

**NOS 2.7.1 LEVEL 739
SOFTWARE
RELEASE BULLETIN**

SMD132648

Contents

Chapter 1 - SRB Introduction	
Audience	1-1
CYBER Software Support Hotline	1-1
Chapter 2 - Installation	
Notes and Cautions	2-1
All Local PP Programs Must Be Reassembled	2-1
CIP L739 Required for All CYBER 180-Class Mainframes	2-1
Changes to Operating System Decks	2-1
Dual State Support	2-2
PSR Summary Report	2-2
Manual Errata	2-2
NOS Installation Handbook	2-2
Chapter 3 - Analysis	
Enhancements	3-1
TRACER Dual State CPU Usage Reporting	3-1
New TSTATUS Macro Parameter	3-1
New DSDI Directive	3-2
DSDI No Longer Aborts on Premature EOF	3-2
Changes to the Permanent File Utilities	3-2
IAFEX Has New Account File Messages	3-5
New TRACER Data Items	3-6
COMLIB IPRDECK Entry May Now Specify Default Family by a 0	3-6
New STAS and STRS Account File Messages	3-6
New Parameter for FLASH Macro	3-7
Notes and Cautions	3-7
Certain CIO Errors Are No Longer Fatal to Subsystems	3-7
Incompatibilities	3-7
CPD/ACPD Version Level Change	3-7
AEQP Account File Message Change	3-8
LIBDECK Changes Required for New QAC Overlay	3-8
New DSDI Parameter	3-8
Change to EQPDECK Log Commands	3-8
Chapter 4 - Operations	
Enhancements	4-1
DIAL Command Enhancement	4-1
Enhancement to E,A. and E,C. Displays	4-1
Notes and Cautions	4-1
Restriction Removed for UNSTEP Command	4-1
Tape Density Change Affects DSD E,T. Display	4-2
Incompatibilities	4-2
Change to PFDUMP with Purge Option	4-2

Chapter 5 - End User

Enhancements	5-1
Multiple OUT Statements Allowed by TDU Processor	5-1
FORTRAN-Callable PF Subroutine Supports New Parameter	5-1
RECLAIM Detects Actual Tape Density	5-2
VT100 Terminal Setup Enhanced	5-2
FSE and Screen Formatting Support 24 Function Keys	5-2
132 Column Support for IBM 3151 Terminals	5-3
New OPLEDIT Directive	5-3
RECLAIM Header Added to RECLAIM Dumps	5-3
TCOPY Can Process I Format Tapes Assigned as L Format	5-4
FSE Commands with Errors Remain on Command Line	5-4
PASSWOR Can Change Both Passwords at Once	5-4
FSE Supports Column Restrictions other than Tab Fields	5-5
New RECLAIM DUMP Options	5-6
TDUMP Now Supports Coded Read Option for Tapes	5-7
MODIFY Now Supports *CSET Initialization Directive	5-7
SETFS Macro Change	5-7
New Directives, Options and Command for CCL	5-8
QGET Supports the No-Abort Option	5-10
NOS TDU Available for Macintosh Using MAC CONNECT V2.2	5-10
CDCS Enhancements	5-11
RECLAIM Accepts Zero Values for TN and CT Options	5-12
PASSWOR Prompts User to Verify New Password	5-12
Notes and Cautions	5-12
Tape Density Change Affects FILINFO Request	5-12
FILINFO Returns BOI Status for Empty Files	5-13
Incompatibilities	5-13
FSE Now Finds Strings with Trailing Spaces	5-13
Change to Command Image Returned to CCDD (RA+70B)	5-14

Chapter 6 - Configuration Management

Notes and Cautions	6-1
Testing Environment	6-1
PTF/QTF Transfer Facilities Interconnections	6-2

Chapter 1

SRB Introduction

This document is the NOS 2.7.1 L739 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 2.7.1 L739 system described in this document is being released at the following levels:

Operating System	Level 739
Network Host Products	Level 739
Common Product Set	Level 739
CDCNET	Level 739

Audience

The SRB is written primarily for the site analyst. It contains notes and cautions about installation and usage of NOS 2.7.1 L739. 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

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 2.7.1 L739.

All Local PP Programs Must Be Reassembled

Changes to PP common decks and NOSTEXT at NOS 2.7.1 L739 require that all sites reassemble any local PP programs.

CIP L739 Required for All CYBER 180-Class Mainframes

All CYBER 180-class mainframes require CIP L739 to deadstart NOS 2.7.1 L739. For further information regarding CIP, refer to the CIP L739 SRB.

Changes to Operating System Decks

There are no resequenced decks at NOS 2.7.1 L739.

The following decks are new at NOS 2.7.1 L739:

- COMCDTC - Packed Date and Time Conversion Routines
- COMCVDE - Validate Date or Time Expression
- OQM - Issue Queue File Accounting Message

The following deck was deleted at NOS 2.7.1 L739:

COMPIAM

Dual State Support

NOS 2.7.1 L739 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 2.7.1 L739 and NOS/VE 1.5.1 L739 are contained on the NOS deadstart tape for dual state customers. The permanent file tapes contain binaries for NOS/VE 1.5.1 L739 compiled to run on NOS 2.6.1 L708/688, NOS 2.6.1 L710/688, NOS 2.7.1 L716, and NOS 2.7.1 L727. For complete information on how to obtain these binaries, refer to the NOS Installation Handbook.

PSR Summary Report

A summary report of all the NOS PSR modsets in NOS 2.7.1 L739 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.

Manual Errata

This section describes manual updates which were discovered after the manuals went to print.

NOS Installation Handbook

In the DUAL section of chapter 7, the Dual State Upgrade of NOS Only subsection contains an error.

