SOFTWARE RELEASE BULLETIN

CIP

V9 L700

Control Data Corporation recommends that this Software Release Bulletin be read in its entirety prior to any CIP V9 L700 installation.

SMD800395

Contents

Introduction to CIP V9 L700

The CYBER Initialization Package (CIP) consists of hardware/software interface modules. The modules are released on tape and must be installed to disk for system operation. The CIP V9 L700 release supports CYBER 170/180 models 810, 815, 825, 830, 835, 840, 845, 850, 855, 860, 870, 990, and 995. The CIP V9 L700 module levels are listed in the table below:

NOTE: Please consult your Field Change Announcement (FCA) sheet to verify that the hardware is at the appropriate level prior the installation of CIP V9 L700.

Release Levels

Module	Level	Module	Level	Module	Level
CTI	700	DSKA	03	TAPA	02
MSL	700	DSKB	03	TAPB	03
EDD/RCM	700	DSKC	03	TAPC	02
DFTx/DBDx/ECRx	04	DSKD	03	TAPD	02
EI	20	DSKE	03	TAPE	03
MDD	13	DSKF	03		
SCI	03	DSKG	02		
SCD	05	DSKH	03		
VCB	02	DSKI	04		
VPB	01	DSKJ	02		
SSR	02	DSKK	02		

Structure of CIP V9 L700 Tape

File 1 CIP V9 L700 deadstart file.

File 2 CTITEXT.

File 3 Empty file, if CYBER 8xx/9xx CIP V9 L700. File contains CTI for the operating system if CIP V9 L700 is for non-8xx/9xx systems.

File 4 NOS peripheral microcode.

File 5 NOS/BE peripheral microcode.

File 6 Procedure to install peripheral microcode onto the NOS/BE operating system.

File 7 Seldom-used and unsupported diagnostics that can be loaded at the option of the site maintenance personnel. Instructions for copying file 7 to a tape for installation are contained in appendix C.

CIP V9 L700 Support

Any problem with CIP V9 L700 should be reported on a PSR, specifying the nature of the problem. Please include the CIP V9 L700 type, version and level number on each PSR, for example CIP 830 V9 L700 where 830 is the type, 9 is the version, and 700 is the level.

Microcode problems should be reported on TARs. To communicate verbally, contact Customer Service Support: 1-800-345-9903 for the United States and Canada and 612-851-4131 for international customers.

Any problem experienced with the media and/or CIP V9 L700 package contents should be brought to the attention of Software Manufacturing and Distribution (SMD). If you determine that you have such a problem, there is a form, "THE SOFTWARE MANUFACTURING AND DISTRIBUTION CRITIQUE LETTER", that accompanies each CIP tape sent to the field. To reorder replacement CIP tapes, fill out the form with the type of problem you encountered, your return mailing address and the type of tape you require, for example CIP 830 V9 L700. Return the form and defective tape to SMD so a replacement tape can be sent.

Replacement tapes can also be ordered by phone, 612-482-3747. No matter how the replacement CIP V9 L700 tape is ordered, SMD has requested the return of all defective CIP V9 L700 tapes accompanied with the form. Only problems related to media should be reported by this method.

Changes for this Release

CTI

Effective with CIP V9 L700, installation of CIP components is accomplished by a two step process. The first step consists of installing all hardware related CIP tape components. The second step consists of installing the NOS/VE boot programs.

By splitting the process into two steps, the NOS/VE boot programs can be replaced on the CIP device without requiring reinstallation of the CIP tape when switching between different levels of NOS/VE. A new CTI utility, Install NOS/VE Boot Programs, is available to support an initial or update installation of the NOS/VE boot programs.

The NOS/VE 1.3.1 L700 boot programs are packaged for release on the CIP V9 L700 tape. The Install NOS/VE Boot Programs utility is only available when deadstarting from the CIP V9 L700 disk and not from the CIP V9 L700 tape.

The Installation section of this SRB describes how to install CIP V9 L700 and appendix E contains a NOS/VE boot environment overview.

EDD

The Express Deadstart Dump (EDD) utility has been enhanced to dump out the following records for a secondary IOU, if present:

- NIO PP Memories
- CIO PP Memories
- IOU Maintenance Registers
- PP Operating Registers
- CIO Channel Registers
- Secondary IOU DFT/OS Buffer
- Channel Status Flags

EDD was also modified to be fault tolerant under the following failing mainframe conditions:

- If the TPM does not respond to EDD functions, the dump can still continue and complete.

- If EDD is unable to complete dumping any of the secondary IOU memories, the dump can still continue and complete.

The NOS/VE Analyze Dump utility (ANAD) was modified to process the above information on NOS/VE 1.3.1 L700. If your site is using a previously released NOS/VE, the additional information has no impact.

The NOS Deadstart Dump Interpreter (DSDI) does not process the additional information related to a secondary IOU and the feature does not impact previously released NOS levels.

The NOS/BE Deadstart Dump utility (DSDUMP) also does not process the additional information relating to a secondary IOU and has no impact.

EI

The Environmental Interface (EI) module was modified to correct the address validation error in EI mini-link code, support DFT V4 and change the format of the fault symptom code messages stored in the EICB buffer.

DFT

The Dedicated Fault Tolerance (DFT) module has the following modifications:

- DFT V4 provides full backlevel support for the V3 DFT/Operating System Interface and its associated DFT/Operating System Buffer areas.

- DFT utilizes the template data in the DFT Buffer Definition Record stored in the common disk area of the CIP device to build the V4 DFT/Operating System Buffer table structures.

- DFT is separated into model dependent modules, one for each CYBER 180 machine family. This reduces the DFT resident memory size as well as increasing fault tolerance by isolating code which is unique to a machine family.

- A time stamp is added to the data in the supportive status buffer whenever errors are logged. This time stamp accurately pinpoints the detection of the error by DFT.

- In addition to the time stamp, whenever CPU errors occur, DFT logs the Control Store Address (CSA) before and after the halt of the processor. The contents of the Status Summary register is also captured after the halt. (Note: When an uncorrected error occurs in a CPU that supports the hardware Stop on Error feature and the feature is enabled, DFT only logs the CSA after the CPU halt.) This data is logged into the supportive status buffer by DFT.

- A central memory buffer is defined for storing long term DFT Resident Data to free up PP space for new DFT code.

- DFT monitors the CPUs to determine if the System Interval Timer (SIT) has gone negative for 2 seconds or more. (CPU has lost a SIT interrupt). DFT writes a value equal to approximately +50 milliseconds into the SIT to generate the lost interrupt. DFT also maintains a running count of lost SIT interrupts.

The enhanced Mainframe Logging feature affects DFT and support in all of the standard operating systems (NOS, NOS/BE, and NOS/VE), EDD and the associated dump analyzers (DSDUMP, DSDI, and ANAD), the hardware performance analyzers (HPA and HPA/VE), and CTI.

SCI / MDD

The System Console Interface (SCI) module has the following modifications:

- SCI has been changed to allow a CYBER 170 operating system to load it for MDD mode. This copy of SCI also services the NOS/VE console if NOS/VE is subsequently brought up in dual state mode.

- The VPB and MDD modes have been changed to create, update, and display DFT V4 structures.

- SCI support for dual I4 IOUs has been added. MDD command processors were modified to support dual I4 IOUs. VPB now supports the expanded IOU resource table for dual I4 IOUs.

- VPB checks for the NOS/VE boot pieces on the CIP device during dual state deadstart and aborts the deadstart if they are not there.

- SCI has been modified so that a CYBER 170 request continues to flash after toggling out to MDD mode or SCD NOS mode and back. Previously, the flashing request was lost when the F6 or F7 functions keys were used to toggle out of SCD NOS/VE mode and back.

- The MDD HELP output has been changed. It is now organized by function and alphabetized within each function group.

If NOS/VE is executing in a dual state environment when MDD is initiated, then MDD must be initiated from the NOS/VE console. However, once MDD is initiated, the port number may be changed from either console simply by entering the appropriate initiate MDD command, on NOS with X.MDD and on NOS/VE CHANGE_MDD_OPERATING_MODE specifying the new port number.

Caution: Be aware that when the port is switched, no message is sent on the old port. This means that if an analyst was using MDD on port 1 at a remote terminal and the port is changed to zero, that analyst is cut off with no explanation.

The timeout parameter no longer exists on the C170 MDD commands. Refer to the CYBER Initialization Package (CIP) User's Handbook (60457180).

MSL

Two command buffers have been added to CIP 810/810A/815/825/830/830A V9 L700. These buffers are called CMEM1C and CMEM1D and are provided for use on systems having 2 megabyte memories. Command buffers CMEM1A and CMEM1B cannot be used on these systems because they overflow available memory.

The VERIFY command buffer and an associated PP program have been modified so that they automatically check the memory size and select the correct CMEM command buffer. The command buffer STCO, which is intended for and normally only used in the factory, has not been modified to select the correct CMEM command buffer.

Two new diagnostics MSM and MSD were added for STORNET support. The documentation can be found within 53140094 revision U microfiche.

The diagnostic ESMU was added to support ESM and the documentation can be found within 12361119 revision G microfiche. Also, diagnostics LSP and BSU were added to support ESM which are documented within 53140094 revision U microfiche.

Mainframe Microcode

810/815/825/830

CIP 810/815/825/830 V9 L700 contains mainframe microcode V15, which was modified to correct the CYBER 170 CMU Compare Collated (466) instruction.

835

CIP 835 V9 L700 contains mainframe microcode V16, which has the internal version reported by HPA and HPA/VE corrected to match the actual version. The 835 mainframe microcode V15 was being reported as V14.

840/845/850/855/860/870

CIP 840/845/850/855/860 V9 L700 contains mainframe microcode versions 09/11/12/10/11 respectively. The 860 and 870 use the same microcode. The following corrections were made in the microcode:

o Call/Return Hardware Stack modified for Opcode 07.

o Modified a definition in the Register File Map.

o Added a purge segment map to the Trap routine.

990/995

CIP 990/995 V9 L700 contains mainframe microcode V21, which corrects TAR 292317 Opcode B4 microcode change.

Peripheral Microcode

MA464 (895 disk)

Peripheral microcode MA464-D09 lengthens the request timer to eliminate false request errors.

MA466 (5870 Printer)

Peripheral microcode MA466-D03 presets certain flags after a microcode autoload so that LOADBC and subsequent ON,EQxx commands operate correctly.

MB465 (639 Tape)

Peripheral microcode MB465-D05 is now compatible with the version released on a CYBER 930. These modifications do not have an impact.

