	Contents
54(36) RH3B2	1... .. ..1. .... ...1 x...	Request/response byte 2. Begin bracket (BB). End bracket (EB). Change direction (HDX only). Code selection indicator: 1 = ASCII. 0 = EBCDIC.

Path Information Unit (FID4)

Program: NCP
Size in bytes: 60(3C) plus variable length text plus prefix
Function: Serves as a basic unit of transmission in the network. The FID4 PIU is used for traffic flowing on virtual routes.

Notes:

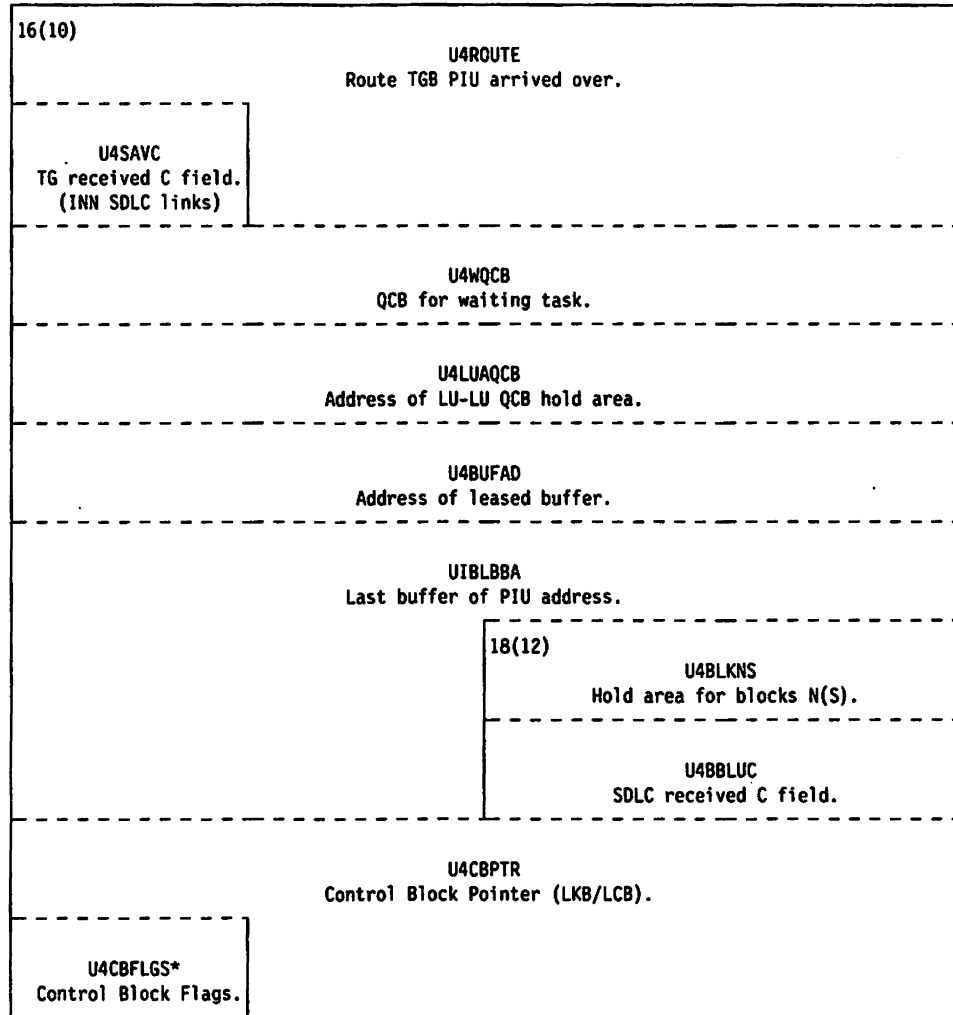
1. This PIU layout is as it appears in an NCP buffer. The basic PIU begins with the transmission header. See "PIU Formats in NCP Buffers" for the relationship of the buffer offset to the PIU offset as seen in traces.
2. When the buffer has been released the address where the buffer was released is stored in the fullword at 64(40).

Buffer Prefix

-4(4) U4BHTG Buffer tag.	-3(3) U4BUFTAG Buffer overlay check. X'C2'	-2(2) U4VVTI Buffer virtual route vector table index.	
0(0) U4BUFCHN Buffer prefix chain field.			
4(4) U4COPYF Copy field.		6(6) U4OFFSET Buffer prefix data offset field.	7(7) U4DATCNT Buffer prefix data count field.
U4COPCT Copy count. (Multi-link TG only)	5(5) U4COPYS Copy status.		

Event Control Block

8(8) U4ECHN ECB chain pointer.		
U4ESTAT Event status.		
12(C) U4CSTAT Block status flags.	13(D) Reserved.	14(E) U4TMINT Set time interval.
		U4TCNT PIU4 text count.



* Indicates a byte expansion follows.

