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Dear NOS Customer:

In addition to the CIP, deadstart, and permanent file tapes you normally receive for a release, there is a new tape that contains the following files:

File 1: The Software Release Bulletin

File 2: The Feature Notes

File 3: A program library containing copies of NOS decks prior to being resequenced.

The tape is internally labeled with a VSN of SRB1.

Sincerely

CONTROL DATA CORPORATION

SMD131768

NOS 2.6.1 L700/688 SOFTWARE RELEASE BULLETIN

Control Data Corporation recommends that the Software Release Bulletin be read in its entirety prior to any NOS installation.

SMD131768

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Chapter 1

SRB Introduction

This document is the NOS 2.6.1 L700/688 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 2.6.1 L700/688 system described in this document is being released at the following levels:

Operating System	Level 700
Network Host Products	Level 700
Common Product Set	Level 688
CDCNET	Level 700

Audience

The SRB is written primarily for the site analyst. It contains notes and cautions about installation and usage of NOS 2.6.1 L700/688. Chapter 4 contains information intended for a system/operations administrator and chapter 5 contains information for the end user.

CYBER Software Support Hotline

CYBER Software Support 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, call one of the following numbers. A support analyst will work with you.

From the USA and Canada: (800) 345-9903

From other countries: (612) 851-4131

Chapter 2

Installation

Notes and Cautions

This section highlights system and installation changes that may significantly affect the installation of NOS 2.6.1 L700/688.

CIP V9 L700 Required for All CYBER 180-Class Mainframes

All CYBER 180-class mainframes require CIP V9 L700 to deadstart NOS 2.6.1 L700/688. For further information regarding CIP, refer to the CIP V9 L700 SRB.

Changes to Operating System Decks

The following decks were resequenced at NOS 2.6.1 L700/688:

COMSPFU	RECLAIM	RDFP
CPM	SHOW	IAFP
MDD	APRINST	IAFTM
1MB	CMRINST	IAFTR
TAFPRC		

To aid in upgrading local modsets, a program library containing the pre-resequenced versions of these decks (containing all 2.6.1 code up to the time of resequencing) is available as file 3 on the SRB tape.

The following decks are new at NOS 2.6.1 L700/688:

COMPGTN - Get terminal number.
COMPVPA - Validate privileged analyst.
MPF - PACKER utility helper.
PACKER - Indirect access permanent file hole packer.
VALEX - Validation executive.

The following decks were deleted at NOS 2.6.1 L700/688:

CHARGE PROLOG

Dual State Support

NOS 2.6.1 L700/688 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/VE 1.3.1 L700 are contained on the NOS deadstart tape for dual state customers. The permanent file tapes contain binaries for NOS/VE 1.3.1 L700 compiled to run on NOS 2.5.3 L688, NOS 2.5.2 L678/670, and NOS 2.5.1 L670. For complete information on how to obtain these binaries, refer to the NOS IHB.

Dual State Upgrade Installations

When upgrading NOS/VE and/or NOS in a dual state environment, it is important to first check for the existence of file DSTLIB on the user name used to execute the NVE subsystem. DSTLIB is used to temporarily store changes to the RUNJOBS or ACCFILE job templates. If this file exists, it should either be purged or if local modifications have been added, renamed prior to executing the NVExxxx command from the system console. (xxxx is the last four characters of one of the dual state procedure files.) Any local modifications to file DSTLIB should be migrated to the new NVELIB which matches the dual state system being deadstarted prior to deadstarting the new NOS/VE level for the first time. If this is not done, DSTLIB, rather than the user library NVELIB on the NOS deadstart tape, is used to perform a NOS/VE deadstart.

Dual State Upgrade of NOS Only

If you wish to upgrade only NOS in a dual state environment, it is necessary to build the dual state binaries. In order to correctly build these binaries, it is necessary to use the installation tools (DECKOPL, COMMODO, and INSTALL) that are at the same level as the level of NOS/VE you wish to run. These can be obtained from the NOS permanent file tapes that match the level of NOS/VE you wish to run by using RECLAIM. You also need to obtain the NOS/VE dual state source library, file VEDSSL, from these same tapes. The file PFGDECK contains the files DECKOPL, INSTALL, and COMMODO as files 1, 2, and 3, respectively. File 1 of file PFGDUAL, or file 1 of PFGBCU2 if your site has installed any BCUs, contains the NOS/VE dual state source library.

After obtaining these files, it is necessary to modify COMMODO so that psrin points to the level of NOS you wish to run and then run the procedure SETUP (Refer to the instructions found in chapter 9 of the NOS IHB.) to create a modified version of DECKOPL and INSTALL. Follow the instructions in chapter 7 of the NOS IHB for converting the NOS/VE dual state source library (VEDSSL) to an input program library (DUALpsrin) for the dual state procedure. Proceed with the upgrade using the level of NOS you wish to run for all other files necessary for building. (For example, use your new NOS deadstart tape as file SYSTEM when you execute the procedure SEED.)