MB466 (Mass Storage Extended)

Peripheral microcode MB466-D02 must be used if M862VX.PF2 microcode is used in the MSE controller. PSRs MSEA022, MSEA023, and MSEA024 must also be installed in the operating system. The FCO CA48275 is necessary to upgrade the MSE controller so it functions with PF2 microcode. This new version also functions with older versions of MSE microcode and operating system software. Peripheral microcode MB466-D02 includes the following:

o Diagnostic read/write commands were modified to operate as described.

o Unused equates, constants, comments, error code and controlware were removed.

o End of tape sense byte analysis was changed because MSE changed the sense byte information.

o Compares in control sequences for busy status were added.

o Error codes to aid in troubleshooting were changed and added.

- The history table was moved so it would not be overwritten by ROM diagnostics.
- A message waiting status function to a request interrupt status function is reposted, if the channel has not read the message. This was done to solve a problem where the channel lost interrupts.
- Link bits from control sequences which caused problems on status miscompares were removed.
- Additional information was added to the history table to aid in problem analysis.

MH426 (9853 disk subsystem)

Peripheral microcode MH426 COS8 was released to correct problems with COS7. To install COS8, use the LEEP utility, which is documented in the CYBER Systems Peripheral Diagnostics Reference Manual, revision C (60000144).

Installation

CIP V9 L700 Installation

A. An extra copy of the CIP V9 L700 SRB and the Field Change Announcements has been provided in the CIP V9 L700 field kit. One copy is for the customer and the other copy must be delivered to Engineering Services. The Maintenance Software Reference Manuals and microfiche must also be delivered to Engineering Services. The CYBER Initialization Package (CIP) User's Handbook, revision J (60457180) must be available for shared usage.

B. Do not install CIP V9 L700 on a disk when another system is using the disk. Initialization of disks using CIP V9 L700 should be accomplished when CIP V9 L700 has sole access to the disk, to avoid conflicts with operating system access and also to avoid possible file corruption.

   In dual state, the CIP V9 L700 device must be defined to the host operating system (NOS or NOS/BE). It must either be defined in the NOS/VE configuration as OFF or must be omitted from the NOS/VE configuration; the former is preferable. A device which is OFF is not used by NOS/VE unless it is a CIP V9 L700 device, and then only for DFT access.

   In NOS/VE standalone, the CIP V9 L700 device must be ON if it is a NOS/VE device.

   If you want to alternate between dual state and standalone, the same PHYSICAL_CONFIGURATION and configuration prolog can be used for both, but only if the device containing CIP V9 L700 is defined in the NOS/VE physical configuration as OFF when running dual state.

C. Control Data Corporation recommends that all sites upgrade to CIP V9 L700. The following information describes operating system considerations and procedures for making the upgrade.

CIP V9 L700 and Operating System Compatibility

CIP V9 L700 may be installed as released if your site is running the following operating system release levels.

NOS	2.6.1 L700/L688
	2.5.3 L688
	2.5.2 L678/L670
	2.5.1 L670
NOS/BE	1.5 L664
NOS/VE	1.3.1 L700
	1.2.3 L688
	1.2.2 L678
	1.2.1 L670

CIP V9 L700 Backlevel Support

CIP V9 L700 backlevel support allows customers that have upgraded to CIP V9 L700 to continue using an operating system that is not at the latest release level. Previously, when a new CIP release was received at this type of site, the customer had to modify the new CIP tape for NOS/VE by replacing the NOS/VE boot programs with those that corresponded to their level of NOS/VE. Modification of the CIP V9 L700 tape is no longer necessary unless your site is running dual state with NOS 2.6.1 L700/L688.

Replacing SCI on the old CIP Tape

Due to changes in NOS 2.6.1 L700/L688 which require the SCI from CIP V9 L700, a site running dual state with NOS 2.6.1 L700/L688 and a NOS/VE system released prior to NOS/VE 1.3.1 L700 must use the SCI from CIP V9 L700. Since SCI is one of the NOS/VE boot programs, the site must replace the SCI on the old CIP tape (which matches the level of NOS/VE that is to be run) with the SCI from CIP V9 L700. Have the site analyst perform the following steps to replace the old SCI, on the CIP tape which matches the NOS/VE level, with the SCI from CIP V9 L700 at the system console or from an interactive terminal:

```
REQUEST,CIP,VSN=CIP,NT,PE,F=SI,LB=KU. CIP V9 L700 tape
GTR,CIP,SCI.OVL/SCI                   obtains SCI from CIP V9 L700
UNLOAD,CIP.
REQUEST,OLD,VSN=OLD,NT,PE,F=SI,LB=KU. CIP tape that matches NOS/VE level
LIBEDIT,P=OLD,N=NEW,B=SCI.            replaces SCI and creates file NEW
UNLOAD,OLD.
REQUEST,SCR,VSN=SCR,NT,PE,F=SI,LB=KU. scratch tape for new CIP
REWIND,NEW,SCR.
COPYBF,NEW,SCR.                       copies new CIP to tape
UNLOAD,SCR,NEW.
```

The tape file old is a CIP tape that corresponds to the NOS/VE level that is to be used as follows:

NOS/VE Level	CIP Level
1.2.3 L688	V8 L688
1.2.2 L678	V7 L678
1.2.1 L670	V6 L670

Use this modified CIP tape when installing the NOS/VE boot programs described in step 5 of the CIP V9 L700 installation process below. Step 1 installs CIP V9 L700 as released and step 5 installs the modified CIP tape that was just generated.

D. The following steps are used to install CIP V9 L700 to the deadstart device:

1. Deadstart from the CIP V9 L700 tape and install it to disk using the update or initial install option as documented in the CYBER Initialization Package (CIP) User's Handbook, revision J (60457180).

   If CIP V6 L664/L670 or later was previously installed, the update option may be used to install CIP V9 L700 and permanent files do not require dumping and reloading. If the update option is used for installation to a disk that contains a CIP prior to V6, the error message UNABLE TO PERFORM -UPDATE- INSTALL. COMMON DISK AREA NOT INITIALIZED is issued by CTI and the site should perform an initial CIP install.

   If the disk contains a CIP prior to CIP V6 L664 or you are unsure, then the initial installation option must be used for CIP V9 L700 installation. Permanent files that reside on the disk must be dumped before a CIP V9 L700 installation and reloaded after the CIP V9 L700 installation.

2. If your site does not use NOS/VE, you can proceed to step 7. If your site uses NOS/VE, deadstart from the CIP V9 L700 disk.

3. Select the U (Utilities) option.

4. Select the V (Install NOS/VE Boot Programs) option.

5. Mount the CIP tape with a level that matches the level of NOS/VE that is desired. Refer to the Replacing SCI on the old CIP tape section for possible modifications required for a dual state system containing NOS 2.6.1 L700/L688 and a NOS/VE released prior to 1.3.1 L700.

6. Enter the configuration information and install the NOS/VE boot programs.

7. The CIP V9 L700 installation process is complete and you can proceed with the peripheral microcode and operating system installation.

When your site upgrades to NOS/VE 1.3.1 L700 from L670, L678, or L688, you may desire to alternate between the two NOS/VE levels to test the L700 system before entering it into production. Steps 2-6 install the NOS/VE boot modules matching the NOS/VE system level to which you want to switch onto the CIP V9 L700 disk. Steps 2-6 must be repeated immediately before each deadstart of a NOS/VE system that is at a different release level than the NOS/VE system most recently executed on that mainframe.

Peripheral Microcode Installation

New levels of peripheral microcode for NOS and NOS/BE are distributed via CIP V9 L700. The NOS/VE operating system obtains peripheral microcode from the CIP V9 L700 common disk area, which is installed with CIP V9 L700 and does not require the deadstart tape be modified.

Acquiring the peripheral microcode from the CIP V9 L700 tape for installation onto the operating system is an operation separate from CIP V9 L700 installation. NOS peripheral microcode is contained on file 4 of the

CIP tape, NOS/BE peripheral microcode on file 5 and file 6 is a procedure to aid in the installation of peripheral microcode onto the NOS/BE operating system. The following steps describe how to install peripheral microcode onto an operating system deadstart tape.

NOS Sites

NOS sites must update the operating system deadstart tape if it is not at NOS 2.6.1 L700/L688. The following procedure installs peripheral microcode onto an operating system tape and directs its installation.

1. Deadstart NOS.

2. Mount the CIP V9 L700 tape.

3. Enter the following commands at the system console under DIS or from an interactive terminal:

```
REQUEST,CIP,VSN=CIP,D=PE,F=SI,LB=KU,PO=RF,NT.
SKIPF,CIP,3.
COPYBF,CIP,LGO.
RETURN,CIP.
COMMON,SYSTEM.
SYSGEN,DST,SYSTEM,LGO,NEW,USERD,density.
```

where density is the density of the new deadstart tape (such as PE, GE)

These steps create a new deadstart tape containing the new peripheral microcode. The new tape is requested with a VSN of NDT. It should be assigned with the VSN,est,NDT command from the system console, where est is the EST ordinal of the tape drive where the operating system tape is written.

4. If CIP V9 L700 has not been installed to disk yet, use the process documented in the CIP V9 L700 Installation section mentioned previously.

5. Perform a level 0 (zero) NOS deadstart with the new tape.

NOS/BE Sites

To incorporate the latest peripheral microcode from the CIP V9 L700 tape onto NOS/BE 1.5 L664, follow the steps below:

1. Deadstart NOS/BE.

2. Mount the CIP V9 L700 tape.

3. Enter the following commands at system console:

```
n.DIS.
REQUEST,CIP,VSN=CIP,NT,PE,NORING.
SKIPF,CIP,5,17.
BEGIN,,CIP.
```

   When this procedure terminates, all peripheral microcode used by NOS/BE is CATALOGed with ID=CWARE. The deadstart tape must now be rebuilt using the appropriate NOS/BE build job (DST1 or DST3) as described in in the NOS/BE Installation Handbook.

4. If CIP V9 L700 has not been installed to disk yet, use the process documented in the CIP V9 L700 Installation section mentioned previously.

5. Deadstart NOS/BE with the new tape.

NOS/BE UEM Installations

The space allocated for CTI handoff is needed for NOS/BE to adjust the amount of UEM available. The central memory available for NOS/BE to use at CTI handoff is calculated in the following manner:

*AVAIL central memory = Logical central memory - (central memory used for page tables + central memory used for EI + central memory used for EI buffer)

*Note: This value is forced to a page boundary.

