NOS 2.7.4 LEVEL 797 SOFTWARE RELEASE BULLETIN

SMD133969

Contents

Chapter 1 - SRB Introduction
Audience 1-1
Central Software Support Hotline 1-2
SOLVER Access Phone Number Changes 1-2

Chapter 2 - Installation
Notes and Cautions 2-1
All Local PP Programs Must Be Reassembled 2-1
CIP L780 Required for All CYBER 180-Class Mainframes 2-1
LIBDECK Changes Required for 1MT Overlay Changes 2-1
Changes to Operating System Decks 2-2
PSR Summary Report 2-2
Dual State Support 2-3
CDCNET Level at NOS 2.7.4 L797 2-3

Chapter 3 - Analysis
Enhancements 3-1
5680 Cartridge Tape Subsystem (CTS) Support 3-1
5744 Automated Cartridge Subsystem (ACS) Support 3-2
Optical Storage System and Optical Storage Extension Support 3-3
Maximum CMR Size Increased From 300K to 400K 3-4
QALTER/QFTLIST Now Support the FS Parameter 3-4
SYSEDIT *PROC Directive No Longer Required 3-5
Significant Problems 3-5
GENPFD Incorrectly Converts Explicit DL Values When Using U=MB 3-5

Chapter 4 - Operations
Enhancements 4-1
Rollout Requested Flag Now Shown on B,A Display 4-1
Incompatibilities 4-1
PLATO Subsystem Renamed to CYBIS 4-1
K/L Display Input Not Accepted Unless Display is Up 4-2
Next VSN Must be Specified on Incremental PFLOAD K-Display 4-2

Chapter 5 - End User
Enhancements 5-1
New RS parameter on CATLIST 5-1

Chapter 6 - Configuration Management
Notes and Cautions 6-1
Testing Environment 6-1

Chapter 1
SRB Introduction

This document is the NOS 2.7.4 L797 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 Systems, Inc. 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 2.7.4 L797 system described in this document is being released at the following levels:

Operating System	Level 797
Network Host Products	Level 797
Common Product Set	Level 797
CDCNET	Level 797

Audience

The SRB is written primarily for the site analyst. It contains notes and cautions about installation and usage of NOS 2.7.4 L797. 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 2.7.4 L797.

All Local PP Programs Must Be Reassembled

Changes to PP common decks and NOSTEXT at NOS 2.7.4 L797 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 2.7.4 L797. Customers with 5830 (DAS) disks should install the DAS microcode from the 780C level of CIP. For further information regarding CIP, refer to the CIP L780 SRB.

LIBDECK Changes Required for 1MT Overlay Changes

Several new overlays have been created in 1MT, the magnetic tape driver. As a result of the introduction of these new overlays, the names of most of the existing 1MT overlays have changed. Since several 1MT overlays must be CM-resident (or ASR-resident) in order to maintain good tape performance, sites should update their LIBDECKs to ensure that the appropriate overlays are CM-resident (or ASR-resident). You may want to refer to the example LIBDECK entries in the decks COMLBAS, COMLESM and COMLUEM on the NOS system OPL.

Changes to Operating System Decks

There were no resequenced decks at NOS 2.7.4 L797.

The following new decks were introduced at NOS 2.7.4 L797:

COMCCKD	-	Copy K-display to file
COMCMBS	-	Move bit string processors
COMCSOE	-	Set optical disk file
COMCSKW	-	Skip words in circular buffer
COMPSOF	-	Search optical disk extension
COMPSRR	-	Set R register
COMPTFM	-	Common TFM subroutines
COMSATF	-	ATF subsystem equivalences
COMSTFM	-	Tape file manager equivalences
COMSTFU	-	Tape file utility function requests
LDISTAP	-	TMS Display
TFILES	-	Tape file request processor
TFM	-	Tape file manager
TFSP	-	Tape file supervisor processor
TFU	-	Tape file utility
TMSPROC	-	TMS recovery procedures
TMSPROG	-	TMS recovery program
TST	-	Tape storage test
OCT	-	Load CTS/CCC controlware

PSR Summary Report

A summary report of all the NOS PSR modsets in NOS 2.7.4 L797 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 2.7.4 L797 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 2.7.4 L797, NOS 2.7.3 L780, NOS 2.7.2 L774 and NOS/VE 1.6.1 L780 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 2.7.2 L774, NOS 2.7.3 L780, and NOS 2.7.4 L797.

CDCNET Level at NOS 2.7.4 L797

The NOS 2.7.4 L797 release is built with CDCNET at version B624. This is the version that was released as the L780AB NOS CDCNET BCU. A level of CDCNET of B624 or greater is required if your site plans to install the new product Automated Cartridge Subsystem (ACS).