DUAL Installation Procedure Messages

The DECKOPL installation procedure for DUAL contains two warnings. The following messages appear in the assembly listing: (Note the periods indicate text that does not deal with the error messages was not included in the following example.)

```
O      5 MODULE rhm$partner_job_exec ALIAS 'rhmjep';  
.  
.  
*WARN * 2104 ? IF icv$nos_be THEN  
.  
.  
WARNING      2104                      Error in compile time if statement, value of FALSE assumed.  
.  
.  
O      5 MODULE rhmqfr;  
.  
.  
*WARN * 1590 ? IF icv$nos_be THEN  
.  
.  
WARNING      1590                      Error in compile time if statement, value of FALSE assumed.
```

The following messages appear in the dayfile:

```
MODULE RHM$PARTNER_JOB_EXEC  
CYBIL/CC  00.00.31  4.120      0.000  
1 WARNING ERROR  
.  
.  
MODULE RHMQFR  
CYBIL/CC  00.00.24  3.867      0.000  
1 WARNING ERROR
```

This condition is non-fatal and does not affect the generated binaries. These warnings will be eliminated in a future release.

PSR Summary Report

A summary report of all the NOS PSR modsets in NOS 2.6.1 L700/688 is available on the permanent file tapes. It is loaded to installation user name INSTALL during the SYSGEN procedure call to SYSGEN(SOURCE) and has the permanent file name PSRRPT.

All Local PP Programs Must Be Reassembled

Changes to PPR entry points at NOS 2.6.1 L700/688 require that all sites reassemble any local PP programs.

New COMSMTX Installation Parameter PONR

Some tape requests do not provide enough information to allow NOS to verify that the next tape to be mounted is the one being requested. The situations in which this can occur include:

1. The mounting of a second or later reel in a multi-reel unlabeled tape request.
2. The mounting of a second or later reel in a multi-reel labeled tape request where no VSN was specified on the request.
3. The mounting of a first reel in an unlabeled tape request after a ring conflict has occurred on that reel.

In these situations, NOS relies on the operator to look at the E,P. display to determine which tape to mount. NOS then automatically accepts any tape mounted. However, if the operator does not look at the E,P. display, the possibility exists that a wrong tape may be mounted and subsequently overwritten.

To guard against this problem, a new installation parameter, PONR, in COMSMTX has been defined. This parameter indicates whether the system should automatically assign a mounted tape in the above situations.

If PONR is set to 0 (the default value) the system does what it always has, which is the following:

- For situations 1 and 2, the message MOUNT is issued to the E,P. display to inform the operator to mount (or if the tape is already mounted on another drive, to assign via the VSN command) the next tape. Any tape subsequently mounted or assigned is automatically accepted.
- For situation 3, any tape subsequently mounted with the correct ring status is automatically accepted.

If PONR is set to 1, the operator is forced to check the E,P. display to verify that the correct tape is mounted and the system does the following:

- For situations 1 and 2, the message CHECK AND MOUNT is issued to the E,P. display to inform the operator to visually verify that the next tape to be mounted or assigned is in fact the tape being requested. The system then gives the operator the option of either dropping the job (if the correct tape cannot be found) or entering the DSD command NEXTREEL,est. to inform the system that the operator has found the correct tape. Any tape subsequently mounted or assigned is automatically accepted. If the NEXTREEL command is not entered before the next tape is mounted or assigned, the system rejects and unloads the tape and reissues the CHECK AND MOUNT message.
- For situation 3, the operator is required to enter the NEXTREEL command before remounting the tape with the correct ring status. Failure to do so causes the system to reject and unload the tape and issue the CHECK AND MOUNT message.

TCP/IP/FTP/TELNET Asynchronous Release

The device interface (DI) code for TCP/IP/TELNET is available at NOS 2.6.1 L700/688. If you ordered this terminal interface program (TIP), it is installed with CDCNET on your system. The FTP code, however, will not be released until later this year. Details on the TCP/IP/TELNET product are in the NOS 2.6.1 L700/688 Software Availability Bulletin (SAB) and in revision E of the CDCNET Advanced Configuration Concepts manual (60461550).

Dual Access to 887 Disk Drive Support

NOS 2.6.1 L700/688 includes code to support dual channel access to the 887 disks subsystem. While NOS 2.6.1 L700/688 is compatible with the boards currently installed in the 887 disk drives, two FCOs are required to implement this support. Please contact CYBER Hardware Support for more information regarding FCO installation.

Incompatibilities

This section describes changes made with regard to installing the NOS 2.6.1 L700/688 system which may be incompatible with previously released NOS systems.

Change in COMSMTX Installation Parameter POLM

The definition of the installation parameter POLM in COMSMTX has been changed. If POLM=0 (the default value), no detailed status error messages are issued to the user dayfile. If POLM=1, a detailed status error message is issued to the user dayfile for both the first and last attempt to read a bad tape block.

The system continues to issue a detailed status error message to the error log for each attempt to read a bad tape block.

LIBDECK Changes

A new overlay, OCL, has been added to NOS 2.6.1 L700/688. It should be made CM resident.