- Logical central memory is usually equal to physical central memory size unless the operator has degraded the central memory size via the OIP (Operator Intervention Program); CTI would then use the degraded central memory size.

- Central memory used for page tables is calculated using the following formula:

  (MS/PS) * PTE where:

  MS = logical central memory (central memory words)
  PS = 8K page size = 2000B central memory words/page
  PTE = page table entries/page = 1 central memory word/page

Example: MS = 32MB = 20000000B central memory words
PS = 2000B central memory words/page
PTE = 1 central memory word/page

central memory used for page tables = 20000000B/2000B words * 1
central memory used for page tables = 10000B central memory words

- Central memory used for CIP V9 L700 is calculated by forcing the correct length of the CIP V9 L700 buffer to the next page size boundary. This length is currently one page = 2000B central memory words.

- Central memory used for the CIP V9 L700 buffer is calculated by adding the following values (central memory words):

Length of	SCI	
"	"	SCD
"	"	+MDD
"	"	+DFTx
"	"	+DBDx
"	"	+ECRx
"	"	+VPB
"	"	+CFT
"	"	+EFT
"	"	+2AP
"	"	+2A1
"	"	+1 zero word terminator
Total = 32000B		central memory used for the CIP V9 L700 buffer.

Note: On a CYBER 990/995 system, the lengths of all microcode required to initialize the system are added to the total central memory used. For a single CPU CYBER 990, the total is 76000B central memory words = 37B pages. For a dual CPU CYBER 995 models 40 and 41, the total would be 142000B = 61B pages, if one CPU is a model 40 and the other is a model 41.

Currently, the central memory used for the CIP V9 L700 buffer on non-CYBER 990/995 systems is 15B pages = 32000B central memory words.

Therefore, at CIP V9 L700 time, the available central memory for a 32MB non-CYBER 990/995 system would equal:

available central memory = 20000000B - (10000B + 2000B + 32000B)
available central memory = 17734000B central memory words

For a CYBER 990 single CPU with 32 MB of CM:

available central memory = 20000000B - (10000B + 2000B + 76000B)
available central memory = 17670000B central memory words

For a CYBER 995 dual CPU models 40 and 41 with 32 MB of CM:

available central memory = 20000000B - (10000B + 2000B + 142000B)
available central memory = 17624000B central memory words

General Notes / Cautions

A. It is recommended that only one CIP V9 L700 operating system deadstart device per mainframe be used, due to the retention of mainframe configuration information between deadstarts by CTI on the deadstart disk. It is not recommended to have two mainframes share a common CIP V9 L700 device.

B. Beginning with CIP V7, clearing the MRT forces a memory initialization by CTI. This was necessary because with CM RELOAD, CTI no longer writes CM (EI and the CIP directory) on recovery deadstarts. This requires that the FWA of the CIP buffer be maintained in the MRT. A message is displayed when the H option under the Utilities display is selected informing the user of the consequences of clearing the MRT.

C. The NOS/VE deadstart process in standalone mode is very sensitive to the contents of central memory. If the contents of memory are not as NOS/VE left them from a previous standalone deadstart (or not as CTI initialize mainframe left them), the NOS/VE deadstart hangs in the PP boot and no message is displayed to indicate the hang. Use the initialize mainframe option on the Utilities display after changing memory, page size, or maintenance activities, to avoid such hangs.

D. After performing any physical (hardware) mainframe reconfiguration, the Mainframe Reconfiguration Table (MRT) must be cleared prior to an operating system load. After the MRT is cleared, any logical (CTI) reconfiguration information must be re-entered. The steps required to clear the MRT are as follows:

1. Deadstart from the CIP V9 L700 disk.

2. At the CIP V9 L700 initial options display, enter a U (Utilities).

3. At the Utilities display, enter an H (clear the mainframe reconfiguration table). The following messages are displayed:

```
CLEARING THE MRT WILL CAUSE THE
FOLLOWING ITEMS ON THE NEXT
DEADSTART,

ALL MAINFRAME MEMORIES WILL
BE INITIALIZED FOR OS LOADS.

CM RELOAD FROM EDD TAPE OPTION
WILL NOT BE AVAILABLE.

   (CR) TO CONTINUE
```

4. Enter a (CR).

The MRT is now cleared and all previous reconfiguration entries are deleted. These include all the items specified in the CYBER Initialization Package (CIP) User's Handbook, revision J (60457180).

E. When displaying memory while using MDD with a hexadecimal address that begins with the hex digits AD, the user must enter the parameter name. For example, to display the contents of byte AD(16), enter the command DB AD=AD.

F. LDS (long deadstart) must be run before CTI power-on initialization can execute. Running LDS ensures good parity in location 7777B of all PPs. On a CYBER 170-815/825, LDS fails with status summary errors on the first run after a power-on. A second execution clears the errors.

G. MDD mode of SCI is designed to allow an analyst to observe the condition of a mainframe before NOS/VE begins its initialization routines. For SCI to begin the deadstart of NOS/VE, the user should press the F7 key on a CC634B terminal. If a terminal other than a CC634B is used, the operator should enter an RS (RECORD SEPARATOR = 1E hexadecimal) and a lower case w. This is true regardless of the origin port of the deadstart or the port that MDD is to drive.

H. When using dual state, if you deadstart NOS/BE on a dual CPU CYBER 870 or 995, a false (218) FATAL CPU1 ERROR is received in the CERFILE which is also displayed on the NOS/VE console when that system is deadstarted. This error message does not prevent NOS/VE from using the CPU, thus the message can be ignored. To avoid having the error message appear at all, obtain PSR NB0E611 from SOLVER and install it in your NOS/BE system.

I. When using a CMTS (698) tape drive, an alternate deadstart does not work on the first attempt (PSR CTIA442). The alternate deadstart does work on the second attempt.

MSL Notes / Cautions

A. Users should read the MSL15X Reference Manual (60456530) before attempting to use MSL products on the CIP V9 L700 release.

B. Microfiche program listings of CTI, microcode, SCI, SCD, MDD, DFT, and EI are available at the discretion of the District Technical Operational Support (TOS) managers or the Country Central Office.

C. CMSE reserves certain channels (including the channels numbered identical to those of the monitor PP), the display driver PP, and the PP communications channel. These are defined by initial CMSE display items 6 and 7. These channels and PPs may be redefined before proceeding with the loading of CMSE to allow diagnostics to run on peripheral equipment connected to them.

D. Some MSL15X diagnostics use channels to communicate between PPs. If one of these diagnostics is loaded into PP 10, CMSE hangs.

E. Caution must be exercised if command buffers that call CONFIG are changed. CONFIG modifies command buffers by fixed line numbers.

F. Deleting DEMOT's OUTPUT files (*DP,fn command), or any other file created without a 77 table (such as the flaw map from FMU), results in the error message PRFX TABLE MISMATCH appearing in the keyboard area error/message line. Although the file was deleted and the error message can be cleared with no need to retry. the command, the disk space used by such a file is not released by CMSE. If a SRT FULL situation is encountered, CIP V9 L700 requires reinstallation using the update installation option.

G. The memory tests generally do not execute properly if CMSE is using central memory for communication.

H. The KC command fails when bringing up CMSE from tape after an initial power-on. The problem occurs on a CYBER 170-815/825, CYBER 180-810/830 and CYBER 810A/830A. Upon power-up, certain procedures discussed below must be executed before central memory reads and writes can be guaranteed to work. Since CMSE does not perform these procedures but attempts to use central memory if central memory communication is turned on, it hangs on a central memory read or write instruction.

   After a power-up, a clean up of the state of the machine must be done before any central memory reads or writes are executed. A sequence of CMSE commands that clean up the mainframe enough to allow central memory reads/writes after a power-up is:

```
CX,M        master clear CMC
CE,I        clear IOU errors
CE,M        clear memory errors
ER,M,20,0   clear memory environment control register
ER,M,21,0   clear memory bounds register
```

Another possibility is to use the U-I-M path (U = Utilities, I = Initialize Mainframe, M = Load Maintenance) in CTI if the deadstart is from disk, in which case CTI performs the equivalent of the above commands before CMSE is brought into execution.

Initial installation of a system is likely to require deadstarting from tape and entering the above commands.

I. If the 834/836 disk subsystem is down on a CYBER 170-815/825 or CYBER 810A/830A and you are forced to execute from tape, it is recommended that the program DPDS be used to isolate the failures. Functionally, DPDS is identical to the DEMOT programs FSD and DTI. The advantage of using DPDS is that less time is required to load and execute.

J. If CIP V9 L700 is installed on a shared device, diagnostics are being executed with the error stop parameter turned off and the log error to CMSE dayfile parameter is turned on and the diagnostic fails, it is possible that CMSE could overflow the reserved dayfile area on the disk. If this error occurs, the Program Name Table (PNT) is partially or completely destroyed. The PNT is used by CMSE when loading programs from disk.

The frequency of this happening depends on how many programs were installed on the CIP V9 L700 device from MSL, the size of the programs (this varies by mainframe type), the number of errors encountered and written to the dayfile, and how often the dayfile is cleared.

The indication that this has happened varies depending on how much of the PNT was destroyed. The two most likely indications that this error has occurred are:

- o CMSE issues a message indicating that a program can't be found on the disk.
- o CTI issues a message indicating that a program can't be found on the disk when attempting to deadstart.

It is recommended that the CMSE dayfile be cleared periodically to avoid the possibility of this problem occurring.

K. A problem currently exists where NOS/VE may destroy CIP V9 L700 when CIP V9 L700 is installed to an 844 disk and is subsequently used as the CIP device by NOS/VE. This problem will be corrected when a determination of the problem has been made.

L. To run the I4 (CIO) PP based diagnostics, central memory has to be enabled at the initial CMSE display by entering 8.3 (parameter change). If you are not familar with the running of CIO PP based diagnostics on an I4 IOU (CIO), the diagnostics do not run without CM enabled. Refer to Service Bulletin 6945. Examples of some diagnostics affected are:

- o CCA4 - 170 DMA (CIO) channels
- o ISI4 - Intelligent Subsystem Interface (ISI) channels
- o IPI4 - Intelligent Peripheral Interface (IPI) channels
- o HYDR - DMA enhanced ISI channel adapter to 887 disk test
- o UESM - ESM/STORNET monitor
- o UHYD - ISI channel off-line monitor of 887 disk in-line test
- o DEMOT diagnostics (CIO)

Note: The 170 DMA IOU diagnostic CCA4 leaves the CIO IOU in a state that the DEMOT diagnostics can't use. A deadstart followed by a U-I-M sequence corrects the problem.

