NOS 2.7.3 LEVEL 780 SOFTWARE RELEASE BULLETIN

SMD133719

Contents

Chapter 1
SRB Introduction

This document is the NOS 2.7.3 L780 Software Release Bulletin (SRB). It is to be used in conjunction with the NOS Installation Handbook (IHB) for installing NOS and its products. Control Data recommends that the SRB be read in its entirety prior to software installation. You should also verify that all of your hardware is at the FCA levels indicated in the Configuration Management section of the Software Availability Bulletin (SAB).

The NOS 2.7.3 L780 system described in this document is being released at the following levels:

Operating System	Level 780
Network Host Products	Level 780
Common Product Set	Level 780
CDCNET	Level 780

Audience

The SRB is written primarily for the site analyst. It contains notes and cautions about installation and usage of NOS 2.7.3 L780. Chapter 4 contains information intended for a system/operations administrator and chapter 5 contains information for the end user.

Central Software Support Hotline

Central Software Support (CSS) maintains a hotline to assist you in the use of our products. If you need help not provided by the documentation or find that a product does not perform as described, phone one of the following numbers. A support analyst will work with you.

From the USA and Canada: (800) 345-6628

From other countries: (612) 482-3434

SOLVER Access Phone Number Changes

Effective immediately, please begin using the following phone numbers to access solver:

1200/2400 baud V.22 : 612-482-6000
9600 baud V.32 : 612-482-4000

Please inform all others at your site who access SOLVER that do not receive a copy of the NOS SRB.

Please note the addition of our new 9600 baud lines that were added May 1991.

Chapter 2
Installation

This chapter emphasizes changes in the operating system and its products which may be of particular interest to the person performing the system installation.

Notes and Cautions

This section highlights changes which should be kept in mind when installing NOS 2.7.3 L780.

All Local PP Programs Must Be Reassembled

Changes to PP common decks and NOSTEXT at NOS 2.7.3 L780 require that all sites reassemble any local PP programs.

CIP L780 Required for All CYBER 180-Class Mainframes

All CYBER 180-class mainframes require CIP L780 to deadstart NOS 2.7.3 L780. For further information regarding CIP, refer to the CIP L780 SRB.

Changes to Operating System Decks

There were no resequenced decks at NOS 2.7.3 L780.

The following new decks were introduced at NOS 2.7.3 L780:

COMPSIC - Set PP Instruction Contents

The following decks were deleted at NOS 2.7.3 L780:

COMPPCP
COMSPCP

PSR Summary Report

A summary report of all the NOS PSR modsets in NOS 2.7.3 L780 is available on the permanent file tapes. It is loaded to the installation user name during the SYSGEN procedure call SYSGEN(SOURCE) and has a permanent file name of PSRRPT.

Dual State Support

NOS 2.7.3 L780 includes support of the Dual State product. A build procedure in DECKOPL, a source library, and permanent files are released with this product. Dual state binaries for NOS 2.7.3 L780, NOS 2.7.2 L774 and NOS/VE 1.5.3 L765 are contained on the NOS deadstart tape for dual state customers. The permanent file tapes contain binaries for NOS/VE 1.6.1 L780 compiled to run on NOS 2.7.1 L750, NOS 2.7.2 L774 and NOS 2.7.3 L780.

Chapter 3
Analysis

This chapter emphasizes changes in the operating system which may be of particular interest to the site analyst.

Enhancements

This section highlights new capabilities in NOS 2.7.3 L780.

5830 Disk Array Subsystem (DAS) Support (Phase II)

NOS 2.7.3 L780 includes the second and final phase of support for the 5830 Disk Array Subsystem (DAS). Support is included for serial mode access and parallel mode access to both the Solid State Disk (SSD) and SABRE disk drives, and for parity mode access to the SABRE.

The DAS microcode level for this release is MH427-D09.

The following 583X (DAS) device types are supported in the NOS 2.7.3 L780 release:

```
1X  5832 SSD
2X  5832 SSD
1X  5833 SABRE
1XP 5833 SABRE
2X  5833 SABRE
2XP 5833 SABRE
```

The following 583X (DAS) device types will NOT be supported under NOS:

```
3XP 5833 SABRE
4X  5833 SABRE
```

These devices will not be supported on NOS because they are too large; due to the size of the fields in the NOS Track Reservation Table (TRT), the size of the largest mass storage device that can be supported on NOS is about 2 GB (gigabytes).

A 583x DAS device cannot be used as a CIP device or as a disk deadstart device. Therefore, another type of disk must be configured on the mainframe for use as a CIP device and, if desired, as a disk deadstart device. The 5830 DAS subsystem can coexist in a configuration with the 7x5x/844, 7155/844-4x, 7155/885-1x and 7165/895 disk subsystems, all of which support CIP and deadstart file residency. The 5830 can also coexist in a

configuration with the 887 and 9853 disk subsystems, which do not support CIP or deadstart file residency.