In addition, the names of the overlays for DSD, DIS, and 026 have been changed. Any LIBDECK entries that reference 9xx overlays should be updated to reflect these changes. The description of each overlay listed in the PP record's comment field by utilities such as CATALOG or ITEMIZE has not been changed. Corresponding old and new overlay names can be determined by matching descriptions.

Significant Problems

The following section describes significant problems known at the time of the release.

Problems with RECLAIM When Performing an Upgrade Installation

When performing an upgrade installation of NOS 2.6.1 L700/688 on a NOS 2.5.2 L678 or earlier system, RECLAIM aborts with the following message:

CPM - INCORRECT REQUEST.

Code to correct this problem is available on SOLVER under PSR LDR0891. You should install the code for PSR LDR0891 on your 678 or earlier system prior to performing the upgrade installation of NOS 2.6.1 L700/688.

Future Considerations

This section contains information about changes which will be implemented in a future release.

End of Support for Certain PSU Printer Classes

In the next NOS release, PSU will no longer support the following printer classes. They have been replaced by the more generic printer classes indicated. To aid in the migration, both the old and new printer classes are available at NOS 2.6.1 L700/688.

No Longer Supported -----	Replacement -----
CDC585	BATWVFU (Batch with VFU)
C537BAT	BATNVFU (Batch no VFU)
C537INT	INTNVFU (Interactive no VFU)
C533536	C536INT (Interactive 533/536)

The BATWVFU printer class may be used for printers in batch mode connected via CDCNET only (using DEFBD) which have VFU Load Procedures defined. This includes the 533/536, 537, and 585 printers.

The BATNVFU printer class may be used for generic (non-VFU) printers in batch mode connected via CDCNET only which includes the Apple LaserWriter. This printer class can also be used for 533/536 and/or 537 printers in non-VFU mode; however, the BATWVFU printer class is recommended.

The INTNVFU printer class may be used for generic printers in interactive mode connected via either CDCNET (using DEFTD) or CCP. This can include 533/536 and/or 537 printers in non-VFU mode. However, it is recommended that 533/536 and 537 printers connected via CDCNET use the BATWVFU printer class. 533/536 printers connected via CCP should use the C536INT printer class (next).

The C536INT printer class may be used for 533/536 printers only, connected via CCP or as interactive via CDCNET. The recommended printer class for 533/536 printers connected via CDCNET is BATWVFU.

Note that when possible, printers should be connected via CDCNET in batch mode. System resources, especially in the host, are better optimized in batch mode.

The following matrix shows the preferred configurations for various printers. In each case, connection via CDCNET is preferred over connection via CCP and within CDCNET the batch mode is preferred.

Printer	Primary Choice CDCNET	Alternate Choice CCP
	1st 2nd 3rd 4th	1st 2nd
536	BW 53 BN IN	53 IN
537	BW BN IN na	IN na
585	BW BN na na	na na
Other	(BW) BN (IN) na	(IN) na

In the above table, 1st...4th indicate the order of choice within each group. The printer classes are abbreviated as follows:

BW - BATWVFU
BN - BATNVFU
IN - INTNVFU
53 - C536INT
na - not applicable

(BW) indicates that it can be used only if the site provides a CDCNET VFU Load Procedure for the printer. (IN) indicates that it can only be used if not a Data Products interface. Printers with a Data Products interface are driven by the URI TIP and must use BW or BN.

Chapter 3

Analysis

Notes and Cautions

This section highlights changes in the NOS 2.6.1 L700/688 operating system which may be of interest to the site analyst.

New Special Entry Point

A new special entry point, DPA=, has been defined. The DPA= entry point is similar to the existing DMP= entry point; however, if a program contains a DPA= entry point, the calling program may pass parameters to the DPA= program via ARGR and ACTR.

Interactive Field Length Service Limit

NOS 2.6.1 L700/688 alters field length limit processing to include the service limits for CM and EM field length in the calculation of the maximum field length validations for an interactive job. The service limits are set by the CM and EC keywords on the SERVICE IPRDECK entry and DSD command. An attempt by an interactive job to request more CM or EM field length than the value of the service limit which was in effect when the job was initiated now causes the job to abort. This value is in force for the entire interactive job. Any changes made to the CM and/or EC service limits after a particular job has started does not affect that job, but only affects jobs which are initiated after the changes were made.

Incompatibilities

This section describes any system incompatibilities with previously released NOS systems. The intended audience is primarily the NOS system site analyst.

QAC PEEK Function Changes

LID processing in QAC has been changed. Formerly, the PEEK request returned files that the GET function could not attach using the same call parameters. The PEEK function would return data on all files, regardless of the destination LID value, if the DLID selection bit was not specified in the QAC parameter block. Subsequent attempts to attach the files returned by the PEEK function could fail since the GET function was checking the DLID criteria.

QAC now provides consistent processing of LIDs for the different QAC processors. If the DLID selection bit is not specified, all QAC functions now select only files destined for the local host mainframe. In order to select all files regardless of destination LID, you must now specify the DLID selection bit and set the DLID field to ***.