M. With an 895 disk as the CIP device, the diagnostic FCT5 may fail with the error message SEC 8 SS 1 CON 4 F50E. The problem is documented by PSR CIPA138. To work around the problem, perform the following steps after CIP installation:

1. Deadstart from the CIP disk.
2. Enter M to initiate MSL.
3. At the CMSE parameter options display, enter TDX(CR).
4. Enter -CR- to continue.
5. Enter the CIP disk channel and unit.
6. Enter the tape type, channel, equipment, and unit that the CIP tape is mounted on.
7. Enter C to add programs to disk.
8. Enter Y to select duplicate name check.
9. Enter Y to replace duplicate names.
10. Enter F50E for the COPY FROM message.
11. Enter F50E for the COPY THRU message.
12. When the binary program has been placed on the MSL disk, the display returns to the TDX Options display.
13. The program F50E has been correctly replaced on the MSL library.

Appendix A

Mainframe/Peripheral Microcode and FCA Index Levels

Mainframe Microcode

Mainframe System Type	Microcode Version	Mainframe System Type	Microcode Version
CYBER 180-810/830	15*	CYBER 810A/830A	15*
CYBER 170-815/825	15*	CYBER 840A	09*
CYBER 170/180-835	16*	CYBER 850A	12*
CYBER 180-840	09*	CYBER 860A	11*
CYBER 170/180-845	11*	CYBER 870A	11*
CYBER 180-850	12*	CYBER 990E/995E	21*
CYBER 170/180-855	10*		
CYBER 180-860	11*		
CYBER 180-990	21*		

Peripheral Microcode

These are the versions of peripheral microcode furnished on the CIP V9 L700 tape and the current versions with which CIP V9 L700 was tested.

Name	Version	Description
MA401	08	844FT peripheral microcode
MA454	04	FSC Disk peripheral microcode
MA462	05	ISD Adapter peripheral microcode
*MA464	09	895 Disk peripheral microcode
*MA466	03	5870 NIP peripheral microcode
MA710	13	844HT peripheral microcode
MA721	12	885/FMD peripheral microcode
MA722	03	885/FMD DEMA Disk peripheral microcode
MB401	03	FSC Tape peripheral microcode
MB434	14	66X peripheral microcode
*MB465/CW63X	04	639 ISMT Control Module peripheral microcode
*MB466	02	MSE peripheral microcode
MB467	01	698 CMTS Tape peripheral microcode
MD422	07	834 Diagnostics
MD424	03	836 Diagnostics
MH422	07	834 COS
MH424	03	836 COS
*MH426	08	CM-3 peripheral microcode

* changed on CIP V9 L700 release.

Field Change Announcement (FCA) Index Levels

FCA plug and play index levels are documented on the FCA sheet distributed with CIP V9 L700.

Appendix B

PSR List

The following PSRs have been corrected since CIP V8 L688 and are included in this release:

CIPA103 CIPA129 CIPA131 CIP0127

CMLA544

CTIA434 CTIA445 CTIA449 CTIA454 CTIA461 CTIA465 CTIA472
CTIA473 CTIA474 CTIA475 CTIA476 CTIA478 CTIA479 CTIA480
CTIA481 CTIA482 CTIA483 CTIA484 CTIA485 CTIA489 CTIA490
CTIA491 CTIA492 CTIA494 CTIA495 CTIA497 CTIA498 CTIA499
CTIA500 CTIA501 CTIA505 CTIA508 CTIA511 CTIA512 CTIA512
CTIA513

CTI0176 CTI0180

DFTA061 DFTA065 DFTA067 DFTA073 DFTA074 DFTA076 DFTA077
DFTA078 DFTA080 DFTA081 DFTA082 DFTA083 DFTA085 DFTA086
DFTA087 DFTA090 DFTA091 DFTA092 DFTA093 DFTA094 DFTA095
DFTA096 DFTA097 DFTA099 DFTA100 DFTA101 DFTA102 DFTA103
DFTA104

MSFA136 MSFA153 MSFA156 MSFA157

MSLA729 MSLA756 MSLA757 MSLA758 MSLA759 MSLA763 MSLA765
MSLA770 MSLA772 MSLA773 MSLA774 MSLA775 MSLA783 MSLA784
MSLA785 MSLA791 MSLA800 MSLA808 MSLA811 MSLA812 MSLA813
MSLA814 MSLA815 MSLA821 MSLA823 MSLA824 MSLA825 MSLA826
MSLA827 MSLA828 MSLA830 MSLA831 MSLA832 MSLA833 MSLA835

MSMA441 MSMA447 MSMA457 MSMA458 MSMA460 MSMA472 MSMA474
MSMA475 MSMA484 MSMA485 MSMA486 MSMA487

MSM0230

291647 292317 292551

Appendix C

File 7 Installation Instructions

Contents

File 7 on all CIP V9 L700 tapes with MSL contains the following programs:

```
FFU01-FFU99A
FLM00-FLM99C
FSM00-FSM99A
F4401-F4499A
F7X00-F7X99A
F8801-F8899A
PDP01-PDP99B
BCX-9X6
MY8-9VJ
MY9-9VT
LDC-9V5
MTC-9UP
S2C-8JU
SCX
CID-7AZ
MYP-9VX
PAGE065       CYBER 170/180-845/855 and CYBER 840/840A thru 870/870A only
STAT065       CYBER 170/180-845/855 and CYBER 840/840A thru 870/870A only
TASE065       CYBER 170/180-845/855 and CYBER 840/840A thru 870/870A only
TIVE065       CYBER 170/180-845/855 and CYBER 840/840A thru 870/870A only
GENM          CYBER 170/180-845/855 and CYBER 840/840A thru 870/870A only
CACHE-CACHEB  CYBER 170/180-845/855 and CYBER 840/840A thru 870/870A only
TRPEM-TRPEB   CYBER 170/180-845/855 and CYBER 840/840A thru 870/870A only
VAUTO-VAUTOB  CYBER 170/180-845/855 and CYBER 840/840A thru 870/870A only
```

Installation Instructions

To copy file 7 to another tape for installation by TDX, refer to the NOS or NOS/BE instructions below.

NOS Instructions

```
JOB.
USER,user,pw,family.
CHARGE,charge,project.
REQUEST,CIP,VSN=CIP,NT,PE,F=SI,LB=KU,PO=R.
REQUEST,COPY,VSN=COPY,NT,PE,F=SI,LB=KU,PO=W.
SKIPF,CIP,6.
COPYBF,CIP,COPY.
```

NOS/BE Instructions

```
JOB/account
REQUEST,CIP,VSN=CIP,NT,PE,NORING.
REQUEST,COPY,VSN=COPY,NT,PE,RING.
SKIPF,CIP,6,17.
COPYBF,CIP,COPY.
```

Refer to the MSL15X Reference Manual for a description of TDX.

Appendix D

CIP V8 L688 Quality Survey Results

A quality survey was distributed to all sites that received CIP V8 L688. The results of this survey are provided in this appendix.

D-1. SYSTEM TYPE?

810/810A/815/825/830/830A	41%
835	9%
840/840A/845/850/850A/855/860/860A/870/870A	39%
865/875	2%
990/990E/995E	9%

Most of the respondents were 810/815/825/830 and 840/845/850/855/860/870 sites. This was as expected.

D-2. WHAT DO YOU FEEL IS THE OVERALL QUALITY OF CIP?

EXCELLENT	21%
GOOD	63%
ACCEPTABLE	14%
MARGINAL	0%
POOR	2%

The quality of CIP appears to be acceptable or better. Efforts are being made to improve the overall quality of CIP products.

D-3. WHAT AREA ON CIP HAS QUALITY BEEN A PROBLEM FOR YOUR SITE?

COMMON TEST AND INITIALIZATION (CTI)	1%
EXPRESS DEADSTART DUMP (EDD)	11%
OFF-LINE MAINTENANCE SOFTWARE LIBRARY (MSL)	6%
MAINFRAME MICROCODE	1%
PERIPHERAL MICROCODE	4%
CIP MANUALS	14%
CIP SRB	7%
OTHER	8%
NONE	48%

Most of the sites reported no problems, however, areas we are addressing are EDD/RCM, CIP manuals, DFT, and the CIP SRB. These areas have caused the most problems when it comes to quality.

D-4. WHO INITIALLY INSTALLS CIP AT YOUR SITE?

ANALYST	55%
OPERATOR	4%
CUSTOMER ENGINEER	39%
MANAGER	1%

The CIP package is installed by the analyst most of the time and Engineering Services next. The results were as expected.

D-5. WHO INSTALLS THE CIP USED DURING PRODUCTION AT YOUR SITE?

ANALYST	61%
OPERATOR	3%
CUSTOMER ENGINEER	35%
MANAGER	1%

The results were as expected. The CIP installation process is split between the site analyst and Engineering Services.

D-6. HOW OFTEN IS CIP REINSTALLED AFTER INITIAL INSTALLATION AT YOUR SITE?

MORE 1/WEEK	2%
ONCE WEEK	0%
ONCE MONTH	0%
ONCE 6-MONTHS	33%
NEVER	65%

This information tells us how often the CIP installation process is used. The installation time is important even though CIP is only reinstalled once every 6 months or never. Development, when adding new features or making changes, must not lengthen the installation time unless it is absolutely necessary.

D-7. WHAT WAS THE PREVIOUS LEVEL OF CIP INSTALLED?

L001	2%
L005	2%
L664	10%
L670	4%
L678	80%
L688A	2%

Most sites appear to be at a current level of CIP with a few back at L664. No changes are expected as a result of this response.

D-8. HOW LONG BETWEEN RECEIVING CIP AND ITS INSTALLATION?

TWO WEEKS	25%
ONE MONTH	54%
ONE YEAR	17%
NEVER	2%
CUSTOMER DEEMS NECESSARY	2%

The time between receiving CIP and its installation is as expected. This information is used if a critical problem is found after a release. We know there is not much time between when a site receives a CIP tape and when it is installed.

D-9. CURRENT OPERATING SYSTEM LEVEL INSTALLED?

NOS/BE 587	8%
NOS/BE 664	84%
NOS/BE 682	8%
NOS 647	5%
NOS 664	9%
NOS 670	5%
NOS 678	37%
NOS 688	44%
NOS/VE 670	2%
NOS/VE 678	6%
NOS/VE 688	92%

Most of the sites are at the current level of the operating system or within one release.