Replace the bulleted items in step 4 of this subsection with the following:

- If no BCU has been applied to NOS/VE, enter the following commands:

```
REWIND,PFGDUAL.  
COPYBF,PFGDUAL,VEDSSL.
```

- If a BCU has been applied to NOS/VE, enter the following commands:

```
REWIND,PFGBCU2.  
COPYBF,PFGBCU2,VEDSSL.
```

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 2.7.1 L739.

TRACER Dual State CPU Usage Reporting

TRACER now reports the CPU time spent in NOS/VE and the Environment Interface (EI) on dual state systems. Three CPU usage categories have been added to the existing NOS categories:

EI	CPU time spent in code segment 5.
NOS/VE SYSTEM	CPU time spent in code segments 6 through 30.
NOS/VE USER	CPU time spent in code segments 31 and greater.

New TSTATUS Macro Parameter

The TSTATUS macro is enhanced to return the network terminal name in an expanded three-word reply buffer when the caller specifies the new LEN parameter. To obtain the network terminal name, use the following macro in your COMPASS program:

```
TSTATUS addr,len
```

where addr is the first word address of the block to which the response is returned and len is the length of the block in CM words. len must be at least the value 3 or the request is processed as if the LEN parameter was not specified. The network terminal name is returned space filled in the top 42 bits of the third word of the reply buffer.

New DSDI Directive

The new DSDI B. directive displays the status of all the control points in a format similar to the DSD B,A. display.

DSDI No Longer Aborts on Premature EOF

DSDI has been enhanced to not abort with the message PREMATURE EOF. if the dump tape is incomplete. The message WARNING - INCOMPLETE DUMP FILE. appears in the dayfile and DSDI processes the dump with as much data as it has read.

Changes to the Permanent File Utilities

The permanent file utilities have been enhanced to allow date and time parameters to be optionally expressed relative to the current date and time. Procedures using the current yymmdd and hhmmss formats are not affected.

AD = date Specifies the date to be used for after selection when the C, A, M, or T option is specified. Files with a last access date (if OP=A), creation date (if OP=C), utility control date (if OP=M), or data modification date (if OP=T) more recent than this date are to be processed.

date	Description
----	-----

yymmdd	Explicit date entered as six decimal digits. yy = year, mm = month, dd = day.
--------	---

BDn	Date n days before the current date. n is one to five decimal digits.
-----	---

Bn	Date n days before the current date. n is one to six decimal digits.
----	--

0	Clears a previous AD entry.
---	-----------------------------

The default for AD is the current date, but is only applicable when either AT is specified in hhmmss form, or neither BD nor BT have been specified. An expression of the form BDn or Bn represents the date n days before the current date. The current date can be expressed as BD0 or B0. The expression BDn or Bn can be used with the AT parameter expressed as hhmmss to represent the time hhmmss n days ago. An AT expression of the form BDn, Bn, BMn, or BSn overrides an entered AD parameter since it determines both the after time and the after date.

AT = time Specifies the time or date and time to be used for after selection when the C, A, M, or T option is specified. If entered in the form hhmmss, files meeting an entered AD=date criterion and with a last access time (if OP=A), creation time (if OP=C), utility control time (if OP=M), or data modification time (if OP=T) more recent than this time are to be processed. If AD=date is specified, the default for AT is 000000 (midnight). If AT is entered as an expression relative to the current date and time, both the after date and after time are determined and any previously specified AD entry is overridden.

time	Description
-----	-----
hhmmss	Explicit time entered as six decimal digits. hh = hour, mm = minute, ss = second.
BDn	Time and date n days before the current time and date. n is one to five decimal digits.
BHn	Time and date n hours before the current time and date. n is one to five decimal digits.
Bn	Time and date n hours before the current time and date. n is one to six decimal digits.
BMn	Time and date n minutes before the current time and date. n is one to five decimal digits.
BSn	Time and date n seconds before the current time and date. n is one to five decimal digits.
0	Clears a previous AT entry.

The default for AT is midnight (000000 hours), but is only applicable when AD is specified. An expression of the form BDn, BHn, BMn, or BSn defines both the after time and after date n days, hours, minutes, or seconds before the current time and date. The expression Bn is equivalent to BHn (hours are assumed).

BD = date Specifies the date to be used for before selection when the C, A, M, or T option is specified. Files with a last access date (if OP=A), creation date (if OP=C), utility control date (if OP=M), or data modification date (if OP=T) prior to this date are to be processed.

date	Description
------	-------------

----	-----
------	-------

yymmdd	Explicit date entered as six decimal digits. yy = year, mm = month, dd = day.
--------	---

BDn	Date n days before the current date. n is one to five decimal digits.
-----	---

Bn	Date n days before the current date. n is one to six decimal digits.
----	--

0	Clears a previous BD entry.
---	-----------------------------

The default for BD is the current date, but is only applicable when BT is specified in hhmmss form. An expression of the form BDn or Bn represents the date n days before the current date. The current date can be expressed as BD0 or B0. The expression BDn or Bn can be used with the BT parameter expressed as hhmmss to represent the time hhmmss n days ago. A BT expression of the form BDn, BHn, Bn, BMn, or BSn overrides an entered BD parameter since it determines both the before time and the before date.

BT = time Specifies the time or date and time to be used for before selection when the C, A, M, or T option is specified. If entered in the form hhmmss, files meeting an entered BD=date criterion and with a last access time (if OP=A), creation time (if OP=C), utility control time (if OP=M), or data modification time (if OP=T) more recent than this time are to be processed. If BD=date is specified, the default for BT is 000000 (midnight). If BT is entered as an expression relative to the current date and time, both the before date and before time are determined and any previously specified BD entry is overridden.