Any locally written code which calls the QAC PEEK function should be examined to determine if it needs to be modified as a result of this QAC interface change.

Changes to System Prolog Processing

Any system prolog with an index of 70B to 77B is now a security system prolog. A security system prolog may be used to lock a particular user into a specific application, since any job which is executing such a prolog is automatically aborted (and the interactive user is logged out) if the prolog itself ever aborts.

QALTER Change

The maximum value of the NRC parameter has been increased from 31 (37B) to 63 (77B). The NRC parameter is used to specify a new repeat count associated with an output file.

New Clock Update Message

Because hardware errors could change the value of the free-running counter which is also used to update the clocks, the following message is now issued at the system control point if a clock is updated by an increment greater than ten seconds:

CLOCK UPDATE WARNING.

If this situation occurs, the operator should verify that the system clock is still correct (and enter the TIME command to correct it if it is not). The GO,SYS. command may then be entered to clear the CLOCK UPDATE WARNING message.

MDD Changes

NOS 2.6.1 L700/688 changes the NOS MDD boot to load SCI/MDD instead of discrete MDD. This copy of SCI also services the NOS/VE console if NOS/VE is subsequently brought up in dual state mode. If NOS/VE is initiated first, MDD must be initiated from the NOS/VE console through use of the CHANGE_MDD_OPERATING_MODE command. (This command must be entered from the NOS/VE critical display window.)

The timeout parameter on the MDD command has been eliminated. The command is now:

X.MDD(p) where p specifies the port.

If p=1, then port 0 is used. If p=2 or p is omitted, then port 1 is used. Port 1 is the default.

If NOS 2.6.1 L700/688 is run in a dual state environment in which the level of the NOS/VE system is pre-1.3.1 L700, then the following new CMRDECK entry must be entered in order to use MDD. In this case, a new copy of SCI is loaded to service the NOS/VE console when NOS/VE is initiated.

BSP=N. This entry specifies that the SCI parameter table should not reside in NOS Central Memory.

IMS Error Message Change

Previously when data verification errors occurred while pre-writing label or catalog tracks, IMS aborted with no indication in the dayfile as to what caused the problem. A new dayfile message has been added to indicate where the problem occurred. The new message is:

EQxxx,TKyyyy - VERIFICATION ERRORS.

where xxx is the EST ordinal and yyyy is the track number.

Chapter 4

Operations

Notes and Cautions

This section highlights changes to the NOS 2.6.1 L700/688 system which may be of interest to the administrator responsible for performing user validations and accounting activities and/or the person responsible for operational activities.

Queue Utility Changes

NOS 2.6.1 L700/688 alters the queue file utility processing such that the occurrence of the condition QFT FULL always results in the K display being requested. This allows operations to take action on the condition in a more timely fashion.

New AASR Account File Message

The new AASR account file message indicates the number of SRUs that the job has accumulated up to this point in time. It is issued periodically to allow sites to track SRU usage for jobs that do not terminate normally. The format of the message is as follows:

AASR, unts.

where unts is the number of SRUs used.

Incompatibilities

This section describes the operational changes made in the NOS 2.6.1 L700/688 system which may be incompatible with previously released NOS systems. The intended audience is primarily the administrator responsible for performing user validations and accounting activities and/or the person responsible for operational activities.

DSD Changes

The following changes have been made to DSD:

1. Security Unlock Required for PP Breakpoint and CPUMTR Breakpoint Commands

On a secured system, the PP Breakpoint commands and the CPUMTR Breakpoint commands now require that the console be in the security unlock state rather than just the unlock state. This is to prevent the operator from viewing the contents of PPs which may contain secure data. It also prevents the operator from attempting to bypass NOS system security by altering the execution of a PP program or CPUMTR.

2. Q Display Change

The Q Display now shows the repeat count for queue files.

3. REPEAT Command Changes

The REPEAT command has a new format. Instead of specifying the EST ordinal of the device on which the file is being processed, you must now specify the JSN of the file itself.

Old:	REPEAT,est,xx.	xx = number of times to repeat operation (77B maximum)
New:	REPEAT,jsn,xx.	

This new format allows the REPEAT command to be used to change the repeat count of a queued file while it is still in the queue, in addition to being able to change the repeat count of a queued file while it is being processed by BIO.

4. DIS,jsn Command Change

The DIS,jsn command, where jsn represents the job sequence name, has been changed to not require the unlock status if the system is in unsecured mode.

5. PP Hung Message Change

The name of a hung PP has been added to the HUNG PP and PP HUNG messages issued at the system control point.

6. GO,SYS. Accepted During Deadstart

DSD has been modified to accept GO,SYS. during deadstart in addition to GO,.

7. Diagnostic Messages for the 887 Disk Subsystem

Prior to NOS 2.6.1 L700/688, if a site enabled diagnostics to run during deadstart for 887 disk drives, the system used to appear as though it were hung for the several minutes it took to run the diagnostics. With this release, the following message now appears at the console to inform the operator of the system's status:

EQord, DIAGNOSTIC RUNNING.

where ord is the EST ordinal of the 887 disk drive.