D-10. WHO READS THE CIP SRB AT YOUR SITE? (INDICATE ALL)

ANALYST	97%
OPERATOR	5%
CUSTOMER ENGINEER	76%
MANAGER	5%

The results were as expected, however, we feel all of the Engineering Services personnel should read the SRB.

D-11. HAS YOUR SITE GENERATED CIP PSRS DURING THE LAST YEAR?

YES	14%
NO	86%

We are trying to reduce the backlog of PSRs and the number of problems found by the field. This takes time to see the results of our efforts.

D-12. HAVE YOU RECEIVED PROMPT RESPONSES TO PSRS ON CIP?

YES	14%
NO	20%
N/A	66%

One of our goals is to reduce the time it takes to respond to PSRs. We plan to continue this program to reduce the amount of response time.

D-13. IS THE HARDWARE VERIFICATION SEQUENCER USED AT YOUR SIT

EVERY DEADSTART	5%
OCCASIONALLY	23%
SELDOM	35%
NEVER	32%
DAILY	3%
DON'T KNOW	2%

The hardware verification sequencer does not perform a significant job in finding hardware problems. Development feels it should be deleted from the list of options. The results of this survey are to be used in making that decision along with the answers to question D-14.

D-14. IF IT WERE DELETED AS AN OPTION, WOULD IT BE A MAJOR IMPAC

YES	19%
NO	79%
DON'T KNOW	2%

See response to question D-13 above.

D-15. IS THE MAINFRAME FCA DELIVERED WITH CIP USED AT YOUR SITE?

YES	75%
NO	25%

The usage of the mainframe FCA delivered with CIP was higher than expected. We plan to continue our efforts with the generation of the mainframe FCA.

D-16. IS THE SOFTWARE FCA DELIVERED WITH THE OPERATING SYSTEM USED AT YOUR SITE?

YES	81%
NO	19%

The software FCA appears to have a significant number of users. No changes are expected as a result.

D-17. PERIPHERALS USED AT YOUR SITE?

	HAVE	FCAS USED	% USE FCA
CDCNET 255X	51	30	59%
TAPE 639	14	9	64%
TAPE 698	5	2	40%
MSS 7990	6	4	67%
DISK 834	7	5	71%
DISK 836	16	10	63%
DISK 895	21	13	62%
CYBERPLUS	2	2	100%
DISK 887	1	0	0%

The peripheral FCA has a significant number of users. No changes are expected as a result. The 887 disk FCA does not exist yet, but may be introduced in the near future. All of the applicable peripheral FCAs have been added to the CIP kits.

D-18. DO YOU HAVE ANY SUGGESTIONS ON HOW TO IMPROVE THE OVERALL USEFULNESS OF THE CIP PRODUCT?

Suggestion: PUT AN INDEX IN THE CIP MANUALS! COLD/WARMSTART CHAPTERS COULD BE BETTER ORGANIZED AND COULD USE EXAMPLES.

We are in the process of reorganizing the Coldstart/Warmstart section of of the CYBER Initialization Package (CIP) User's Handbook. It should be available with CIP V10. We are also creating an index for this manual which will be available for the CIP V10 release.

Suggestion: ALLOW DIFFERENT TYPES OF MAINFRAMES TO SHARE A SINGLE COPY OF CIP. THE CE OFF-LINE DIAGNOSTICS SHOULD BE OPTIONAL. SPACE COULD BE SAVED AND RESERVE TIME-OUTS COULD BE AVOIDED IF THE CE OFF-LINE DIAGNOSTICS WERE ONLY INSTALLED ON SELECTED DEVICES.

The Common Disk Area, which holds the mainframe microcode, can only hold a few different mainframe microcode files. In order to support multiple mainframes, more area would be required. Also the Mainframe Reconfiguration Table (MRT) contains information on only one mainframe and would have to be redesigned. If CIP is installed in manual mode, it is possible to only install CTI and the Common Disk Area (CDA), but this would not save space on the disk unless it were redesigned. Your suggestion was sent to the CTI design team for future consideration.

Suggestion: PROVIDE A UTILITY FUNCTION THAT CAN BE USED BY THE OPERATOR OR ANALYST TO LOAD PERIPHERAL MICROCODE WITHOUT HAVING TO USE MSL (I.E. FOR 7155/7165 DISK CONTROLLERS, ETC.).

The current CTI utility can be used to load peripheral microcode to deadstart devices. Please reference the CIP Installation Handbook. The ability to load 7165 (DEMA) peripheral microcode does not exist because this is not a deadstart device, however, the 7155 peripheral microcode can be loaded.

Suggestion: IMPROVE MANUALS; INCLUDE INSTRUCTIONS IN BOTH CIP AND MANUALS ON INSTALLING CIP FROM 698 TAPE DRIVE.

This is being corrected; the information is in the manual but hard to find. We will try and add more examples, but the configuration possibilities make it hard to cover everything.

Suggestion: DONT RELEASE CIP UNLESS MSL IS WORKING!!!

The MSL product must not have any known critical problems in order to be released. Extensive testing is conducted to ensure that MSL is alive and well, before CIP is released. If you have a case where the current MSL is not working, please generate a PSR so we can resolve it.

Suggestion: SPEED UP THE INSTALLATION.

According to survey question D-6, the CIP product is only installed once every 6 months or less. The installation time should not be critical as long as it is within a reasonable range. The current requirement is that it must take less than 25 minutes on a CYBER 830 using a 639 tape drive going to an 836 disk. The normal installation is about 12 minutes using a 67x or 698 tape drive going to an 844 or 885 disk.

Suggestion: MUST HAVE OPTION TO DELETE CIP DISK SPACE.

The CIP disk space can be deleted by deadstarting from the CIP tape, selecting build deadstart disk, selecting manual operations, selecting replace CTI, and selecting RELEASE OF CTI- MSL/HIVS/OS RESERVED DISK SPACE followed by the operating system initialization of the disk.

Suggestion: INCONSISTENT DEFINITION/USAGE OF ALTERNATE DEADSTART (e.g. WANT TO DEADSTART FROM TAPE).

Your comment has been sent to Publications for review.

D-19. DO YOU HAVE ANY SUGGESTIONS ON HOW TO IMPROVE THE QUALI OF CIP?

Suggestion: THE EDD SEQUENCE SHOULD BE THE SAME FOR ALL TYPES OF MAINFRAMES. DIFFERENCES ARE DIFFICULT TO EXPLAIN TO OPERATIONS AND CAN CAUSE OPERATOR ERRORS. MDD=YES SHOULD BE STORED IN LESS VOLATILE MEMORY INSTEAD OF DISPLAYING "WAITING REEL 1" IF THE EDD TAPE USED TO BELONG TO A MULTI-REEL SET, WHY NOT UNCONDITIONALLY DISPLAY THE LABEL INFO AND LET THE OPERATOR VERIFY/CHANGE IT.

This request has been sent to EDD and MDD Development for consideration.

Suggestion: THOROUGH TESTING OF ALL MICROCODE.

We feel microcode receives adequate testing. Most of the microcode changes have been to support design changes. Very few problems have been reported within the microcode. If you have a problem with the current microcode on CIP, please generate a TAR to have the problem resolved.

Suggestion: TEST IT BEFORE YOU SEND IT - ALL FEATURES.

The CIP product is tested by Development, Evaluation, Product Assurance, Manufacturing, and field sites before it is released. All features are concentrated on during the testing effort. If you feel some area has not received adequate testing, please generate a PSR using the CIP identifier and identify the problem so we can consider adding this to our testing procedures.

Suggestion: WHEN AN UNLABELED TAPE IS MOUNTED FOR AN EXPRESS DUMP, EDD LABELS IT WITH A SCHEME WHICH MAY BE AT VARIANCE WITH THE SITES VSNS. IT SHOULD PROVIDE THE OPERATOR WITH THE OPTION OF SPECIFYING WHAT THE VSN ON THE NEW LABEL WILL BE.

This request has been sent to EDD Development for consideration.

Suggestion: DO EXTENSIVE BETA TESTING-ESPECIALLY MSL!!!

The CIP release does receive BETA testing by Engineering Services. This area is being looked into to improve the benefit of the BETA testing.

Suggestion: BETTER DOCUMENTATION OF OPERATIONAL IMPACTS OF CIP CHANGES. SOMETHING LIKE A "USER IMPACT BULLETIN" THAT COULD LIST THE OPERATOR INTERFACE CHANGES RATHER THAN TRYING THE PRODUCT AND THEN TRYING TO FIND THE CHANGES IN THE CIP MANUALS.

In the CIP V9 L700 Software Release Bulletin, the feature descriptions were improved to describe the impacts.

Suggestion: PLEASE TEST THIS PRODUCT IN A DUAL-STATE BE/VE ENVIRONMENT MORE SERIOUSLY. THANK YOU.

The NOS/BE-NOS/VE environment is currently tested. This suggestion was sent to the NOS/VE department for further consideration.

Suggestion: FIX THE CIP MANUAL!

It is hard to answer this one. If you will use the comment sheet in the back of your CIP manual and detail what you think is wrong, we will do our best to either answer your questions or correct the problems.

D-20. COMMENTS?

Comment: THANK YOU FOR YOUR EFFORTS TO AVOID RE-INSTALLING CIP FOR EACH UPGRADE. THIS SAVES A LOT OF TIME RESETTING DEFAULTS, RE-INSTALLING DEADSTART FILES, AND RELOADING PERMANENT FILES.

The feature of doing update installs appears to have been worth the effort.

Comment: QUALITY PROBLEMS; EDD; OUTSTANDING PSR CTI0174;

The PSR CTI0174 was closed with a verbal comment. The 7021-2x/4x (67x controller) does not contain down loadable buffer controlware. Therefore, EDD is not able to dump it.

The CIP User's Handbook (60457180), which describes EDD as being able to dump tape and disk (except FSC) controlware, does not list the actual buffer controlware devices that can be dumped by EDD. The following information is to be added to the CYBER Installation Handbook (60457180):

Controller Product Number	*Controller Name*
7021-1x	*66X Tape*
7154/55	*844 Disk, 885 Disk*
7165(CCC)	*895 Disk*
10395	*ISD-I Disk*
FA7B4	*ISD-II Disk*
7221	*63x Tape (ISMT)*

Channels that are not connected to one of the above controllers should NOT be specified to be dumped by EDD, as EDD may hang in trying to dump controlware from channels that have unknown equipment. This would prevent EDD from writing the end-of-tape marks at the end of the dump and make the dump useless for later analysis.