<u>time</u>	<u>Description</u>
hhmmss	Explicit time entered as six decimal digits. hh = hour, mm = minute, ss = second.
BDn	Time and date n days before the current time and date. n is one to five decimal digits.
BHn	Time and date n hours before the current time and date. n is one to five decimal digits.
Bn	Time and date n hours before the current time and date. n is one to six decimal digits.
BMn	Time and date n minutes before the current time and date. n is one to five decimal digits.
BSn	Time and date n seconds before the current time and date. n is one to five decimal digits.
0	Clears a previous BT entry.

The default for BT is midnight (000000 hours), but is only applicable when BD is specified. An expression of the form BDn, BHn, BMn, or BSn defines both the before time and before date n days, hours, minutes, or seconds before the current time and date. The expression Bn is equivalent to BHn (hours are assumed).

IAFEX Has New Account File Messages

IAFEX may now issue five new account file messages relating to its status. The new messages are:

<u>Message</u>	<u>Significance</u>
SBSB, IAF.	IAFEX INITIATED.
SESB, IAF.	IAFEX TERMINATION IN PROGRESS.
SESC, IAF.	IAFEX TERMINATION COMPLETE.
SRSA, IAF.	IAFEX RECOVERY ABORTED.
SRSC, IAF.	IAFEX RECOVERY COMPLETE.

New TRACER Data Items

The following new counters from the statistical data area are reported by ACPD in the snapshot loop report:

PCP JOB ROLLOUTS	The number of pseudo-control point jobs rolled to mass storage.
PSEUDO-ROLLOUTS	The number of jobs rolled to pseudo-control points.

COMLIB IPRDECK Entry May Now Specify Default Family by a 0

In a COMLIB entry in the IPRDECK, it is now possible (by specifying a 0 in the family name field) to refer to the default family without actually specifying the family name. This allows a site to use the same IPRDECK for machines with different default family names. For example:

```
COMLIB.LIBRARY.0.
```

This IPRDECK entry would indicate that all references to user name LIBRARY should be satisfied from the system default family, whatever the name of that family might be.

New STAS and STRS Account File Messages

The new account file message STAS is issued by PFRES when a stage request is abandoned. PFRES abandons a stage request after it makes SRRM unsuccessful retries when attempting to read the file from tape. SRRM is a new symbol defined in COMSMTX, with a released default value of 2. The format of the STAS message is as follows:

```
STAS, filename, userindex, familypack, vsn, retries.
```

The new account file message STRS is issued by PFM when a request is made to stage a file from tape alternate storage. Since this message is issued under the calling job's JSN, it can be used to identify the job requesting the stage. This can help in identifying which job to abort when the system is unable to successfully complete a stage. While PFRES only performs a limited number of retries on such a stage request, it does NOT automatically abort the calling job. Since the calling job is free to reissue the request (and frequently does), the operator may have to abort the job manually. The format of the STRS message is as follows:

```
STRS, filename, userindex, familypack.
```

New Parameter for FLASH Macro

The FLASH macro has a new parameter to allow a program to turn off flashing of the message on the DSD B display. Previously, FLASH could be used to turn on flashing, but could not turn it off. Execute FLASH ON or FLASH to turn on flashing, or FLASH OFF to turn it off. The FLASH macro may only be specified by an SSJ= program or a job with system origin privileges (SYOT or CSOJ/DEBUG).

Notes and Cautions

This section highlights changes which should be kept in mind when using NOS 2.7.1 L739.

Certain CIO Errors Are No Longer Fatal to Subsystems

Several CIO error conditions that were previously treated as unconditionally fatal are now no longer considered fatal to subsystems (for example, CDCS or SMF). These errors are now treated in the same manner as the FTL (file too long) error. If one of these errors occurs on an I/O call from a subsystem which has selected error processing, the program is not aborted but regains control with an error indication (a value of 22B is returned to the AT field in FET+0). The errors that are considered non-fatal are:

BLE	Buffer control word error
FTL	File too long (was previously non-fatal)
LFL	Local file limit
PRL	PRU limit
RAD	Random address not on file

Incompatibilities

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

CPD/ACPD Version Level Change

The CPD/ACPD version level has been changed to reflect the new data items added to the CPD data file at NOS 2.7.1 L739. The new CPD data file format is not compatible with older versions of ACPD; similarly, CPD data files generated on older levels of NOS are not compatible with the new version of ACPD.

AEQP Account File Message Change

When a queued file is removed from the queue, the AEQP account file message now includes a second continuation line. The second line has the following form:

```
AEQP, C2, xxxxxx.xxxKUNS, sc.
```

where xxxxxx.xxx is the file size in sectors and sc is the service class of the file. This makes the format of the AEQP message compatible with the format of the ABLQ and ARRQ messages. Previously, a second continuation line was issued only for ABLQ and ARRQ messages.

LIBDECK Changes Required for New QAC Overlay

A new overlay named 3Q5 has been added to QAC. Because of the frequency with which this overlay is called, sites should change their LIBDECKs to force this overlay to be CM resident.

New DSDI Parameter

DSDI has a new parameter named FULL. This parameter must now be specified to access all data beyond the NOS portion of memory from CYBER 180-class machines. Besides the NOS/VE portion of memory, this includes external extended memory (STORNET or ESM) and buffer controller dump records. If FULL is not specified, DSDI only reads the dump tape up to the end of NOS memory.

Change to EQPDECK Log Commands

It is no longer possible to enter the DAYFILE, ACCOUNT, ERRLOG, and MAINLOG commands in an EQPDECK and specify a buffer size of zero. This used to cause all messages sent to the specified dayfile to be discarded. The minimum buffer size is now 100B words. The released default size of the binary maintenance log has been increased from 100B to 400B words.

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 2.7.1 L739.