583x disks may not be shared between mainframes, but they can coexist in a configuration with other disk subsystems that are shared between mainframes.

The capacity of a 1X SSD drive is 165 MB (megabytes). The maximum sustained transfer rate on a CYBER 860 for a single 1X SSD disk is 9447 Kch/sec (7.55 MB/sec) on the 10 MB IPI channel, and 9886 Kch/sec (7.90 MB/sec) on the 25 MB IPI channel.

The capacity of a 2X SSD drive is 331 MB. The maximum sustained transfer rate on a CYBER 860 for a single 2X SSD disk is 10009 Kch/sec (8.01 MB/sec) on the 10 MB IPI channel, and 12894 Kch/sec (10.32 MB/sec) on the 25 MB IPI channel.

The capacity of a 1X or 1XP SABRE drive is 1039 MB. The maximum sustained transfer rate on a CYBER 860 for a single 1X or 1XP SABRE disk is 6663 Kch/sec (5.33 MB/sec).

The capacity of a 2X or 2XP SABRE drive is 2000 MB. The maximum sustained transfer rate on a CYBER 860 for a single 2X or 2XP SABRE disk is 9996 Kch/sec (8.00 MB/sec) on the 10 MB IPI channel, and 11975 Kch/sec (9.58 MB/sec) on the 25 MB IPI channel.

A maximum of 32 drives can be configured per IPI channel; both the 10 MB and the 25 MB IPI channels are supported. Up to 120 single-access or dual-access drives can be configured on a system. This restriction is based on the maximum total CMR size allowed.

NOS utilizes a 16KB sector size on the SABRE and SSD. This is a different sector size from that used by NOS/VE; therefore, drives must be reformatted if they are moved back and forth from NOS to NOS/VE. NOS supports the reformatting of 583x drives at deadstart time.

NOS support for the 5830 Disk Array Subsystem is a separately priced product. When ordering the NOS Operating System, a site wishing to use 5832/5833 disks must explicitly specify that it wants to order the DAS product.

Incompatibilities

This section describes any system incompatibilities with previously released NOS systems.

ENABLE,CM RESET Entry Deleted

The IPRDECK and DSD entry ENABLE,CM RESET has been deleted. Changes made to 9853 (XMD) error processing at NOS 2.7.2 L774 had made this entry obsolete. Refer to the NOS 2.7.2 L774 SRB for more information on these 9853 (XMD) error processing changes.

PP Control Point Assignment Changes

The method of determining the control point or pseudo-control point to which a PP is assigned has been modified in the NOS 2.7.3 L780 system to correct some problems involving the storage move of pseudo-control points. On previous levels of NOS, MTR determined whether a PP was assigned to a control point with a storage move pending by checking the control point number in the PP input register. If a pseudo-control point was to be moved, the STSW word in the pseudo-control point area was checked instead for the number of a PP that was accessing the field length of the job. The input register of such a PP was not checked since it would indicate the control point from which the PP was called. In either case, all PPs accessing the job's field length were required to have a storage movable function outstanding before the move could be initiated.

The problem with pseudo-control point moves was that several storage movable MTR functions such as DSWM returned control to the PP if it was determined that the control point indicated in the input register was not moving. Thus, when a PP which was accessing a pseudo-control point job's field length issued a movable monitor function, it was possible that control would be returned while a storage move of the pseudo-control point was in progress. This problem has been corrected at NOS 2.7.3 L780 by implementing a logical extension to the PP communication area which indicates the number and address of the control point or pseudo-control point whose field length is being accessed by the PP. The PP input register still indicates the number of the control point from which the PP was called. Until a PP issues a CCAM function with the new "alternate control point" option (see below) the field length access is to the calling control point.

On NOS systems prior to level 780, a PP such as QAC or 1RO that needed to access the field length of a pseudo-control point job issued a CCAM function with the "change to pseudo-control point" option specified. This option incremented the PP count and set the PP number in the STSW word in the pseudo-control point area. The control point number in the input register remained unchanged and the PP count at that control point was not decremented. A corresponding "change from pseudo-control point" option was provided to restore access back to the calling control point. When the field length of another control point needed to be accessed, the procedeure was more complex. To inhibit job advancement while the PP was assigned to the other control point, a special QCSI subsystem identifier had to be set in the control point area of the original job before issuing the CCAM function (unless the job was a true subsystem - in that case QCSI could not be set and there was a possibility of job advance). The QCSI identifier had to be cleared after the PP returned to the original control point. If more than one PP could change control point simultaneously, the management of the QCSI

id had to be coordinated between them.