Internal Work Area

20(14)		U4SAVACB TG ACB address over which PIU was received. (INN SDLC links)	
		UIB4XSCB SCB address over which PIU was transmitted. (All SDLC links)	
U4VRVVTI Virtual Vector table index (if on the VOS queue).		22(16)	U4RECSQ Next expected sequence number for the VR (if on the VOS queue).
24(18)		UIHRCCW Number of host read CCWs.	
		U4ERBST* ER broadcast status.	
UIB4TYPE Equal to the first byte of destination RVT.			
U4CPNST CP notification status (SNP mask).			
U4VRLNID LNID (if on VOS queue).		25(19)	UIB4STAT* UIB status.
		UIB4INOP Remember to send IPL or RPO to the SSCP.	
		U4TSDST ER tested status.	
		U4BFLSD Buffer leased count for NTRI INN.	

* Indicates a byte expansion follows.

Transmission Header

		26(1A) TH4B0* TH byte 0.	27(1B) TH4B1* TH byte 1.
28(1C) TH4B2* TH byte 2.	29(1D) TH4B3* TH byte 3.	30(1E) TH4TGSNF Transmission group sequence number. (Last 12 bits of the halfword)	
		TH4VVTI Virtual route vector table index.	
		TH4VRCF* Virtual routing control.	
		TH4B4 TH byte 4.	
32(20) TH4NSSEQ Send sequence number. (Last 12 bits of halfword)		34(22) TH4DSAF Destination subarea address.	
TH4PACE* Pacing control field.			
TH4B6 TH byte 6.			
36(24) TH4DSAF Destination subarea address. (continued)		38(26) TH4OSAF Origin subarea address.	
40(28) TH4OSAF Origin subarea address. (continued)		42(2A) TH4B16* TH byte 16.	43(2B) Reserved.
44(2C) TH4DEF Destination element address.		46(2E) TH4OEF Origin element address.	
48(30) TH4SNF Sequence number field.		50(32) TH4DCF Data count field. (RU + RH)	

* Indicates a byte expansion follows.

Request/Response Header (RH)

52(34) RH4B0* RH byte 0. (See Section 5)	53(35) RH4B1* RH byte 1.	54(36) RH4B2* RH byte 2.
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* Indicates a byte expansion follows.

Request Response Unit (RU)

		55(37) RU4BT0 First byte of prefix for SSCP-FM requests. (See Section 5)
		RU4RC0 Request code for non SSCP-FM requests. (See Section 5)
56(38) RU4BT1 Second byte of prefix for SSCP-FM requests. (See Section 5)	57(39) RU4RC2 Request code for SSCP-FM requests. (See Section 5)	58(3A) RU4NA* Element address for SSCP-FM requests. (See Note)

* Indicates a byte expansion follows.

Note: This RU4NA format and all the RU formats in Section 5 are for an NCP operating in extended network addressing mode.

Byte Expansions

Offset/Field Name	Bit Pattern	Contents
16(10) U4CBFLGS	x... ..	Control Block Flags Control Block Type 0 = LKB Pointer. 1 = LCB Pointer.

Offset/Field Name	Hex Value	Contents
24(18) U4ERBST	X'00' X'yy'	ER broadcast status. Not suspended. Suspended. (Value is the displacement into the SVT.)

Offset/Field Name	Hex Value	Contents
25(19) UIB4STAT	X'80' X'01' X'02' X'03' X'04' X'05' X'06'	UIB status. Recurrent PIU/sensitive data indicator. Invalid DAF. Unrecoverable path error. Unrecoverable station error. Invalid DCF. Incomplete header. Format error.

Offset/Field Name	Bit Pattern	Contents
26(1A) TH4B0	0100 1... .... .x.. .... ..1. .....1	Transmission header byte 0. FID4 transit network. Transmission group sweeping. Reserved. Pacing count is zero (end bit). PIU to flow on network priority.

Offset/Field Name	Bit Pattern	Contents
27(1B) TH4B1	xx..	Transmission header byte 1. TG segmenting field: 00 = Not segmented. 01 = Last segment. 10 = First segment. 11 = Middle segment.

Offset/Field Name	Bit Pattern	Contents
28(1C) TH4B2	xxxx xxxx	Transmission header byte 2. Initial explicit route number. Explicit route number.

Offset/Field Name	Bit Pattern	Contents
29(1D) TH4B3	xxxx ........ ..xx xxxx ..xx	Transmission header byte 3. Virtual route number. Transmission priority: 00 = Low. 01 = Medium. 10 = High. Virtual route identifier (VRID).

Offset/Field Name	Bit Pattern	Contents
30(1E) TH4VRCF	x... .... ..0.. .... ..xx	Virtual routing control field. 1 = Decrement pacing-group size. 0 = Increment pacing-group size. Transmission group reorder required. Virtual route sequence and type indicator: 00 = Non-sequenced, non-supervisory. 01 = Non-sequenced, supervisory. 10 = singly sequenced.

Offset/Field Name	Bit Pattern	Contents
32(20) TH4PACE	1... .. .1... .. ..x... .. ...1... ..	Pacing control field. Virtual route pacing request is on. Virtual route pacing response is on. CWRI 1 = Decrement pacing-group size by 1. 0 = Increment pacing-group size by 1 if this virtual route end-point has already sent all PIUs for current pacing group. RWI Reset pacing-group size to specified minimum.