There are cases where you may not want to install this level of CDCNET:

- Your site is already running CDCNET at level B624 or greater.
- Your site is running a level of CDCNET less than B624 AND you are not installing the product ACS.

If you do not wish to install CDCNET at level B624 during your upgrade installation, you can avoid overwriting your current version of CDCNET by following the instructions in step 5 of the Upgrade Installation chapter of the NOS Version 2 Installation handbook (60459320) which instruct you to delete PFGDCNS and PFGCHA2 from your RECLAIM database. DO NOT perform any special instructions in the CDCNET section of the Special Product Installation Information chapter since your CDCNET already is at the appropriate level.

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 2.7.4 L797.

5680 Cartridge Tape Subsystem (CTS) Support

NOS 2.7.4 L797 includes support for the 5680 Cartridge Tape Subsystem (CTS). CTS reads and writes IBM 3480-compatible cartridge tapes. These tapes provide increased recording capacity and speed over that of 9-track tapes. Cartridge tapes used in the CTS are identical to the tapes used in the Automated Cartridge Subsystem (ACS), except that an ACS cartridge tape must have a machine-readable bar code VSN. Refer to the next SRB article for a description of ACS. CTS cartridge tapes must be mounted and unloaded by the operator.

CTS cartridge tape units are configured in the EQPDECK with an equipment mnemonic of "CT". On a tape request, a CTS cartridge tape unit can be requested by specifying a density of "CE" and/or a device type of "CT". The device type (DT) parameter is a new parameter at this release.

A CTS cartridge tape has a density of 38,000 cpi. When recorded in I format, a CTS tape has a storage capacity of 131 MB (megabytes); when recorded in LI format (a new format supported in this release), the tape has a capacity of 222 MB. For comparison, a 9-track tape with a density of 6250 cpi has a capacity of 119 MB (when recorded in I format), and 166 MB (when recorded in LI format).

The sustained transfer rate for a CTS cartridge tape recorded in I format (as measured on a COPYEI from a 5833 disk) is about 1.26 MB/sec. When the CTS tape is requested in LI format, the transfer rate is 2.35 MB/sec. For comparison, a 9-track tape with a density of 6250 cpi achieved a transfer rate of 0.77 MB/sec (when recorded in I format), and 1.08 MB/sec (when recorded in LI format).

A CTS cartridge tape may not be used for a deadstart tape, nor may it be used for an EDD (Express Deadstart Dump) tape.

With these exceptions, a CTS cartridge tape recorded in I format may be used by any user program or by any system utility. However, since the new LI format requires the use of a much larger CIO buffer in the user program, not all user programs may be able to use tapes recorded in LI format. This problem can be corrected simply by increasing the size of the appropriate buffer(s) to at least 10021B; better performance can be attained by using a buffer size of at least 30061B. Most system utilities have been enhanced in this fashion to allow the use of LI format; however, a few utilities (most notably COPYL, COPYLM, ITEMIZE, and UPDATE) have not yet been so updated. We plan to correct this situation in the next release of NOS.

In particular, CTS cartridge tapes (recorded in either I or LI format) may be used for PFDUMP, PFLOAD and tape alternate storage.

NOS support for the 5680 Cartridge Tape Subsystem is a separately priced option. When ordering the NOS Operating System, sites that want to use the 5680 Cartridge Tape Subsystem must order the option D521-12.

5744 Automated Cartridge Subsystem (ACS) Support

NOS 2.7.4 L797 includes support for the 5744 Automated Cartridge Subsystem (ACS). ACS reads and writes IBM 3480-compatible cartridge tapes. Cartridge tapes used in the ACS are identical to the tapes used in the Cartridge Tape Subsystem (CTS), except that an ACS cartridge tape must have a machine-readable bar code VSN. Refer to the previous SRB article for a description of CTS. ACS cartridge tapes are automatically mounted and unloaded through the use of robotic hardware.

The ACS robotic hardware is controlled by a SUN Workstation. Tape mount and unload requests are sent from MAGNET to a new NOS subsystem, ATF; ATF then communicates with the workstation through CDCNET via a UDP/IP connection across an Ethernet trunk. For information on installing the ATF subsytem, refer to the CDCNET Configuration Guide (60461550).

ACS cartridge tape units are configured in the EQPDECK with an equipment mnemonic of "AT". On a tape request, an ACS cartridge tape unit can be requested by specifying a density of "AE" and/or a device type of "AT".

The capacity and performance of ACS cartridge tapes are identical to that of CTS cartridge tapes.