A similar message is issued when the 887s are spinning up:

EQord, SPIN UP PENDING.

Down Processing of System Dayfile Device Altered

To prevent inadvertant loss of system dayfile, NOS 2.6.1 L700/688 no longer allows a system dayfile device to be downed. This includes devices which contain the account dayfile, the error log, and the binary maintenance log. If you wish to down such a device, you should first use DFTERM to move the dayfiles to another device.

Significant Problems

The following section describes significant problems known at the time of the release.

Broken Connections May Cause Application Busy Error

If many users are switching to other applications (APPSW), and the connections are broken, NAM may lose count of the number of users connected to the primary application. Consequently, it may start reporting the following message when users try to login, even though the application is not at its connection limit:

APPLICATION BUSY

This problem can be tracked via PSR NA50651.

Chapter 5

End User

Notes and Cautions

This section highlights changes to the NOS 2.6.1 L700/688 operating system which may be of interest to the end user.

PASSWOR Changes

The PASSWOR command has been enhanced to allow a user to change a batch password from an interactive job (and vice versa). The new PT (Password Type) parameter can be used to select which password to change. A PASSWOR command with PT=B specified changes the batch password; a PASSWOR command with PT=I specified changes the interactive password. If a user chooses secure entry of parameters from an interactive job, PASSWOR now prompts for the password type before prompting for the old and new passwords.

If the PT parameter is omitted, PASSWOR continues to change the password which matches the origin type of the user job as it did in previous systems.

COMMAND Online Manual No Longer Supported

The COMMAND online manual has been replaced by the HELPME facility. COMMAND remains, but only as a one-screen manual that points callers to HELPME. To more fully parallel the function of COMMAND, compiler calls and loader commands were added to HELPME at this release.

ROUTE Change

The maximum value for the REP parameter (repeat count) on the ROUTE command has been increased from 31 (37B) to 63 (77B). REP is used to specify the number of additional file copies to be routed.

New Function Key Option Added to CCL

When prompted for parameters by an interactive CCL procedure, it is very natural for people to enter a value for a parameter and press NEXT (CR) expecting to be sent to the next parameter, only to have the procedure execute prematurely. Enhancements to NOS 2.6.1 L700/688 screen mode CCL include definition of an alternative key to the standard NEXT(CR) for signaling the system to begin procedure execution. A scheme using F7 to execute the procedure was adopted. The new behavior is optional, based on the use of a new .F7 directive in the procedure.

If a procedure designer includes the new .F7 directive in a procedure, CCL displays seven function keys in screen mode rather than the usual six. The newly defined F7 key is labeled EXECUTE. When this option is used, the NEXT key does not cause procedure execution, but cause the cursor to advance to the next parameter field. Pressing the F7 key causes the procedure to be executed. The .F7 directive may include an alternate label if desired, but it is not required. Possible formats for the .F7 directive are:

```
.F7  
.F7.  
.F7=label  
.F7,label.
```

Labels used with the .F7 directive follow the same rules as other with other .Fn directives and are limited to a maximum of eight characters.

RECLAIM Enhancements

A new PN parameter has been added to the RECLAIM command which allows specification of an alternate pack name for RECLAIM database residence.

RECLAIM was also enhanced to dump files based on their access date. Similar to modification date options MA, MB, and MD, the new options are:

AA=yymmdd	accessed after date yymmdd
AB=yymmdd	accessed before date yymmdd
AD=yymmdd	accessed on date yymmdd

The new access date options are useful only with the DUMP directive or, if DB=0 is specified, with COPY, LIST, and LOAD directives.

Previous levels of RECLAIM issued an ambiguous FILE NOT FOUND error message to indicate that a file to be processed was either not found or did not meet selection criteria. RECLAIM now issues a more informative message which includes the name of the problem file:

```
FILE NOT FOUND OR FAILED CRITERIA - fn  
CANNOT ATTACH/GET FILE = fn - FILE SKIPPED
```

where fn is the name of the problem file.

Incompatibilities

This section describes changes made to the NOS 2.6.1 L700/688 system which may be incompatible with previously released NOS systems.

CCL Change Affecting Procedures with Literal Keywords

The method that CCL handles a parameter described in the procedure header as a literal keyword has changed. Parameter P2 in the following procedure is an example of this change.

```
.PROC,SAMPLE*I,P1=(*F,*N=),$P2$=(*A1O).  
.IF,$P1$.NE.$$.NOTE./ #P1 VALUE IS P1.  
.IF,P2.NE.$$.NOTE./ #P2 VALUE IS P2.  
.SET,P3=STR(P2).  
NOTE./ VALUES ARE P1, P2, P3.
```

Prior to this change, if a value supplied for parameter P2 was a literal, the \$ symbols were not removed in parameter substitution as they were from a literal value supplied for a non-literal parameter such as P1. However, if the value supplied for P2 was not a literal, no special action was taken.