DIAL Command Enhancement

The DSD DIAL command may now be used to send a message to all terminals connected to IAF. Use the asterisk (*) character in place of the JSN. For example:

```
DIAL,*,message.
```

where message can be a maximum of 48 characters.

Enhancement to E,A. and E,C. Displays

The DSD E,A. and E,C. displays now indicate if a channel is IDLE, as well as indicating if it is ON or DOWN. A channel is in IDLE status if the operator has entered a DOWN command, but preexisting activity on the channel has not yet completed. A minus sign following the channel number indicates IDLE status.

Notes and Cautions

This section highlights changes which should be kept in mind when using NOS 2.7.1 L739.

Restriction Removed for UNSTEP Command

The system console no longer has to be unlocked to enter the UNSTEP command.

Tape Density Change Affects DSD E,T. Display

The handling of the density field in word UST3 of the Unit Descriptor table (UDT) within MAGNET has been changed so that it always contains the actual density of the tape mounted on the drive for 9-track tapes, rather than the density requested by the REQUEST, ASSIGN, or LABEL command or macro. The requested density has been placed in a different location in the UDT. The requested density is transferred to the density field and becomes the actual density only if the tape is written while at load point. When the actual and requested densities differ, the actual density is now shown on the DSD E,T. display rather than the requested density. This change does not affect 7-track tapes.

Incompatibilities

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

Change to PFDUMP with Purge Option

Previously, on a PFDUMP with OP=P specified, files with user indices greater than or equal to user index PGUI (defined in common deck COMSPFM) would be dumped if they met all selection criteria but would not be purged.

PFDUMP with OP=P has been changed to not dump files unless they are also to be purged. Files under user indices greater than or equal to PGUI by default are neither dumped nor purged. However, files on such user indices are now dumped and purged if the user index was explicitly selected with the UI parameter and any other selection criteria are met.

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 2.7.1 L739.

Multiple OUT Statements Allowed by TDU Processor

The NOS Terminal Definition utility (TDU) processor now allows multiple OUT statements for the same identifier. This was done to provide for those situations where more than 256 characters are required for a particular OUT sequence. This approach, which was previously taken for the SCREEN_INIT and LINE_INIT sequences, has been expanded to include all OUT sequences. For example:

```
SET_SCREEN_MODE      OUT = ('string 1')
SET_SCREEN_MODE      OUT = ('string 2')
```

The above is now accepted and produces the same result as:

```
SET_SCREEN_MODE      OUT = ('string 1string 2')
```

While each individual entry is still limited to 256 characters, all entries for the same definition are concatenated in the final TERMLIB record, producing a potentially much longer sequence. The total number of characters in all OUT sequences is still limited to 4095 exclusive of the SCREEN_INIT and LINE_INIT sequences, which are handled separately.

The most likely use for this new capability is for terminals which send a lot of downline data when making the transition from line mode to screen mode.

FORTTRAN-Callable PF Subroutine Supports New Parameter

The new parameter IP has been added to the FORTRAN-callable PF subroutine. When the IP parameter is specified, the interlock processing (IP) bit is set in FET+1; this allows the caller to process transient interlock not available conditions and other similar conditions. Refer to the Permanent File Manager chapter of the NOS Version 2 Reference Set, Volume 4, Program Interface manual (60459690) for information on the IP bit and how it affects PFM error processing.

RECLAIM Detects Actual Tape Density

RECLAIM now detects the actual density of a 9-track dump tape, as opposed to the density specified by the D option of the DUMP or COMPACT directives. They could differ if a DUMP was being done at end-of-information of an existing dump tape, because the dump is really written at the original density. The database now reflects the actual density of the tape rather than the requested density. As a result, RECLAIM no longer requests the dump tape in the wrong density when attempting to COPY or LOAD a file affected by this situation. Since this change does not affect existing database entries which are already incorrect, RECLAIM also now honors a D option on COPY and LOAD directives, provided that the device type specified by the DT, NT or MT option (or implied by their omission) is compatible with the database entry for the files involved. This change does not affect 7-track tapes.

VT100 Terminal Setup Enhanced

The terminal definition files for the VT100 terminal have been enhanced so that additional conditions known to be required for operating correctly in screen mode are set up during the transition from line mode to screen mode. Specific conditions that are now being set (but were not previously) are the following:

- Cursor mode (set to ANSI)
- Auto wrap (set to OFF)
- New line mode (set to OFF)

Prior to this change, these conditions were assumed to be set, which occasionally caused problems if the wrong sequence of events occurred. For example, a NOS/VE EDIT_FILE screen mode session followed by a NOS FSE screen mode session used to cause the cursor keys to be lost.

FSE and Screen Formatting Support 24 Function Keys

The NOS Full Screen Editor (FSE) and the Screen Formatting Library (SFLIB) have been enhanced to accept up to 24 normal and 24 shifted function keys. The SET PROMPT command in FSE has been modified accordingly to allow up to 3 rows of function key prompt blocks to be displayed on the screen. In addition, to accommodate terminals on which certain function keys are not available for use by the editor, FSE now displays prompt block labels only for those keys defined by a SET KEY command, either as a part of the FSEKEYS application string entry in the TDU, a command or an FSE procedure.

132 Column Support for IBM 3151 Terminals

The IBM 3151 terminal may now be used with the NOS Full Screen Editor and other full screen products in 132 column mode. Previously, this terminal was usable only in 80 column mode, due to the unique cursor positioning code sequence used for addressing beyond column 96. This problem has been addressed by implementing a new cursor positioning type, called IBM3151_CURSOR. If you intend to use the 3151 in 132 column mode, you must specify the following command in your TDU file:

```
CURSOR_POS_ENCODING BIAS = 20(16) TYPE = IBM3151_CURSOR
```

If you do not intend to use 132 column mode, you may specify BINARY_CURSOR instead of IBM3151_CURSOR.