The use of ACS requires the use of the NOS Tape Management System (TMS); the software for TMS is included with the software for ACS. All ACS cartridge tapes must be under TMS control. The use of TMS is documented in the manuals "NOS TMS User Reference Manual" (60463110) and "NOS TMS Site Operations Manual" (60463550).

An ACS cartridge tape may not be used as a deadstart tape, nor may it be used for an EDD (Express Deadstart Dump) tape.

ACS cartridge tapes may be used in all situations and by all programs where CTS cartridge tapes may be used, except that ACS cartridge tapes may not be used for tape alternate storage (also known as PF Archiving). This deficiency will be corrected in the next release of NOS.

NOS support for the 5744 Automated Cartridge Subsystem is a separately priced option. This option includes the support of the Tape Management System (TMS). When ordering the NOS Operating System, sites that want to use the 5744 Automated Cartridge Subsystem must order the option D521-13. In addition, the 5680 Cartridge Tape Subsystem option, D521-12, must also be ordered.

Optical Storage System and Optical Storage Extension Support

NOS 2.7.4 L797 includes support for the 65850 Optical Storage System and for the 65860 Optical Storage System Extension (a robotic autoloader sometimes called an optical jukebox).

The NOS Optical Storage System is an integrated hardware and software package using low-cost removable WORM (Write Once, Read Many) optical disk cartridges. Each cartridge contains one single- or double-sided disk. Each side is a separate volume, with a capacity of 1 gigabyte.

As many as four optical disk drives plus a controller can be configured in a pedestal cabinet. This can be increased to eight drives for a single controller, using a second pedestal cabinet or a 65860 OSS Extension. If a 65860 is connected to the controller, a maximum of five drives can be configured in the 65860 cabinet. The total number of drives configured on a single controller cannot exceed eight, regardless of where they reside. Optical disk units (either type) are configured in the NOS EQPDECK with an equipment mnemonic of "OD".

The Optical Storage System can provide up to 4 gigabytes of on-line storage at a time in a 1-pedestal configuration. Optical disk cartridges used in a pedestal unit must be mounted and unloaded by the operator. In a configuration including a 65860, up to 190 gigabytes of on-line storage are available through the robotic autoloader, requiring no operator intervention once the device is initially loaded.

Other notable characteristics of the Optical Storage System:

- Maximum transfer rate per file of 250 Kilobytes/second.
- Conforms to the proposed ANSI Optical Disk File and Label Format Standard.
- Data portability between systems.
- Sequential data file formats.

- Random access to files created sequentially.
- Long life of storage media (up to 30 years).

Software provisions and characteristics:

- Command and program interfaces to optical storage.
- Automatic mounting of volumes contained in the 65860.
- Operator intervention for pedestal unit volume assignment.
- Optical device status available to system operator.
- Easily used for permanent file archival alternate storage.
- Diagnostic capability for testing hardware functions.
- Operator utility for volume labeling and other functions.

Most programs written to use mass storage files can be easily modified to use optical disk; for many programs using FORTRAN Record Manager I/O, the only changes required will be in the command file. Many standard NOS utilities have been modified to be usable with optical disk files, as well. Please refer to the NOS Version 2 Optical Storage System Reference Manual, publication number 60000351, for further details.

Maximum CMR Size Increased From 300K to 400K

In previous releases of NOS, the maximum size of Central Memory Resident (CMR) - those system tables that precede the memory assigned to the first control point - was limited to 300,000 (octal) words. For sites with large configurations, this restriction limited the number of mass storage devices that could be configured, the size of the EJT and other system tables, the number of PP programs that could be made CM resident, the number of I/O buffers that could be defined, and other factors.

At NOS 2.7.4 L797, the maximum size of CMR has been increased to 400,000 (octal) words. This should allow sites with large configurations to make more effective use of their available central memory, which should improve system performance in many cases.

QALTER/QFTLIST Now Support the FS Parameter

The FS (file size) parameter may now be specified with the QALTER and QFTLIST utilities. This parameter allows the selection of queue files based on file size.

SYSEDIT *PROC Directive No Longer Required

In previous releases, a *PROC directive was required for SYSEDIT to identify procedure records, so that they could be called by name calls. At NOS 2.7.4 L797, this redundancy is no longer required. Any ".PROC" record processed by SYSEDIT will now automatically be added to the Central Library Directory (CLD) and will be callable by name calls. SYSEDIT will now ignore any *PROC directives it encounters. *PROC directives should be removed from your LIBDECKs after upgrading to NOS 2.7.4 L797.