At level 780, the pseudo-control point CCAM function options and the usage of the QCSI subsystem id have been replaced by a CCAM "alternate control point" option which allows specification of either a control point or pseudo-control point number. When this option is specified, the control point number in the input register is not changed and the PP count at the calling control point is not decremented. This prevents the calling job from advancing while the alternate assignment is in effect. The PP count at the "alternate" control point or pseudo-control point is incremented and the field length access indicators in the extended PP communication area are set to the alternate control point or pseudo-control point. To reverse the effect of the alternate assignment, a CCAM function is executed with the alternate assignment option and a zero control point number specified. This decrements the PP count at the alternate control point or pseudo-control point and restores the field length access back to the calling control point. Support for the QCSI subsystem id has been removed; any site written PP programs that use QCSI must be converted to use the new CCAM function option.

On systems prior to level 780, a PP requiring access to a pseudo-control point's field length had to explicity set the direct cells RA and FL by invoking the AJFL macro. This macro was defined in common deck COMSPCP and called a routine in common deck COMPPCP. Since routine FTN in PPR sets RA and FL for the control point indicated by direct cell CP, the AJFL macro had to be invoked following each monitor function. At level 780, FTN will set RA and FL according to the control point or pseudo-control point whose field length is being accessed. Accordingly, common decks COMSPCP and COMPPCP have been removed from the system OPL. COMSPCP and COMPPCP also contained an LCPA macro and corresponding subroutine to set the control point or pseudo-control point address of a job. All references to the LCPA macro must be replaced by a call to a subroutine equivalent to routine CCA in COMPPCP.

The CCAM function at NOS 2.7.3. L780 has been enhanced to automatically set the new control point address in direct cell CP if the change is not to a pseudo-control point. This will occur regardless of whether the alternate control point option was selected. Therefore, code in existing PP programs to set CP and execute a PAUSE macro to update RA and FL is redundant and can be removed. However, such programs will continue to function properly without modification on the NOS 2.7.3 L780 system.

Significant Problems

This section describes significant problems known at the time of release.

FTPS and FTPI Abort if Channel Connection is Lost

If the channel connection to the MDI is lost, both FTPS and FTPI will abort with the error UNRECOGNIZED CONTROL STATEMENT PARAMETER. Refer to PSR TCH0102 to track resolution of this problem.

Deferred ROUTE Can Cause Disk Errors on 5830 DAS Disks

If a deferred ROUTE of a nonexistent file is performed, and the newly created file is assigned to a 5830 DAS device which has recently been formatted, a disk error will result, and a CM RESET will be performed on the controller.

Code to resolve this problem is available on SOLVER under PSR NS2G644.

Chapter 4
Operations

This chapter emphasizes changes in the operating system which may be of particular interest to the administrator responsible for performing user validations and accounting activities, and/or the person responsible for operational activities.

Enhancements

This section highlights new capabilities in NOS 2.7.3 L780.

The O26 Editor Now Recognizes Procedure Records

The console editor O26 program can now recognize .PROC records within the context of GETR or GET commands. Before this, record name matches on GET only occurred if the record name began in the first column of the first line of the record, and random searches done by the GETR command would find only TEXT type records. Both commands will now produce matches on .PROC type records with the correct record name.

DIS Now Interprets a "-" as a "BEGIN,"

When a "-" is entered as the first character of a line and the A display is on the left screen, DIS will insert into the keyboard buffer a "BEGIN,". Thus if "-procname" is entered, it will be interpreted as "BEGIN,procname", which is similar to the way IAFEX processes such an entry from an interactive terminal.

Chapter 5
End User

This chapter emphasizes changes in the operating system which may be of particular interest to the end user.

Enhancements

This section highlights new capabilities in NOS 2.7.3 L780.

6/12 ASCII Files May Now Be Printed Without FCOPY Conversion

In previous releases, in order to print a file containing upper and lower case characters on a batch printer, the user first had to convert the file from 6/12 ASCII to 8/12 ASCII, using the FCOPY utility. The file could then be routed using the EC=A9 parameter. At NOS 2.7.3 L780, although the same procedure can still be followed, the conversion is no longer necessary; it is now possible to route 6/12 ASCII files directly to the print queue without conversion. To allow this, a new value, ASCII6, has been introduced for the IC parameter of the ROUTE command. This translates to a value of 3 (symbol A6IC) in the DSP parameter block, for those who may route files from within programs. The new IC=ASCII6 parameter must be specified in conjunction with the existing EC=A9 parameter when routing a 6/12 ASCII file. For example, to route a file named XYZ which contains 6/12 ASCII characters, specify: ROUTE,XYZ,DC=PR,EC=A9,IC=ASCII6.

To use this new capability with a PSU batch printer (such as a 598 printer), the site must configure the printer with the new BATCH_612_SUPPORTED=TRUE attribute specified on the DEFINE_NP_TERMINAL_GW configuration entry in the DI configuration file for the MDI.