Now the value substituted for occurrences of P2 in the procedure body is always a literal, regardless of whether it is supplied as a literal or not. In other words, if the value supplied for P2 is ABC, it appears as \$ABC\$ in the messages generated by the NOTE commands in the above procedure. If the value is supplied as a literal, for example \$ABC\$DE, then it is unchanged, as \$ABC\$DE in the NOTE commands in this case.

The advantage of this change is that the format of the value substituted for a literal keyword is now consistent, regardless of where it came from or how it was specified. Thus, a procedure writer may count on the presence of the \$ symbols when testing the parameter or passing it to another procedure. Note that the .IF test using P2 in the above procedure does not enclose the parameter with \$ symbols, because the \$ symbols are already included as a part of the value substituted. Prior to this change, it was not possible to predict whether \$ symbols should be used or not. No matter how the procedure was built, a bad value supplied by the caller could cause commands using it to fail due to having too many or too few \$ symbols. Values substituted for literal keywords now always include the \$ symbols. Note that existing procedures using literal keywords and enclosing those keywords within \$ symbols in the body of the procedure may now fail due to an excess of \$ symbols, depending upon how the keyword is used. Removing the \$ symbols surrounding the keyword in the procedure body corrects this problem.

If the parameter value excluding the \$ symbols is needed, a .SET directive may be used to create a new keyword as was done with parameter P3 in the above procedure. Values substituted for the new keyword will not have the \$ symbols included.

CCL Changes Affecting Dayfile Displays

The method CCL uses to display BEGIN and the procedure file name call commands in the dayfile has changed. This change is necessary to accommodate the new *R checklist pattern designating parameters whose values are not to be displayed in the dayfile.

Inclusion of the new *R checklist pattern in the checklist for a parameter causes any value supplied for that parameter to be removed from the dayfile display of the BEGIN or the executed procedure file name call command. For example, the following procedure is contained in a file named SECRET:

```
.PROC,SECRET*I,P1=(*F),P2=(*F,*R),P3=(*A).  
NOTE,,NR./ P2 IS A RESTRICTED PARAMETER.  
ATTACH,P1/UN=P3,PW=P2,NA.
```

If procedure SECRET is called by the following command:

```
BEGIN,,SECRET,AAA,BBB,CCC.
```

The resulting dayfile appears as follows:

```
hh.mm.ss.BEGIN,,SECRET,AAA,,CCC.  
hh.mm.ss.NOTE,,NR./ BBB IS A RESTRICTED PARAMETER.  
hh.mm.ss.ATTACH,AAA/UN=CCC,PW=,NA.  
hh.mm.ss.REVERT.CCL
```

This illustrates two things; first, the value supplied for P2 does not appear in the dayfile display of the BEGIN command, while the values supplied for P1 and P3 do; and second, the value for P2 is displayed in the NOTE command, but not in the ATTACH command. This demonstrates that care must be exercised in handling sensitive parameter values to avoid placing them in commands or contexts where they are not properly protected.

CCL Procedure File Search Modified

The search order for a CCL procedure file has been modified to force PN=0 (no pack name) for the UN=LIBRARY search. Previously, if the caller's user name had an associated pack name, CCL would search UN=LIBRARY on that pack.

New CCL Symbolic Names

NOS 2.6.1 L700/688 introduces two new symbolic names to CCL. USER and PACK return the user name and pack name, respectively, in the same format currently used for the FAMILY symbol.

FSE Changes Affecting Replacement of Files

The method FSE uses to update the CHANGED/NO CHANGES status of files has changed.

If a user editing a file or files issues a QUIT with REPLACE, FSE now replaces the current file as well as any files which have been changed. The current file is the one currently displayed on the screen or in the case of a split screen, the file containing the cursor. That file is replaced even if it has not been changed, unless it is the FSEHELP or the FSTEACH file. If the cursor is in the FSEHELP portion of a split screen and the FSEHELP file has not been changed, the file in the other split is considered the current file.

Previously, only changed files, or files marked as changed by means of the SET REWRITE YES command, would have been replaced.

After a QUIT without REPLACE, the CHANGED/NO CHANGES status of all files is retained, so that if the session is later resumed by typing FSE, a subsequent QUIT with REPLACE causes the replacement of any files changed before the first QUIT, as well as those changed since the session was resumed.

After a QUIT with REPLACE, all files have a NO CHANGES status.

Previously, all files would have a NO CHANGES status upon resumption of an edit session, without regard to what kind of QUIT had terminated the previous session.