Significant Problems

GENPFD Incorrectly Converts Explicit DL Values When Using U=MB

At NOS 2.7.4 L797, if GENPFD is executed with the U=MB parameter specified and an explicit value is given for the DL directive, the DL value is converted incorrectly. This results in a much lower limit than desired, approximately 18% of the anticipated value. This problem is corrected by modset GENPF11 which can be obtained from SOLVER under PSR NS2G666.

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 2.7.4 L797.

Rollout Requested Flag Now Shown on B,A Display

The B,A display will now show an "R" status flag in column 32 when a rollout has been requested for a job. Normally, this status will only be visible momentarily, since the job should be immediately rolled out. In the case where the job is hung, the fact that the "R" status is displayed should be helpful to the operator.

Incompatibilities

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

PLATO Subsystem Renamed to CYBIS

The subsystem and product formerly named PLATO has been renamed CYBIS. The command to initiate the subsystem is now CYBxxxx, where CYBxxxx is the name of the subsystem initiation procedure. Also, the special user name under which the CYBIS master files are defined is now named CYBISMF.

This change was implemented by modset NS2746 (PSR NS2G658).

K/L Display Input Not Accepted Unless Display is Up

In previous releases of NOS, K-Display or L- Display input could be entered while the corresponding display was not active on the screen. This practice was inherently hazardous (particularly when more than one K-Display program was active at the same time), since the operator could become confused as to the current state of the K-Display or L-Display program, and make entries which caused unanticipated results.

At NOS 2.7.4 L797, DSD will not accept K-Display or L-Display input unless the corresponding program is actually active on the screen.

Next VSN Must be Specified on Incremental PFLOAD K-Display

On previous releases of NOS, PFLOAD required the use of the DSD ASSIGN command to assign all but the first tape in an incremental load sequence (unless OP=V was specified). At NOS 2.7.4 L797, the VSN of the next tape must be entered under the PFLOAD K-display before GO is entered to resume the load. The DSD ASSIGN command is no longer used in this situation. Following are the incremental PFLOAD K-display commands supported at NOS 2.7.4 L797:

Command	Description
END.	Terminate incremental load.
GO.	Resume incremental load after the next VSN is entered.
VSN=vvvvvv.	Specify the next VSN to assign.
LIST.	List the remaining files on the catalog image record.

The old E and L commands have been changed to END and LIST to be more descriptive. If GO is entered with no VSN specified, an error message will be posted prompting for entry of a VSN.

Note that if OP=V is specified, PFLOAD obtains the next VSN from the archive file label and does not invoke the K-Display. This processing is unchanged at NOS 2.7.4 L797.

Chapter 5
End User

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

Enhancements

New RS parameter on CATLIST

A new parameter, RS, has been added to CATLIST. This parameter allows the user to select by file residence which files should be listed. The values which can be specified for the RS parameter are the same values which are listed by CATLIST(LO=F) under the heading "RS". These values are:

RS=D	List only Disk-Resident files
RS=C	List only files which reside on Cartridge Alternate Storage (MSE and/or Optical Disk).
RS=T	List only files which reside on Tape Alternate Storage.

More than one residency may be specified at the same time (for example, the values DC, DT, CT and DCT) to indicate that files which reside on either (or any) of the specified media should be listed.

Chapter 6
Configuration Management

Notes and Cautions

This section highlights changes in configuration management for NOS 2.7.4 L797.

Testing Environment

The NOS 2.7.4 L797 system was tested in an environment containing the following components:

Hardware Component	Release Level	CIP Level
Model 810 Microcode	M14AA16	L780C
Model 815 Microcode	M11AA16	L780C
Model 825 Microcode	M12AA16	L780C
Model 830 Microcode	M13AA16	L780C
Model 835 Microcode	M20AA17	L780C
Model 840 Microcode	M340x09	L780C
Model 845 Microcode	M310x11	L780C
Model 850 Microcode	M330x12	L780C
Model 855 Microcode	M300x10	L780C
Model 860 Microcode	M320x11	L780C
Model 960-11 Microcode	M3B0x08	L780C
Model 960-31 Microcode	M3A0x09	L780C
Model 990 Microcode	M40Ax22	L780C
Model 990 Microcode	M41Ax22	L780C
Model 994 Microcode	M44Ax22	L780C
800 Series Environment Interface (EI)	Level 28	L780C
DFT	V10	L780C
SCI	V09	L780C

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.

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 2.7.4 L797 and is currently using it in a production environment.

Please return to:

Control Data Systems, Inc. - ARH207
4201 Lexington Avenue North
Arden Hills, MN 55126-6198
USA