Note: The tape controller 7021-1x does allow for the dumping of buffer controlware by EDD, but the controllers 7021-2x and 7021-4x do not.

Comment: CIP MANUALS; THE CIP V8 MANUAL IS A GREAT IMPROVEMENT AS IT IS MUCH SMALLER (MATERIAL COMPRESSED) THAN THE PREVIOUS VERSIONS. IT DOES HOWEVER NEED AN INDEX.

An index will be added to the manual starting at CIP V10. Thank you for your comments on the combined chapter.

Comment: THE FCAS NEED SOME EXPLANATION OF HOW TO PROPERLY USE THEM. I SEE AND RECOGNIZE DIFFERENT PRODUCTS AND LEVELS, BUT I AM ALWAYS UNSURE IF I HAVE READ IT CORRECTLY.

The FCAs are explained in the FCA Users Guide Reference Manual (60463760) which can be ordered from Literature and Distribution Services.

Comment: SOME HOOKS FOR SITES WOULD BE NICE. TO DO THIS, WE NEED SOME DOCUMENTATION AND THE ABILITY TO SELECT SITE ROUTINES (SAY ON THE *U* UTILITY DISPLAY).

We do not recommend local site modification to add utilities to CTI. The interface is dynamic and the addition of another interface for local site code could prove to be very difficult to manage.

Comment: CMSE RUNS TOO SLOW AND IS NOT COMPATIBLE WITH ITS OWN TESTS AND MONITORS, DEMOT IS NOT COMPATIBLE WITH TESTS. MANUALS/MICROFICHE FOR 887 TESTS ARE POOR AT BEST (CHANNEL PARAMETERS ARE VAGUE).

We agree with this and effort is underway for future products to ensure that they have a common maintenance software interface. The resources to correct mature products are not available, but your comment was sent to diagnostic development. The Peripheral Diagnostic Reference Manual (60000144), which documents the 887 tests HYDR and UHYD along with other peripheral tests, has been added to the CIP V9 L700 kits. We hope this solves part of your comments.

Comment: WHEN CIP ARRIVED, WE COULD NOT OBTAIN ACCESS TO NOS/VE TAPE DRIVES WITHOUT A LEVEL 0 DEADSTART. WE ATTEMPTED TO MODIFY THE CIP TAPE ON NOS BY EXAMINING THE VE PROCEDURES AND DETERMINING WHICH RECORDS TO REPLACE. WHILE THIS PROCESS APPEARED TO BE SUCCESSFUL, CIP WHEN INSTALLED DID NOT WORK CORRECTLY. IN THE FUTURE, PLEASE PROVIDE MORE DETAIL WHEN YOU REQUIRE MODIFICATIONS TO RUN A MIXED LEVEL CONFIGURATION.

The backlevel support was changed for CIP V9 L700 to make it easier to do. The installation process has been made simpler and should correct the problem of supporting mixed levels. The process with the current CIP in the field is very complex. The CIP SRB for CIP V9 L700 documents this improved process with more detail.

Comment: PLEASE DELIVER TWO COPIES OF THE CIP HANDBOOK 60457180.

We used to deliver two copies of the CIP Installation Handbook but have since found that only one copy is necessary at most sites. Additional copies can be ordered through Literature and Distribution Services (LDS).

Comment: CIP AND ITS PURPOSE IS A MYSTERY AT OUR SITE. CDC CAME IN AND INSTALLED IT, THEN WENT AWAY. BETWEEN CIP 5 AND CIP 6 WE LOST MANY HOURS OF COMFORT BECAUSE OF THE NEED TO INITIALIZE AND RELOAD THE DRIVES EACH TIME CIP 6 WAS ATTEMPTED.

The CIP Installation Handbook should be referenced to understand what CIP is and its purpose. We need to know why so many hours were wasted before an adequate answer can be provided to this comment. The basic format of the CIP disk was changed at CIP V6 which required an initial install. Such a change is avoided whenever possible. We hope to never require an initial install for existing systems due to a CIP update in the future.

Comment: AS THE PERSON RESPONSIBLE FOR INSTALLING AND UPDATING CIP AT THIS SITE FOR THE PAST 5 YEARS, I CAN SAY THAT, FROM A CUSTOMER VIEWPOINT, WE HAVE HAD NO PROBLEMS WITH CIP QUALITY.

Thank you for your comment.

Comment: WE WOULD LIKE LCN CONTROLWARE INCLUDED ON CIP.

Currently no utility on CIP can download LCN controlware. The number of different LCN NADs and peripheral microcodes means the LCN peripheral microcode must be delivered with the RHF software. If it were put on CIP, no programs would use it. The LCN NAD peripheral microcode is also tied to RHF. A mismatched level of peripheral microcode on CIP could cause problems with RHF.

Comment: AT L678, WE HAD A PROBLEM WITH THE MICROCODE OF A 679 TAPE UNIT, PF DUMP UTILITY IN PARTICULAR WOULD RUN AT HALF THE SPEED THAN USUAL, WHICH WAS ACCEPTABLE AT OUR SITE.

The problem was traced to SCI and has since been corrected. This problem did not surface until it was sent to the field. Additional SCI testing has been put in place to catch problems of this sort before release.

Comment: AS I REMEMBER APPENDIX C OF THIS CIP DID NOT HAVE FILE 7 MSL MODULES LISTED IN THE RIGHT ORDER AS THEY CAME WITH THIS CIP LEVEL FOR THE CY840. I HAD TO CATALOG THE TAPE IN ORDER FOR THE CE'S INSTALLATION OF SOME OF THESE MODULES TO BE SUCCESSFUL.

The Software Release Bulletin (SRB) left out some of the records that existed within file 7 that were required for the MIGDS tests. They are now documented within CIP V9 L700 SRB.

Comment: CIP RELIABILITY HAS BEEN GREATLY IMPROVED.

Thank you for your comment.

Comment: THIS SITE HAS 700 AND 850 MAINFRAMES. IT WOULD BE EXTREMELY USEFUL IF CIP 700 WERE TO BE SHIPPED ALONG WITH CIP 8XX. THIS WOULD ENABLE US TO KEEP THE OPERATOR DEADSTART INTERFACE IMPACT FOR ALL MACHINES!!!

The CIP for 170 or 700 mainframes has been frozen at V5 and the only thing that has changed is the peripheral microcode. Your comment has been forwarded to SMD to see if they can ship CIP for 170 or 700 mainframes, if a customer has multiple mainframes and one is a 170 or 700 mainframe model.

Comment: WITH THE SUPPORT OF PERIPHERAL EQUIPMENT, IT IS IMPORTANT TO INCLUDE DIAGNOSTIC SUPPORT. BOTH ONLINE AND OFF FOR CDC EQUIPMENT WE HAVE ON BOARD. FOR EXAMPLE, FILE 7 SHOULD INCLUDE ALL DIAGNOSTICS NEEDED TO SUPPORT ALL OLDER CDC PRODUCTS WE ARE STILL USING. A SURVEY OF EQUIPMENT PRODUCTS ON HAND THAT WE COULD INPUT TO YOU SO YOU COULD INCLUDE THOSE DIAGNOSTICS ON FUTURE RELEASES WOULD BE VERY HELPFUL.

It would be extremely hard to obtain the source and binary for older tests. We have no plans to start supporting older equipment with more tests added to file 7. The diagnostics for all currently supported hardware is included on the CIP tape. How you currently maintain the older equipment should be continued.

Comment: WHY WAS THE EDIT OPTION DELETED ON MSL? IT WAS A USEFUL TOOL.

The EDIT option was difficult to maintain and with CIP having a dedicated area on disk, which could hold all the programs, the EDIT utility was made obsolete.

Comment: THE CIP MANUAL NEEDS A MAJOR REWRITE AND REORGANIZATION. EVEN A SIMPLE TASK OF IDENTIFYING THE PROPER DEADSTART PANEL SETTINGS IS CONFUSING. INFORMATION IS MISSING, INCORRECT, HARD TO FIND, ETC...

We are working on the Coldstart/Warmstart sections of the manual. With the increased number of IOU configurations and upgrades available, it is very difficult to tell what deadstart panel is used on any given model type. We are working on trying to task orient some of the procedures rather than referencing people to different areas of the manual. If you have specific problems or concerns, please fill in the comment sheet in the back of your CIP manual and we will do our best to answer your questions.

Comment: EXPLAIN HOW TO SET/DISPLAY THE DATE/TIME OF THE HARDWARE CLOCK IN THE I4 IOU.

Please consult with Engineering Services if you require information on how to set/display the date/time of the hardware clock in the I4 IOU.

Comment: IF CIP IS INSTALLED, THE NOS/VE DEFAULT DEADSTART DEVICE SHOULD BE FILLED IN WITH THE PARAMETER SETTING SEQUENCE, LIKE EDD CHANNEL/UNIT DENSITY. ETC.

This comment was passed to NOS/VE development for consideration.

Comment: PLEASE INFORM OPERATOR THAT HE SHOULD PERFORM OPTION I AFTER FREE RUNNING COUNTER IS LOWER THAN EXPECTED. THIS WILL PREVENT USAGE OF TIME = 00:00:00.

If you can duplicate this problem, please generate a PSR with the information so the problem can be corrected.

The following questions D-1 through D-4 contain the results of the survey section completed by Engineering Services. Questions 5 through 7 were dupicates of previous questions so they were merged with the previous questions.

D-1. INDICATE THE AREAS OF CIP WHICH HAVE BEEN QUALITY PROBLEMS FOR YOUR SITE?

CMSE	9%
MICROFICHE	3%
DIAGNOSTICS	12%
COMMAND BUFFERS	7%
MANUALS	6%
CIP SRB	4%
NONE	59%

The biggest area of problems was in the diagnostics. Our testing is concentrated on any programs that have changed for a release. Because there are more diagnostics than other things on CIP, the results were as expected. No changes are expected in this area at the current time.

D-2. IS THE MICROFICHE DELIVERED WITH CIP USED BY YOUR SITE?

YES	76%
NO	24%

The effort of generating microfiche will continue. We did not know it was used by Engineering Services as much as it appears to be.

D-3. IS THE MICROFICHE RECEIVED BY YOUR SITE STORED FOR LATER USAGE?

YES	95%
NO	5%

See the response to question D-2 above.

D-4. DID YOU HAVE PROBLEMS OBTAINING CIP MATERIALS NOW THAT CIP IS BEING DELIVERED WITH THE OPERATING SYSTEM MATERIALS?