In addition to supporting the new CURSOR_POS_ENCODING type, two new terminal definition records have been added to TDUFILE and TERMLIB to support the IBM 3151. The new records TDU3151 and TDU315T (which includes the typeahead feature) support the 3151 in both 80 and 132 column mode.

New OPLEDIT Directive

The new directive PREFIX has been added to OPLEDIT to allow reconstruction of modsets with a prefix character other than asterisk (*). The PREFIX directive may be used to specify a different prefix character. This specified prefix character is then used in modsets generated by any subsequent PULLMOD or PULLALL directives.

RECLAIM Header Added to RECLAIM Dumps

RECLAIM now places a PFDUMP-style header label record on each dump. Like the PFDUMP header label, the RECLAIM dump header label contains the date and time of the dump. RECLAIM continues to also place the dump date in the password expiration date field of the permanent file catalog (PFC) entry for each file for backward compatibility.

The dump date is used by RECLAIM when reconstructing a database or when adding a RECLAIM dump tape to a database. RECLAIM now takes the dump date from the header label, if one is present. If no header label is present, it takes the dump date from the PFC record as before, preserving compatibility with existing RECLAIM dumps. Using the dump date from the header ensures that the dump date is picked up correctly if a PFDUMP tape is added to a RECLAIM database.

The new RECLAIM header record is unique, containing the record name PFDUMPR, so that a RECLAIM dump can be easily recognized, but it is also accepted by the NOS permanent file utilities, thus facilitating their handling of RECLAIM dumps.

TCOPY Can Process I Format Tapes Assigned as L Format

A new F=I option has been added to TCOPY. This allows I format tapes assigned as L format to be processed by TCOPY. While TCOPY's primary function is the processing of obsolete tape formats (E, B, X, and SI-coded), this new option has been added to facilitate recovery of data from tapes that have been accidentally overwritten. The input tape may be labeled or unlabeled and must be assigned as an L format tape.

FSE Commands with Errors Remain on Command Line

FSE's reaction to commands which specify a search string or a procedure that cannot be found has been changed to facilitate correction and reissuance of the command. When a user operating in screen mode enters a command with a search string and the string is not found, the message NOT FOUND appears as always, but the command and the cursor now remain on the command line, so that the command can be altered and reissued. FSE's behavior remains as before if the command comes from an FSE procedure, if FSE is in line mode, or if no search string has been supplied (for example, a LOCATE NEXT command). Consider the directive R/ABC/ X /.

If the string ABC does not occur in the file being edited, the entire command remains on the command line just as it was entered, the cursor is at the end of the command as it probably was when the ENTER key was pressed, and the NOT FOUND message appears on the message line. Previously, the NOT FOUND message would have been issued, but the command would have been erased and the cursor would have been placed on the current line of the text.

Calls to procedures that do not exist also now behave in a similar fashion. The message PROCEDURE NOT FOUND appears on the message line as always. However, the command itself is no longer erased, but remains on the command line, as does the cursor, so that the command can be corrected and reissued.

For other types of errors where correction and reissuance was probable (for example, where an incorrect command name or character has been entered), FSE was already leaving the command and cursor on the command line.

PASSWOR Can Change Both Passwords at Once

Users, who are validated to change their passwords, may now change both their interactive and batch passwords at the same time. This can be done either by specifying the parameter PT=IB or PT=BI on the PASSWOR command, or (if parameters are being entered interactively) by entering IB or BI when asked to select which password to change. Both the old batch password and the old interactive password must have the same value to use this option. This option may not be used by a user for which password randomization is required.

FSE Supports Column Restrictions other than Tab Fields

FSE has been enhanced to provide a means of restricting text string searches to a range of columns independent of any tab field definitions.

This capability has been implemented by extending the syntax of the IN parameter to allow specifying either a tab field designation (previously supported) or a range of columns. A range of columns may be entered directly as a pair of values or indirectly by using the IN parameter with no values. In the latter case, default column numbers are used. Default column numbers may be set by means of the new directive SET VIEW IN.

The SET VIEW IN (SVI) directive expects one or two values defining either the right margin of the range or both the left and right margins. If only the right margin is specified, the left margin is set to 1. If the right margin value is 0 (zero), the right margin is set to the maximum (250). If no SET VIEW IN has been issued, the defaults are 1 and 250. SET VIEW IN margins appear on FSE's status display.

Besides designating the search area as column numbers rather than tab fields, there is a difference in the way the field is treated when the IN parameter is used with a REPLACE directive. When using a tab field reference (one value following the IN keyword), the search string must be found in and changes are restricted to the tab field specified. When using column references (two values or none following the IN keyword) rather than tab fields, the search string must be found in the designated columns, but changes are not restricted to those columns. For example, given the string broomcloset occurring in columns 1 through 11, note the different results using the following sets of directives:

Using	Directives	Resulting Data
IN tab:	ST4,9;RI2/omc//	brolo set
IN columns:	RI4,8/omc//	broloset
IN default:	SVI4,8;RI/omc//	broloset
IN tab:	ST4,9;RI2/cl/wider/	broomwidset
IN columns:	RI4,8/cl/wider/	broomwideroset
IN default:	SVI4,8;RI/cl/wider/	broomwideroset
IN tab:	ST4;RI1/b/ep/	epromcloset
IN columns:	RI1,3/b/ep/	eproomcloset
IN default:	SVI3;RI/b/ep/	eproomcloset
IN tab:	ST4,9;RI2/omcl/m/	bromo set
IN columns:	RI4,8/omcl/m/	bromoset
IN default:	SVI4,8;RI/omcl/m/	bromoset

New RECLAIM DUMP Options

Two new options have been added to RECLAIM for use with the DUMP directive. They are the File Residence (RS) and Alternate Storage (AS) options.