Offset/Field Name	Bit Pattern	Contents
42(2A) TH4B16	...x... xx.. .... ...x	Transmission header byte 16. 1 = SNA device. 0 = Non-SNA device. 01 = Last segment. 10 = First segment. 11 = Only segment. 00 = Middle segment. 1 = Expedited flow. 0 = Normal flow.

Offset/Field Name	Bit Pattern	Contents
52(34) RH4B0	x... .. .00. .... .01. .... .10. .... .11. .... ...x... x... .... .x.. .... ..11.... ..10.... ..01.... ..00	Request/response byte 0. 1 = Response. 0 = Request. Function management data. (See Section 5.) Network control. (See Section 5.) Data flow control. (See Section 5.) Session control. (See Section 5.) 1 = Against flow. 0 = With flow. 1 = Formatted. 0 = Unformatted. 1 = Sense data included. (See Section 9.) 0 = No sense data. Only element. First element. Last element. Middle element.

Offset/Field Name	Bit Pattern	Contents
53(35) RH4B1	1... .. ..1. .... ...1 1.. .... ..1. .....1	RH byte 1. Definite response 1 requested/sent. Definite response 2 requested/sent. Exception response requested/sent. Larger window requested for adaptive session pacing. Queued response indicator on. Pace.

Offset/Field Name	Bit Pattern	Contents
54(36) RH4B2	1... .. ..1. .... ..1. .... ...1 .... .....1	RH byte 2. Begin bracket. End bracket. Change direction (HDX only). Request change of direction. Logging.

Offset/Field Name	Hex Value	Contents
58(3A) RU4NA	Byte 0 X'01' X'02'	SSCP-FM LSA reason code. Unexpected physical outage. Controlled node disconnect.

Path Information Unit (FIDF)

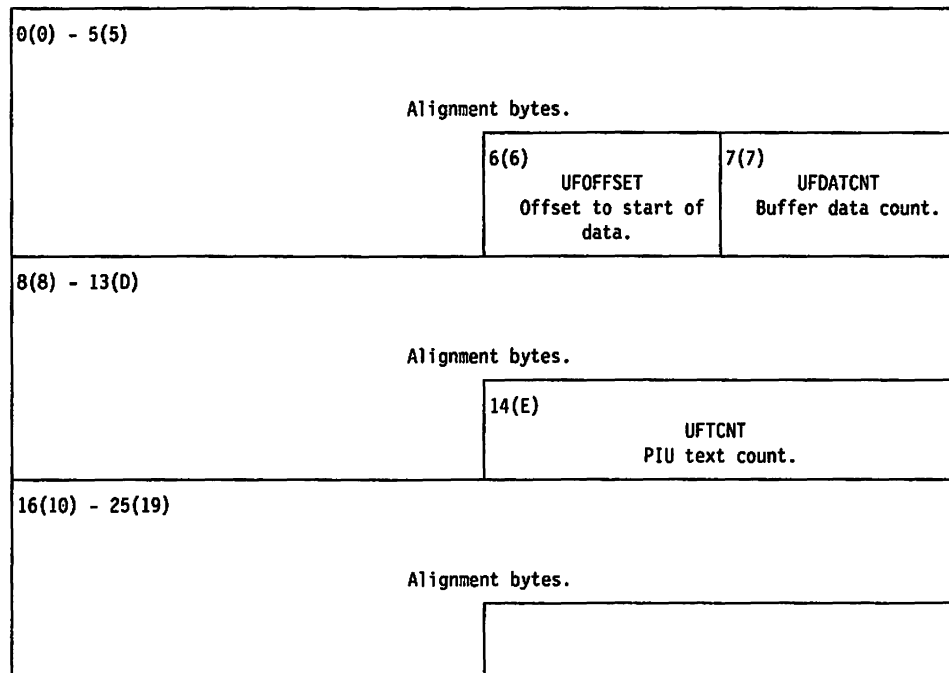
Program: NCP

Size in bytes: 52(34)

Function: A special PIU that is sent by the receiver to notify the sender that all PIUs have been received and forwarded. One way this occurs is when a sequence-number field overflow invokes the sweep function that suspends passing PIUs from the FLBXQCB transmit queue to the associated links in a multilink TG until all outstanding PIUs are acknowledged at the SDLC level.

Notes:

1. This PIU layout is as it appears in an NCP buffer. The basic PIU begins with the transmission header. See "PIU Formats in NCP Buffers" for the relationship of the buffer offset to the PIU offset as seen in traces.
2. When the buffer has been released the address where the buffer was released is stored in the fullword at 64(40).



Transmission Header

		26(1A) THFB0 Format ID. (X'F0')	27(1B) Reserved.
28(1C) THFB2 Command format. X'01'	29(1D) THFB3 Command code. X'01'	30(1E) THFTGSNF Command sequence number.	
32(20) - 49(31)			
Alignment bytes.			
		50(32) THFDCF Data count field. (always 0)	

Note: There is no request/response header (RH) nor request/response unit (RU).

PIU Formats in NCP Buffers