YES	16%
NO	84%

Our assumption was that no problems with Engineering Services were encountered. We plan to forward this information to Engineering Services to see if something can be done to ensure that everyone receives the proper materials when a new release is sent. With the CIP V9 L700 release, some comments on what materials to deliver to Engineering Services was added to the SRB within the CIP V9 L700 Installation section.

Thank you for your participation in the survey.

Appendix E

NOS/VE Boot Environment Overview

INTRODUCTION

This appendix provides the overview of the release packaging of the NOS/VE boot programs. Initial support for this feature is included in the CIP V9 L700 release with the actual repackaging support planned for a future NOS/VE release.

BACKGROUND

The NOS/VE boot programs are currently released on the CIP V9 L700 tape. The CIP tape that accompanies a NOS/VE release contains NOS/VE boot programs that are at an identical release level as that of NOS/VE. This level of compatibility is required to support NOS/VE system activation.

To initiate NOS/VE in standalone mode, CTI loads and transfers control to the PP based SCI module (one of the programs in the group of NOS/VE boot programs). During its system activation process, NOS/VE utilizes CTI's I/O driver to load the CPU portion of the NOS/VE boot programs from the CIP V9 L700 device into central memory.

CDC backlevel support allows customers that have upgraded to CIP V9 L700 to continue to use an OS that is not at the latest release level. Previously when a new CIP release was received at this type of site, the customer had to modify the new CIP tape by replacing the NOS/VE boot programs with those that corresponded to their level of NOS/VE. Modification of the CIP tape ensures that all NOS/VE components used in the system activation sequence are at the same release level. This modification is required since the process which updates the CIP device installs the NOS/VE boot programs from the CIP tape to the Common Disk Area (CDA) on the CIP device.

PROBLEM DESCRIPTION

Each NOS/VE release currently must be accompanied by a new CIP release.

Satisfying the backlevel support requirement is dependent upon the customer, for both dual state and standalone NOS/VE sites, building a special CIP tape. This special CIP is based on the most recently released CIP tape with the substitution of NOS/VE boot programs that are at the same level as their older NOS/VE system.

SOLUTION SUMMARY

The solution described in this appendix eliminates the requirement to release CIP each time NOS/VE is released. It also eliminates, with one exception, the need for a customer to build special CIP tapes to satisfy backlevel support requirements. The one exception is due to changes in NOS 2.6.1 L700, which requires the SCI on CIP V9 L700. A site running dual state with NOS 2.6.1 L700 and a NOS/VE prior to 1.3.1. L700 must use the SCI released on CIP V9 L700. Since SCI is one of the NOS/VE boot programs, the site must replace the SCI on the old CIP tape, which matches the level of NOS/VE that is to be run, with the SCI from CIP V9 L700 tape.

After the CIP V9 L700 release, future releases of CIP will not include the NOS/VE boot programs on the CIP tape. The NOS/VE boot programs are planned to be released on the front of the NOS/VE deadstart tape.

Current Configurations

In current configurations, a new CTI utility (Install NOS/VE Boot Programs) loaded from the CIP V9 L700 device is utilized to install or upgrade the NOS/VE boot programs on the CIP V9 L700 device. The utility installs or updates the NOS/VE boot programs by reading them directly from a CIP tape to satisfy backlevel support requirements.

DETAILED SOLUTION OVERVIEW

All CDA records are currently packaged as a single group and released on the CIP V9 L700 tapes. Effective with a future NOS/VE release, CDA records are planned to be packaged in two groups with group one being released on a unlabeled CIP tape and group two on a NOS/VE deadstart tape.

CDA Group One Records

Group one consists of all current CDA records excluding the NOS/VE boot programs used to support activation of NOS/VE. The group one records are split into two categories, fixed and updateable, during their initial installation to the CDA by CTI.

The fixed category consists of the group one records which must be retained intact across a CIP V9 L700 update installation.

The updateable category consists of the group one records that are replaced, with one qualification, when a CIP V9 L700 update installation is performed. The one possible exception occurs when performing a CIP V9 L700 update installation to a CIP V9 L700 device on which the NOS/VE boot programs have been installed. In this instance, the SCI record, which is also one of the NOS/VE boot programs, is only updated on the CIP V9 L700 device when the NOS/VE boot programs are updated. The fixed and updateable categories are shown in the following table:

Group One Fixed Records

DPB	Default Parameter Block
VCU	NOS/VE Controller and Unit Path Descriptor
DEL	Deadstart Error Log
MRT	Mainframe Reconfiguration Table
CFT	CTI CM Flaw Table
RIF	Register Information File

Group One Updateable Records

SCI	System Console Interface
SCD	System Console Driver
MDD	Monitor Display Driver
VPB	NOS/VE PP Boot
DFTx	Dedicated Fault Tolerance Module
DBDx	DFT/OS Buffer Definition Record
ECRx	DFT Error Control Record
EI	Environment Interface
yyy	Names of peripheral microcode
zzz	Names of mainframe microcode
	(actual names for yyy and zzz are mainframe model dependent)

SCI supports the VPB, SCD, and MDD modes of operation. The SCD mode in SCI serves as the System Console Driver for NOS/VE and, when required, for NOS in both standalone and dual state configurations. In addition, SCI's MDD mode must be functional in the operational environment of NOS/VE, NOS and NOS/BE. The VPB mode serves as the NOS/VE PP boot program during the activation of NOS/VE.

The original SCD, MDD and VPB programs are also included in group one to provide the required backlevel support even though all three of them have been functionally combined into SCI. The three individual records continue to support operating systems that are not at a release level which includes support for SCI.

The DFT support previously available through a single CDA record (DFT) is available in group one through a trio of DFT related records named DFTx, DBDx and ECRx. These three records were created to support the Enhanced Mainframe Logging feature included in the NOS/VE 1.3.1 L700 release. The fourth character of the record name identifies the mainframes supported as shown in the following table:

DFTx, DBDx and ECRx where x is:	Mainframe Models Supported
1	810/810A/815/825/830/830A
2	835
3	840/840A/845/850/850A/855/860/860A/870A
4	990/990E/995E

The peripheral microcode records are actually packaged with the MSL records on the CIP tape but are treated by CTI as though they were packaged as group one updateable records.

CDA Group Two Records

The CDA group two records contain the NOS/VE boot programs. These records are packaged for release on the CIP tape. The data field contains the names of the group two CDA records identified below.

SSR	NOS/VE System Status Record
VCB	NOS/VE CPU Boot
DSKx	NOS/VE Disk Drivers
TAPx	NOS/VE Tape Drivers
SCI	System Console Interface

Migration Strategy For CDA Support

The illustrations in figures 1 and 2 are presented to facilitate understanding how the migration to the new process of building and installing CDA records occurs.

The following record identifiers or separators are used in figures 1 and 2.

BOT : Beginning of tape mark.

IDC : Tape record containing names of successive tape records which must be installed in the CDA of the CIP V9 L700 device.

The IDC record on a CIP tape is one of the CTI modules following the IPL record. It identifies the records to be installed in the group one area of the CDA.

IPL : Tape record for CTI's Initial Program Load module which immediately follows the BOT on a CIP tape.

ZZZ : Tape record separator identifying the end of CTI modules and the start of CDA records.

ZZ0 : CDA record separator introduced with CIP V9 L700. It identifies the start of the group two CDA records in the CDA of the CIP device.

ZZ1 : Tape record separator identifying the end of the CDA records on the CIP V9 L700 tape.

ZZZZ : CDA record separator that identifies the end of the group one fixed records and the start of the group one updateable records.

These record identifiers or separators are used by CTI and the new Install NOS/VE Boot Programs utility in CTI to perform initial/update installations of the CDA records.

The illustration in figure 1 identifies the format of CIP tapes for CIP V6 through CIP V9 L700. The CDA records in figure 1 are equivalent to the summation of the group one and group two CDA records in figure 2.

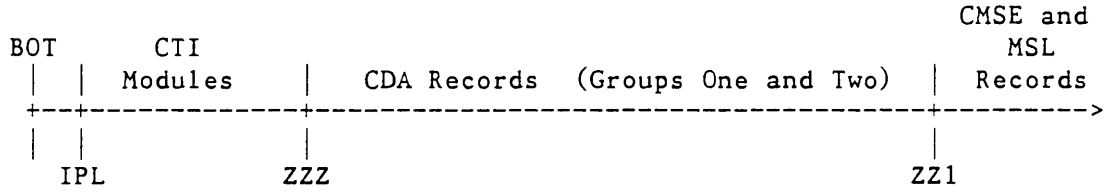

Figure 1 - CIP Tape Format For CIP V6 Through V9

The CDA records are partitioned into two groups with the CIP V9 L700 release tape. The records included in each group are summarized in sections CDA Group One Records and CDA Group Two Records mentioned previously.

The illustration in figure 2 identifies the format of the Common Disk Area (CDA) on the CIP V9 L700 device. The CDA records are obtained from the CIP V9 L700 tape illustrated in figure 1.

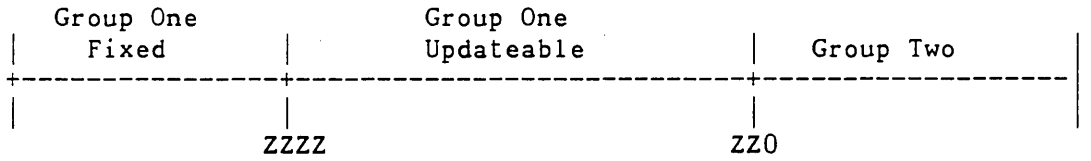

Figure 2 - Common Disk Area (CDA) Format

Install NOS/VE Boot Programs Utility

The new Install NOS/VE Boot Programs utility enables CTI to support both initial installation and update/replacement of the CDA group two records (NOS/VE boot programs). This CTI utility is only available when deadstarting from the CIP V9 L700 device. It can be selected by entering the character V when the Utilities menu is presented by CTI.

This utility obtains the CDA group two records by reading them from a CIP tape. The ability of this utility to read the NOS/VE boot programs from a CIP tape provides backlevel support for either initial installation or replacement of those programs on the CIP V9 L700 device. The algorithm by which CTI determines which of these tapes is mounted is as follows:

1. If the first record read is IPL, this is a CIP tape.

2. If the first record read is not IPL, then the wrong tape is mounted or an erroneous path has been specified. In this situation, the utility presents a message denoting that the desired tape can't be accessed via the specified path.

Prior to writing the group two records in the CDA, this utility deletes the group two records already installed in the CDA.