- RS Option

The RS option allows the user to select files to be dumped based on their current residence. For example, it is now possible to dump only files that are disk resident and avoid unnecessary staging of files resident on cartridge or tape but no longer on disk. If the RS option is omitted, file residence is ignored. The RS option can have one or more of three possible values; C (cartridge), D (disk) and T (tape). These values are the same as those reported for RS by a CATLIST(LO=F) command. More than one value might be specified if a site uses both tape and cartridge alternate storage or a user wished to dump files resident on disk or cartridge, but not those resident on tape only. For example:

```
RECLAIM,Z./DUMP,TN=MYTAPE,D=GE,RS=CD
```

In this example, all files resident on disk would be dumped (regardless of whether they are also on cartridge or tape alternate storage), as well as all files not resident on disk but that are on cartridge (regardless of whether they are also on tape). Files resident only on tape alternate storage would not be dumped. Note that after the dump, all files dumped are resident on disk.

- AS Option

The AS option allows the user to specify whether files that are dumped are to have the alternate storage data fields in the permanent file catalog (PFC) entry preserved on the dump file. This is useful when RECLAIM dump files are likely to be processed by PFLOAD.

If the user specifies AS=NO or AS=N, the cartridge and tape alternate storage fields are cleared in the dump tape copy of the PFC. This is desirable if files from the tape are to be loaded on a different system by PFLOAD. The fields would be meaningless in this case and a possible source of error. This is also the default if AS is not specified. In the following examples, cartridge and tape alternate storage fields would be cleared:

```
RECLAIM,Z./DUMP,TN=MYTAPE,D=GE  
RECLAIM,Z./DUMP,TN=MYTAPE,D=GE,AS=N  
RECLAIM,Z./DUMP,TN=MYTAPE,D=GE,AS=NO
```

If the user specifies AS=YES, AS=Y, or AS, cartridge and tape alternate storage data are preserved in the dump tape copy of the PFC. This may be desirable if files from the tape are to be loaded by PFLOAD on the same system from which they were dumped. In the following examples, cartridge and tape alternate storage fields would be preserved.

```
RECLAIM,Z./DUMP,TN=MYTAPE,D=GE,AS
RECLAIM,Z./DUMP,TN=MYTAPE,D=GE,AS=Y
RECLAIM,Z./DUMP,TN=MYTAPE,D=GE,AS=YES
```

TDUMP Now Supports Coded Read Option for Tapes

The new parameter C has been added to TDUMP to allow selection of coded read mode for the input file. This is useful for those situations requiring examination of the contents of a tape as converted by the tape controller. For example:

```
LABEL,TAPE,D=GE,PO=R,CV=EB,LB=KL,VSN=EBC001.
TDUMP,I=TAPE,L=LIST,C.                *** READ IN CODED MODE ***
```

MODIFY Now Supports *CSET Initialization Directive

MODIFY now accepts the *CSET directive in the initialization phase of a MODIFY run as well as in the compilation phase. When entered in the initialization phase of a MODIFY run, *CSET controls the character set used to interpret subsequent text and directives that are read from the input file or alternate input files (for example, when using a *READ directive). This can be important if a modset contains DISPLAY code characters that are not translated correctly if read in ASCII mode (such as the commercial at (@) and caret (^)). Since MODIFY defaults to ASCII for input text, a *CSET,DISPLAY directive is needed to handle this situation. In the following example, the modsets on file A are read in ASCII (by default), those on file B are read in DISPLAY, and those on file C are again read in ASCII.

```
MODIFY,Z./*READ,A,*/*CSET,DISPLAY/*READ,B,*/*CSET,ASCII/*READ,C,*
```

SETFS Macro Change

The SETFS macro can now be used to clear UPST (user file privacy) status on a file. Execute one of the following macro calls to clear it:

```
SETFS fet,AD
SETFS fet,O
```

New Directives, Options and Command for CCL

CCL now has several new directives and expansion options which have been added to enhance procedure usability. A new command has been added as well, to maintain parallelism between CCL expansion time directives and execution time commands.

The new directives are .ELSEIF, .WHILE and .ENDW. The new expansion options are the IMPLICIT and EXPLICIT options of the .EXPAND directive. The new command is ELSEIF.

1. .ELSEIF Directive

The .ELSEIF directive in conjunction with a preceding .IF (or .ELSEIF) directive either terminates or initiates the skipping of lines in the procedure body. It combines the properties of .ELSE and .IF.

Format: .ELSEIF,expression,label.

If the condition in the matching .IF or .ELSEIF directive was true, the .ELSEIF directive functions strictly as a .ELSE, and initiates the skipping of the lines between itself and the next matching .ENDIF directive (two directives match only if their label parameters are identical). In this case, expression does not affect processing; however, it must be a valid expression.

If the condition in the matching .IF or .ELSEIF directive was false, the .ELSEIF directive first functions as a .ELSE and terminates the skipping that the .IF or .ELSEIF initiated, then functions as a .IF and interprets expression.

- a. If expression is true, no further skipping is initiated; the lines between the .ELSEIF and the next matching .ELSE, .ELSEIF or .ENDIF are processed.
- b. If expression is false, the .ELSEIF directive initiates skipping of the lines between itself and the next matching .ELSE, .ELSEIF or .ENDIF directive.

2. .WHILE Directive

Format: .WHILE,expression,label.

If expression is true, the lines between the .WHILE and the matching .ENDW are processed normally.

If expression is false, the .WHILE directive initiates skipping of the lines between itself and the matching .ENDW.

3. .ENDW Directive

Format: .ENDW, label.

If the condition in the matching .WHILE directive was true, the .ENDW directive repositions the procedure body to the .WHILE directive so that it can be processed again.