FSE Behavior Change When Using Auto-Indent

The behavior of FSE when the .S (SPLIT) or .J (JOIN) commands are used with SET JUMP YES in effect has changed. Formerly if a .S command was issued, the line with the cursor was split at the cursor location and the second half of the line was left justified on the page, regardless of whether SET JUMP YES was in effect or not. Now, if SET JUMP YES is in effect when the .S command is issued, the second half of the line is indented to the same extent as the original line. The following example illustrates this point:

This is the screen prior to executing the .S command:

```
<- Left edge of screen  
  
    This is a line of text that will be split.  
                                ↑(cursor location)
```

This is the screen following a .S command prior to this release with either SET JUMP YES or SET JUMP NO in effect.

```
    This is a line of text  
that will be split.
```

The above screen would also be the result at this release for a .S command with SET JUMP NO in effect. The following screen illustrates how the .S command is processed with SET JUMP YES in effect at this release:

```
    This is a line of text  
    that will be split.
```


Formerly if a .J command was issued, the line following the one with the cursor was appended, complete with all leading spaces, to the line with the cursor, either immediately to the right of the last non-blank character or at the cursor location if that was beyond the end of the line. The action was the same with either SET JUMP YES or SET JUMP NO.

Now, if SET JUMP YES is in effect, leading spaces are stripped from the second line before appending it to the line with the cursor. If the cursor is on or to the left of the last non-blank character of the line, one space is retained. The following examples illustrate this point.

Example 1 - Cursor to the left of the end of the line:

This is the screen prior to executing the .J command:

```
<- Left edge of screen  
  
This is a line of text  
to be joined.          ↑(cursor location)
```

This is the screen following the .J command prior to this release with either SET JUMP YES or SET JUMP NO in effect:

```
This is a line of text      to be joined.
```

The screen above is also the result at this release for a .J command with SET JUMP NO in effect.

The example below demonstrates the .J command with SET JUMP YES in effect at this release:

```
This is a line of text to be joined.
```

Example 2 - Cursor beyond the end of the line:

This is the screen prior to executing the .J command:

```
|<- Left edge of screen
|
|   This is a line of text
|   to be joined.           ↑(cursor location)
```

This is the screen following execution of the .J command prior to this release, with either SET JUMP YES or SET JUMP NO in effect:

```
|
|   This is a line of text      to be joined.
```

The screen above is also the result at this release for a .J command with SET JUMP NO in effect.

This is the screen following a .J command with SET JUMP YES in effect at this release:

```
|
|   This is a line of textto be joined.
```

Change in Tape Processing Option Parameters PO=L and PO=M

The definitions of the processing option parameters PO=L and PO=M on the LABEL, ASSIGN, and REQUEST commands have been changed. If PO=L is specified, no tape detailed status error messages are issued to the user dayfile. If PO=M is specified, a tape detailed status error message is issued to the user dayfile for both the first and the last attempt to read a bad tape block. The default is defined by the installation parameter POLM in deck COMSMTX.

For user programs doing internal LABEL requests, the processing of bit 43 of FET+10B (File Environment Table) has been changed in a similar fashion. If POLM=0 and bit 43 is clear or POLM=1 and bit 43 is set, then no tape detailed status error message is issued to the user dayfile. If POLM=0 and bit 43 is set or POLM=1 and bit 43 is clear, then a tape detailed status error messages are issued to the user dayfile for both the first and last attempt to read a bad tape block.

FILE Function Change

The FILE(lfn,ZL) function, which determines if a file (lfn) is zero length and returns a value of true or false, now returns a value of true if the file in question is non-existent. Prior to this release, the value of the function was false on the assumption that a non-existent file had no length, as opposed to an empty but existing file. This change was implemented to be consistent with the FILE(lfn,FS) function which returns a zero for the file size of a non-existent file.

LIBEDIT Directive File Comments

LIBEDIT has been enhanced to allow comments in the directive file. In keeping with the library utilities standard format, a slash (/) in column two indicates to LIBEDIT that the text following on that line is to be treated as comment text and ignored. The new */ directive is not to be confused with the *COMMENT directive which adds a comment prefix to the prefix (77) table of a record to be written to the new file.

PDU Procedure Now Uses System Programs Only

The procedure PDU now executes the programs PANEL and ULIB from the system library only and ignores any local file versions that may be present. If you need to use a non-standard version of either PANEL or ULIB from a local file, it is necessary to make your own modified local copy of procedure PDU.

Change in REDO Processing

REDO now issues a dayfile message and aborts if the requested command cannot be found. Prior to this release, REDO would issue a message to the output file and terminate without aborting if the command was not found.

If REDO is executed from a non-interactive job, it now forces the GO option. This prevents REDO from writing the OLD, MOD and NEW messages to the output file and from reading the input file.

Changes to User Prolog Processing

Extensive changes have been made to the method with which the system manages the sequencing of the various prologs and epilogs which run at the beginning and the end of user jobs. While most of these changes should be transparent to the user, there are two side-effects which may be noticeable:

1. The messages issued to the user dayfile during prolog and epilog processing are somewhat different.
2. The value of the CCL variable PNL (Procedure Nesting Level) now has a different value during the execution of the user prolog. Prior to this release, PNL would have a value of 1 (one) during user prolog execution; at NOS 2.6.1 L700, PNL has a value of 2 (two) during user prolog execution.