USER Command Security

At previous NOS system levels, the 'ENABLE, SECONDARY USER COMMANDS' IPRDECK or DSD command was used to permit the use of secondary USER commands in non-system origin jobs. Also, the ability of an individual user to specify a family on a secondary USER command different from that of the primary USER command was controlled by the MODVAL AW=CSAF directive. The CSAF privilege also controlled whether the family specified on the USER command in a routed input file or the destination family of any routed queue file could be different from that of the routing jobs's USER command.

At NOS 2.7.3 L780, 'SECONDARY USER COMMANDS' must still be enabled to allow execution of secondary USER commands in non-system origin jobs, but new MODVAL options have been added to provide greater flexibility in assigning user privileges. A new CSAU privilege controls the use of alternate user names on secondary USER commands and two additional privileges, CRAF and CRAU, control use of alternate family and user name on routed input files. The CSAF privilege has been redefined to control only the use of alternate family name on secondary USER commands. At NOS 2.7.3 L780, validation restrictions will no longer be applied to the specification of destination family on file routes.

Following is a description of the pertinent MODVAL access word privileges:

CSAF — The user can specify a family name on a secondary USER command other than the family specified (or defaulted) on the first USER command.

CSAU — The user can specify a user name on a secondary USER command other than the user name specified on the first USER command.

CRAF — The user can route an input file specifying a family on the USER command other than the family specified (or defaulted) on the last USER command executed by the routing job.

CRAU — The user can route an input file with a user name on the USER command other the than the user name specified on the last USER command executed by the routing job.

The default value for all of these privileges for newly created users is 'on'.

A new conversion option, CV=K, has been added to MODVAL. This option allows conversion of an existing VALIDUS file to NOS 2.7.3 L780. When specified on a creation run, this option will set the CSAU and CRAU privileges 'on', and will set the value of the CRAF privilege to the current value of CSAF. If CV=F is specified simultaneously with CV=K, both the CSAF and CRAF privileges will be set 'on' for all user names.

TDUMP Now Honors Multiple Dump Type Specifications

It is now possible to produce multiple dump formats (other than the octal/alphanumeric default) with the TDUMP command. If more than one of the O, A, or H parameters are specified, TDUMP will now honor each of them, producing each line of the requested dump in each of the specified formats. TDUMP will show each line first in octal if O has been specified, then in alphanumeric if A has been specified, and finally in hexadecimal if H has been specified. Thus, to produce a combined octal/hexadecimal dump, you might use the command:

```
TDUMP,I=WHATSIT,O,H.
```

The TDUMP default octal/alphanumeric format has not changed, but it can now be explicitly specified if desired. The three following commands are therefore equivalent (sequence of the O, H and A parameters is immaterial):

```
TDUMP,I=WHATSIT.
TDUMP,I=WHATSIT,A,O.
TDUMP,I=WHATSIT,O,A.
```

Chapter 6
Configuration Management

Notes and Cautions

This section highlights changes in configuration management for NOS 2.7.3 L780.

Testing Environment

The NOS 2.7.3 L780 system was tested in an environment containing the following components:

Hardware Component	Release Level	CIP Level
Model 810 Microcode	M14AA16	L780
Model 815 Microcode	M11AA16	L780
Model 825 Microcode	M12AA16	L780
Model 830 Microcode	M13AA16	L780
Model 835 Microcode	M20AA17	L780
Model 840 Microcode	M340x09	L780
Model 845 Microcode	M310x11	L780
Model 850 Microcode	M330x12	L780
Model 855 Microcode	M300x10	L780
Model 860 Microcode	M320x11	L780
Model 960-11 Microcode	M3B0x08	L780
Model 960-31 Microcode	M3A0x09	L780
Model 990 Microcode	M40Ax22	L780
Model 990 Microcode	M41Ax22	L780
Model 994 Microcode	M44Ax22	L780
800 Series Environment Interface (EI)	Level 28	L780
DFT	V10	L780
SCI	V09	L780

NOTE

Microcode for model 870 is the same as that for the 860 and microcode for model 995 is the same as that for the 990.

NOS 2.7.3 L780
Software Release Bulletin

Installation Response Form

In order that we may represent the customer base more effectively, we ask that you fill out this form and return it to the address listed below. Thank you.

SITE NAME _____ SOLVER SITE CODE _____

SITE ADDRESS _____

_____

_____

_____

_____

MAINFRAME MODELS _____

CONTACT _____

INSTALLATION DATE _____

This site has installed NOS 2.7.3 L780 and is currently using it in a production environment.

Please return to:

Control Data Corporation - ARH248
4201 Lexington Avenue North
Arden Hills, MN 55126 USA