If the condition in the matching .WHILE directive was false, the .ENDW directive terminates the skipping that the .WHILE initiated.

The iterative directives .WHILE and .ENDW bracket a group of lines into a loop which can be processed repeatedly during procedure expansion. The beginning of the loop is identified by the .WHILE directive, and the end by the .ENDW directive. The .ENDW directive must have a label that matches the label specified on the .WHILE directive. The loop is repeated as long as the expression on the .WHILE directive is true. If the expression was initially false, control passes to the matching .ENDW directive.

4. .EXPAND Options IMPLICIT and EXPLICIT

The new .EXPAND options allow a user to write procedures in which keywords which are to have parameter substitution must be explicitly designated. Previously, coincidental occurrences of keywords which were not to be substituted had to be protected by prefixing them with an inhibit character. This is still the default for CCL procedures. However, you may now choose to require explicit designation of those keyword occurrences which are to have parameter substitution by including the following directive in your procedure:

.EXPAND, EXPLICIT.

Following this directive, keywords are ignored unless they are prefixed by a concatenation character. If they are prefixed by a concatenation character, parameter substitution is performed as usual.

To select normal parameter substitution, use the directive:

.EXPAND, IMPLICIT.

IMPLICIT is the default value that is assumed if neither form is used in the procedure.

The original values accepted by the .EXPAND directive (ON and OFF) still retain their original function and meaning, except that a .EXPAND, ON directive following a .EXPAND, OFF now restores whatever type of parameter substitution was in effect before the .EXPAND, OFF.

5. ELSEIF Command

The ELSEIF command in conjunction with a preceding IF (or ELSEIF) command either terminates or initiates the skipping of commands. It combines the properties of ELSE and IF.

Format: ELSEIF,condition,label

If the condition in the matching IF or ELSEIF command was true, the ELSEIF command functions strictly as an ELSE, and initiates the skipping of commands between itself and the next ENDIF command whose label string matches that of the ELSEIF command. In this case, condition does not affect processing; however, it must be a valid expression.

If the condition in the matching IF or ELSEIF command was false, the ELSEIF command first functions as an ELSE, terminating the skipping that the IF or ELSEIF initiated, then functions as an IF and interprets condition.

- a. If condition is true, no further skipping is initiated; the commands between the ELSEIF and the next matching ELSE, ELSEIF or ENDIF are executed.
- b. If condition is false, the ELSEIF command initiates skipping of commands between itself and the next matching ELSE, ELSEIF or ENDIF command.

QGET Supports the No-Abort Option

It is now possible to select a no-abort execution mode for the QGET command. The no-abort mode is selected by use of the OP=NA parameter. When OP=NA has been selected, QGET does not abort if, for example, the specified queue file is not present or is not of the correct type. Instead, execution continues with the next command. For example:

```
QGET,ABQX,OP=NA.          *** NO ABORT IF ABQX NOT FOUND ***
QGET,UJN=GRINCH,OP=NA.    *** NO ABORT IF GRINCH NOT FOUND ***
ANALYZE.                  *** EXECUTE EVEN IF GRINCH AND ABQX NOT FOUND ***
```

NOS TDU Available for Macintosh Using MAC CONNECT V2.2

A new Terminal Definition has been added to TDUFILE and TERMLIB for NOS. It is TDU record TDUMC22, model name MCON22, and it supports the Macintosh using the new MAC CONNECT V2.2. MAC CONNECT V2.2 supports emulation of the Tektronics 4105 terminal.

CDCS Enhancements

A major change to CDCS permits many users to share a single FIT for each file. When there are multiple users, this increases the memory available for AAM record blocks. This can produce a significant performance improvement.

The following CDCS control statement parameters have been added:

- BFN - Number of Buffers

BFN advises AAM on how many buffers to use for the file. Its default value is 0 (lets AAM compute it). If FCA=-8, then use BFN=20.

- FCA - Fit Count Adjustment

FCA reduces the number of AAM FITs that are used for each file. Its default value is 2. To restrict the number of FITs to one, use FCA=-8.

- PBC - Priority Block Count

PBC enhances AAM performance by restricting the number of priority memory blocks that are reserved for index blocks. Its default value is 2.

- RJR - Restrict Journal Records

If specified, RJR eliminates log records that are not used during recovery.

- ROF - Reduce Output File

If specified, ROF eliminates invoke and terminate messages from the CDCS output file.

- TLL - Transaction Lock Limit

TLL establishes a limit to the number of records that can be locked by a single transaction. Its default value is 2000.

A new command called ROLL has been added to the K display.

ROLL,NO.	Prohibits CDCS from rolling out when idle.
ROLL,YES.	Restores the CDCS roll-out feature.

This enhancements are explained in detail in PSR CD20460.

RECLAIM Accepts Zero Values for TN and CT Options

RECLAIM now accepts the TN=0 and CT=0 options as the equivalents of TN=SCRATCH and CT=SCRATCH, respectively. This is consistent with the handling of a VSN=0 parameter in a LABEL command. Previously, RECLAIM would reject these options.

RECLAIM also now properly handles the various possible VSN formats recognized by TMS, provided that TMS is active and that the tape being requested is a TMS tape. The formats in question involve the handling of leading zeroes following an alphabetic prefix, for example:

Actual VSN	TMS Acceptable Variations
A00005	A00005, A0005, A005, A05, A5
BA0004	BA0004, BA004, BA04, BA4
C003B1	C003B1, C03B1, C3B1
D02C02	D02C02, D2C02

The actual VSN is contained on the VOL1 label of the tape. The acceptable variations are those formats that TMS (and now RECLAIM as well) recognize as referencing the same physical tape. RECLAIM continues to require the actual VSN representation if TMS is not active, or if a foreign tape is requested (FT option selected) even when TMS is active.