New Interlock Processing Bit Defined in PFM FET

Bit 42 of FET+1 has been defined as the IP (Interlock Processing) bit for PFM requests. When specified together with the existing EP (error processing) bit, the IP bit allows a program to process an additional set of PFM errors which are not normally returned to user programs. This additional set of errors consists of transient error conditions (conditions which would normally delay, but not abort, a job). By specifying IP and EP, a user program can detect such a transient condition, and perform some useful work while waiting for this condition to go away.

It should be noted that if an error status is returned to a user program in response to a PFM request with IP and EP set, it is the responsibility of the program to retry the request until it is successful. Alternatively, the user program could choose to abandon the PFM request if it is not successful within some number of retries.

Any program specifying IP and EP should be prepared to process the following COMSPFM error codes, which represent transient error conditions:

- INA - Interlock Not Available
- PEA - PFM Excess Activity
- PFN - Device Unavailable
- WNF - Waiting for NFL

NOTE

Any existing user program which calls PFM with a FET in which bit 42 of FET+1 is set may have to be revised as a result of this change.

Significant Problems

The following section describes significant problems known at the time of the release.

FTN5 Programs with STATIC Option Will Abort

FTN5 programs compiled with the STATIC option abort with runtime error 140. Code for this problem is available on SOLVER under PSR FL5A709.

Command Displayed in Dayfile Twice for Name Call to Procedure

When a name call is performed to a local file containing a procedure, the command is displayed in the dayfile twice. Note that this does not occur on a name call to a procedure which is resident on a global library or on the system file.

Code to correct this problem is available on SOLVER under PSR LDRA549.

Procedures with No Formal Parameters May Abort

An interactive procedure which has no formal parameters aborts with a CCL263 error when processing a .SET directive. Procedures with one or more parameters are not affected.

Example: Procedure A has no parameters and aborts.

```
.PROC,A*I.  
.SET,NOW=STRD(TIME).  
NOTE./THE TIME IS NOW.
```

Code to correct this problem is available on SOLVER under PSR CCLA450.

A simple workaround is to add a formal parameter to the procedure. It is not necessary for the parameter to actually be used, it just needs to be defined in the procedure header.

Example: Procedure B has a dummy parameter and does not abort.

```
.PROC,B*I,DUMMY=(*N).  
.SET,NOW=STRD(TIME).  
NOTE./THE TIME IS NOW.
```

RECLAIM Commands Using the PN parameter May Fail

A RECLAIM command using the PN parameter introduced in this release aborts if the pack requested does not reside on the default device type defined for your system by IPRDECK entry DFPT. Code to correct this problem can be obtained from SOLVER under PSR NS2G059. This modset incorporates code into RECLAIM to add a new R parameter to be used with the PN parameter, so that the device type may be specified on the RECLAIM command. For example, if the default device type for removable packs at your site is DL, and you want to put a RECLAIM database on a DJ pack, the following command can be used after this modset has been applied.

```
RECLAIM,PN=MYPACK,R=DJ.
```

Chapter 6

Configuration Management

Notes and Cautions

This section highlights changes in configuration management at this release.

Testing Environment

The NOS 2.6.1 L700/688 system was tested in an environment containing the following components:

Hardware Component	Release Level	CIP Level
Model 810 Microcode	M14AA15	V9 L700
Model 815 Microcode	M11AA15	V9 L700
Model 825 Microcode	M12AA15	V9 L700
Model 830 Microcode	M13AA15	V9 L700
Model 835 Microcode	M20AA16	V9 L700
Model 840 Microcode	M340X09	V9 L700
Model 845 Microcode	M310X11	V9 L700
Model 850 Microcode	M330X12	V9 L700
Model 855 Microcode	M300X10	V9 L700
Model 860 Microcode	M320X11	V9 L700
Model 990 Microcode	M40AX21	V9 L700
Model 990 Microcode	M41AX21	V9 L700
800 Series Environment Interface (EI)	Level 20	V9 L700
MDD	V13	V9 L700
SCD	V05	V9 L700
DFT	V04	V9 L700
SCI	V03	V9 L700

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.

PTF/QTF Transfer Facilities Interconnections

The following are the recommended systems for proper operation of the PTF/QTF Transfer Facilities through RHF/LCN, NAM/CCP, or NAM/CDCNET:

NOS 2.6.1 L700/688 to NOS 2.6.1 L700/688 (RHF/LCN, NAM/CCP, and NAM/CDCNET)
NOS 2.6.1 L700/688 to NOS 2.5.3 L688 (RHF/LCN, NAM/CCP, and NAM/CDCNET)
NOS 2.6.1 L700/688 to NOS/VE 1.3.1 L700 PTF (RHF/LCN and NAM/CDCNET)
NOS 2.6.1 L700/688 to NOS/BE 1.5 L650 (RHF/LCN)
NOS 2.6.1 L700/688 to VSOS 2.3 L670 (RHF/LCN)
NOS 2.6.1 L700/688 to IBM RHF 1.2.2/2.2.2 L671 (RHF/LCN)
NOS 2.6.1 L700/688 to VAX RHF 1.7 L678 (RHF/LCN)
NOS 2.6.1 L700/688 to CYBER 120 AOS/VS (NAM/CCP and NAM/CDCNET)