If the tape mounted is a CIP tape, this utility searches for and reads each of the records listed below that reside between ZZZ and ZZ1 on the tape. This utility then writes each of these records into the group two area of the CDA. Each of the DSKx and TAPx records are treated as a unique record by this utility when written to the CIP V9 L700 device. The x character in these names consists of a unique alphabetical character which is assigned so there is a unique name for each disk and tape driver record on the tape, for example DSKA, DSKB, TAPA, TAPB, and so on.

CIP V7, V8 and V9	CIP V6
SCI	
VCB	VCB
SSR	SSR
DSKx	DSKx
TAPx	TAPx

After writing the new records to the group two area of the CDA, CTI sets the NOS/VE boot programs installed flag in the deadstart sector of the CIP V9 L700 device.

The other records (VPB, SCD and MDD) potentially required for backlevel support were already included on the CIP V9 L700 initially installed in the group one area of the CDA.

When a site switches between different levels of NOS/VE while retaining the same level of CIP, it is necessary for the operator to select this utility to perform a replacement of the NOS/VE boot programs. This is required to ensure that the NOS/VE boot programs are compatible (same PSR level) with the level of the NOS/VE operating system to be deadstarted. (Refer to the NOS/VE Boot Programs section, later in this appendix, for detailed sequences describing use of this utility.)

CIP Tape Installation Options

The installation sequence described in section CIP V9 L700 tape supports the three installation options listed below. These options can only be selected from the Build Deadstart Disk menu presented after deadstarting from a CIP V9 L700 tape.

o - Initial Installation

This option installs all fixed and updateable CIP components packaged on the new CIP tape to the CIP V9 L700 device. This option also clears the NOS/VE boot programs installed flag stored in the deadstart sector of the CIP V9 L700 device.

When the operator selects the initial installation option on the Build Deadstart Disk menu, CTI performs an installation of the CIP V9 L700 tape to the CIP device. Since the SCI record is included in both CDA groups of records packaged on tape, it is required that this process install SCI in the group two area of the CDA.

When this activity is finished, CTI presents a message indicating that the initial installation operation is complete.

o - Update Installation

This option updates all updateable CIP components from the CIP V9 L700 tape to the CIP device, excluding the CDA group one fixed records.

NOTE: The SCI record is updated from the CIP tape only if the NOS/VE boot programs have not been installed on the CIP V9 L700 device. If they have been installed on the CIP V9 L700 device, the SCI record is only updated during an update of the NOS/VE boot programs.

When the operator selects the update installation option on the Build Deadstart Disk menu, CTI performs a CIP V9 L700 device update operation. CTI determines which of two types of update operations to perform based on the state of the NOS/VE boot programs installed flag. (Refer to the previous initial installation description.)

If the flag is clear, CTI performs an update installation of the entire CIP tape, excluding the CDA group one fixed records.

If the flag is set, CTI performs an update installation of the entire CIP tape, excluding the SCI record and the CDA group one fixed records.

When this activity is finished, CTI presents a message indicating completion of the update installation operation.

o - Manual Operations

This option supports selective replacement of CDA records excluding the NOS/VE boot programs.

CTI provides the same level of Manual Operations support currently available except for the two items described below:

1. The NOS/VE Modules option was removed from CTI's Replace CTI/MSL Disk Area Module menu. The only way selective or manual replacement of the NOS/VE boot programs can occur is through use of CTI's new disk based Install NOS/VE Boot Programs utility.

2. The Fault Tolerance Module (DFT) option on CTI's Replace CTI/MSL Disk Area Module menu was modified to support replacement of the trio of DFT modules (DFTx, DBDx, and ECRx).

CIP V9 L700 Device Installation Process

The CIP V9 L700 device installation process consists of CTI obtaining all CIP V9 L700 device components from a CIP V9 L700 tape. The options in this installation process are available for operator selection only when deadstarting from a CIP V9 L700 tape.

CIP V9 L700 Tape

The following procedures assume that controlware has been loaded into the peripheral controllers. If the controlware is not loaded, refer to section 5 in the CYBER Initialization Package (CIP) User's Handbook, revision J (60457180) for coldstart instructions.

The following steps install the CIP V9 L700 tape to disk:

A. Mount the CIP V9 L700 tape.

B. Deadstart from that tape and select the Build Deadstart Disk option from the CTI Initial Options display.

C. Select the desired build option from the Build Deadstart Disk options display.

For first time installations, select the initial installation build option and proceeds to step D.

For an update some time after an initial installation, select the update installation build option and proceed to step E.

D. If you selected the initial installation build option, CTI executes the following sequence at this point in the installation process:

1. CTI prompts you for the CIP V9 L700 device location.

2. CTI replaces the CTI area of the CIP V9 L700 device with the CTI modules read from the CIP V9 L700 tape.

3. CTI builds the first part of the CDA on the CIP V9 L700 device by installing all of the CDA group one records from the CIP V9 L700 tape.

4. Proceed to step F.

E. If you selected the update installation build option, CTI executes the following sequence at this point in the installation process:

1. CTI prompts you for the CIP V9 L700 device location.

2. CTI replaces the CTI area of the CIP V9 L700 device with the CTI modules read from the CIP V9 L700 tape.

3. CTI reads the deadstart sector of the CIP V9 L700 device to obtain the NOS/VE boot programs installed flag. This flag is set when the NOS/VE boot programs are installed on the CIP V9 L700 device.

4. CTI updates the appropriate CDA group one records from the contents of the CIP V9 L700 tape. During this phase of update, CTI checks the NOS/VE boot programs installed flag to determine if the SCI record should be replaced.

   If the NOS/VE boot programs installed flag is set, SCI is not updated as part of this update installation option.

   If the NOS/VE boot programs installed flag is clear, then SCI is updated from the CIP tape.

5. Proceed to step F.

F. CTI loads TDX to install or update the MSL or HIVS area of the CIP V9 L700 device from the CIP V9 L700 tape. Upon completion, TDX presents the message INSTALLATION COMPLETE.

NOS/VE Boot Programs

Due to changes in NOS 2.6.1 L700 which require SCI from CIP V9 L700, a site running dual state with NOS 2.6.1 L700 and a NOS/VE released prior to NOS/VE 1.3.1 L700 must use the SCI from CIP V9 L700. Since SCI is one of the NOS/VE boot programs, the site must replace the SCI on the old CIP tape (which matches the level of NOS/VE that is to run) with the SCI from CIP V9 L700. Refer to the Installation section, mentioned in a previous chapter for details on how to replace SCI on the old CIP tape.

The following steps install the NOS/VE boot programs:

A. Mount the tape containing the NOS/VE boot programs that are at the same PSR level as the NOS/VE system to be supported. See above paragraph for possible required modification.

B. Deadstart to the CIP V9 L700 device on which the NOS/VE boot programs are to be installed and selects the Utilities option from the Initial Options display.

C. Select the Install NOS/VE Boot Programs option from the CTI Utilities display.

D. CTI prompts you for entry of the path description for the tape drive used for reading the NOS/VE boot programs.

E. CTI dynamically determines if it is reading a CIP tape and installs the NOS/VE boot programs from the tape to the group two area of the CDA.

   NOTE: If CTI cannot identify the tape as a CIP tape, it displays the following messages:

   ```
   TAPE ON UNIT nn NOT RECOGNIZED

   ENTER (CR) TO CONTINUE
   ```

   A continuation from this point results in CTI providing you the opportunity to specify a new path to the tape drive.

F. CTI sets the NOS/VE boot programs installed flag in the deadstart sector of the CIP V9 L700 device.

G. Upon successful completion of this installation process, CTI presents the Utilities menu display.

EXAMPLES OF CIP V9 L700 DEVICE INSTALLATION

All CYBER 180 CIP V9 L700 modules must be installed to disk. At least one tape drive and one disk unit must be available. Select a disk unit in your configuration to be the CIP V9 L700 device.

The CIP V9 L700 device installation process supports initial and update installation of CIP V9 L700 tape components and NOS/VE boot programs, if requested. The installation of CIP V9 L700 on the CIP device allows CIP V9 L700 to coexist with operating system information on the same disk. CIP V9 L700 device installation procedures require dedicated machine time.

If the NOS/VE boot programs are not installed on the CIP V9 L700 device when the operator attempts to activate NOS/VE either in standalone mode via CTI activation or in dual state mode, one of the following error messages is displayed:

* If CTI activation : NOS/VE BOOT PROGS. NOT INSTALLED

* If C170 State OS activation : NOS/VE BOOT PROGRAMS NOT INSTALLED

CIP V9 L700 Device Initial Installation

NOS/VE L700 Standalone or Dual State Site

1. Perform an initial installation of the CIP V9 L700 tape by executing the appropriate steps identified in the CIP V9 L700 Tape section mentioned previously in this appendix.

2. Complete installation of the CIP V9 L700 device by installing the NOS/VE boot programs as specified in the NOS/VE Boot Programs section mentioned previously in this appendix.

NOS or NOS/BE Standalone Site any Supported Level

Install the CIP V9 L700 tape by performing the appropriate steps identified in the CIP V9 L700 Tape section mentioned previously in this appendix.

CIP V9 L700 Device Update Installation

NOS/VE 688 Standalone To NOS/VE 700 Standalone Site

1. Perform an update installation of the CIP V9 L700 tape by executing the appropriate steps identified in the CIP V9 L700 Tape section mentioned previously in this appendix.

2. Complete installation of the CIP V9 L700 device by installing the NOS/VE boot programs as specified by the appropriate steps identified in NOS/VE Boot Programs section mentioned previously in this appendix.

NOS/VE L688 Dual-State To NOS/VE L700 Dual-State Site

1. Perform an update installation of the CIP V9 L700 tape by executing the appropriate steps identified in the CIP V9 L700 Tape section mentioned previously in this appendix.

2. Complete installation of the CIP V9 L700 device by installing the NOS/VE boot programs as specified in NOS/VE Boot Programs section mentioned previously in this appendix.

Pre-NOS L700 Standalone To NOS L700 Standalone Site

An upgrade to CIP V9 L700 is accomplished by performing the appropriate steps summarized in the CIP V9 L700 Tape section mentioned previously in this appendix.

NOS/VE Customer Switching Between NOS/VE 688 and NOS/VE 700

After CIP V9 L700 has been installed, it is only necessary to replace the NOS/VE boot programs prior to switching to a different level of NOS/VE by the steps in NOS/VE Boot Programs section mentioned previously in this appendix.