PASSWOR Prompts User to Verify New Password

If a user enters PASSWOR parameters interactively, PASSWOR now prompts the user to enter the new password a second time. This allows the user to ensure that no typing errors were made when the password was first entered.

Notes and Cautions

This section highlights changes which should be kept in mind when using NOS 2.7.1 L739.

Tape Density Change Affects FILINFO Request

The handling of the density field in word UST3 of the Unit Descriptor table (UDT) within MAGNET has been changed so that it always contains the actual density of the tape mounted on the drive for 9-track tapes, rather than the density requested by the REQUEST, ASSIGN, or LABEL command or macro. The requested density has been placed in a different location in the UDT. The requested density is transferred to the density field and becomes the actual density only if the tape is written while at load point. When the actual and requested densities differ, the actual density is now returned by a FILINFO request rather than the requested density. This change does not affect 7-track tapes.

FILINFO Returns BOI Status for Empty Files

BOI status is now always returned by a FILINFO request against an empty file. An empty file is one that contains no data and no EORs or EOFs. Note that this affects the behavior of the CCL FILE function, when checking for BOI. One way in which an empty local file may be created is by the following command:

```
ASSIGN,MS,1fn.
```

Previously, FILINFO would never return a BOI status for this type of file. It would correctly indicate EOI status after a READ or SKIP operation.

A DEFINE command creates a file that is empty until data is written to it. FILINFO was already reporting BOI status for this type of file unless the file had been the object of a READ or SKIP operation, in which case it reported EOI status but not BOI.

Now, both cases always show BOI status. EOI status is also shown whenever a READ or SKIP operation is done on the file. A REWIND operation affecting the file clears the EOI status.

Incompatibilities

This section describes any end user incompatibilities with previously released NOS systems.

FSE Now Finds Strings with Trailing Spaces

FSE has been changed to ignore trailing spaces in a search string when comparing it to a string at the end of a line. Formerly, if a LOCATE or REPLACE specified a search string containing trailing spaces, a matching string at the end of a line would never be found. This has now been corrected. For example, consider the directive R/TAG1 /TAG16/ and a data file containing:

```
      ...  
TAG1  SA1  A1+B1  
      ...  
      NZ   X1,TAG1      IF ITEMS DO NOT MATCH  
      ...  
      EQ   TAG1
```

FSE previously would have replaced only the first two occurrences of the string TAG1 and would have missed the last one. Now, FSE finds all three occurrences and replaces them with the string TAG16.

While this is a much more useful and intuitive implementation in general, FSE procedures depending on the previous behavior may require modification to work properly.

Change to Command Image Returned to CCDR (RA+70B)

When a user specifies a slash (/) prefix or an obsolete KCL sequence number on a call to a program, the command image placed in CCDR (RA+70B) now includes this slash and/or sequence number. In previous releases, these fields were always deleted before the command image was copied to CCDR. This change does not affect the cracked argument list that begins at ARGR (RA+2); therefore, any program which processes arguments from the ARGR argument list is not affected by this change.

Programs which ignore the ARGR argument list and recrack their own arguments from CCDR are affected, but only if the person or procedure calling the program specifies a slash or an obsolete KCL sequence number on the call. In such cases, we recommend that either the program be modified or that the prefix fields in question not be specified. Note that the specification of a slash, which tells the operating system how to crack arguments for the ARGR argument list, is meaningless on a call to a program which ignores the ARGR argument list and recracks its own arguments from CCDR.

Chapter 6

Configuration Management

Notes and Cautions

This section highlights changes in configuration management for NOS 2.7.1 L739.

Testing Environment

The NOS 2.7.1 L739 system was tested in an environment containing the following components:

Hardware Component	Release Level	CIP Level
Model 810 Microcode	M14AA16	L739
Model 815 Microcode	M11AA16	L739
Model 825 Microcode	M12AA16	L739
Model 830 Microcode	M13AA16	L739
Model 835 Microcode	M20AA17	L739
Model 840 Microcode	M340x09	L739
Model 845 Microcode	M310x11	L739
Model 850 Microcode	M330x11	L739
Model 855 Microcode	M300x10	L739
Model 860 Microcode	M320x11	L739
Model 960-11 Microcode	M3A0x06	L739
Model 960-31 Microcode	M3B0x06	L739
Model 990 Microcode	M40Ax22	L739
Model 990 Microcode	M41Ax22	L739
Model 994 Microcode	M44Ax22	L739
800 Series Environment Interface (EI)	Level 22	L739
DFT	V07	L739
SCI	V06	L739

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 2.7.1 L739 to NOS 2.7.1 L739 (RHF/LCN, NAM/CCP and NAM/CDCNET)
NOS 2.7.1 L739 to NOS 2.7.1 L716 (RHF/LCN, NAM/CCP and NAM/CDCNET)
NOS 2.7.1 L739 to NOS/VE 1.4.4 L739 PTF (RHF/LCN and NAM/CDCNET)
NOS 2.7.1 L739 to RHF/VMS-LCN 1.8 L728 (RHF/LCN)
NOS 2.7.1 L739 to RHF/VMS-X.25 1.8 L728 (NAM/CCP and NAM/CDCNET)

NOS 2.7.1 L739
Software Release Bulletin

Installation Response Form

CYBER Software Support maintains a list of the sites using NOS. In order that we may represent the customer base more effectively, we ask that you fill out this form and return it to CYBER Software Support. Thank you.

SITE NAME

SITE CODE

SITE ADDRESS

MAINFRAME MODELS

CONTACT

INSTALLATION DATE

This site has installed NOS 2.7.1 L739 and is currently using it in a production environment.

Please return to:

CYBER Software Support - ARH213
Control Data Corporation
4201 Lexington Avenue North
Arden Hills, MN 55126 USA