

SOFTWARE RELEASE BULLETIN
FOR LEVEL 518/518
NOS OPERATING SYSTEM

SMD130132

TABLE OF CONTENTS

1.0	INTRODUCTION	01
2.0	INSTALLATION NOTES	02
3.0	TECHNICAL NOTES	03
3.1	SYSTEM MODIFICATIONS	03
3.2	IAF MODIFICATIONS	06
4.0	OPERATING SYSTEM MODSETS	08
5.0	FUTURE CHANGES	19
6.0	PRODUCT SET NOTES AND CAUTIONS	24
7.0	KNOWN PROBLEMS	33
8.0	PREVIOUS SRB ITEM RETENTION.....	35
9.0	OPERATING SYSTEM CRITICAL CODE	37
10.0	OPERATING SYSTEM SUGGESTED CODE	42
11.0	CONTROLWARE LEVELS	60
12.0	MISCELLANEOUS INSTALLATION COMMENTS	61
12.1	NAM/RBF START-UP PROCEDURES	61
12.2	NOTES ON PRODUCT INSTALLATION	62
12.3	NOTES ON INSTALLATION VERIFICATION JOBS	65
12.4	NDL SOURCE INPUT EXAMPLES	67
12.5	FUTURE CHANGES TO INSTALLATION DECKS	69
13.0	DETAIL INSTALLATION NOTES	70
13.1	SAMPLE LIBDECK WITHOUT ECS	70
13.2	SAMPLE LIBDECK WITH ECS	71
13.3	NOS EVALUATION CHANGES TO INSTALLATION DEFAULTS	73
13.4.1	NETWORK HOST PRODUCT (NHPI CODE)	75
13.4.2	CMU INSTALLATION	75
13.4.3	CYBER 176 INSTALLATION	76
13.5	RECOMMENDED INSTALLATION PROCEDURE	76
14.0	INSTALLATION RESPONSE FORM	86
	Addendum for MSS	87

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

1.0 INTRODUCTION

1.1 The NOS 1.4-518/518 RELO (Installation Tape), the NOS 1.4-518/518 Deadstart Tape, and the NOS 1.4-518/518 Product Set PLs constitute the materials required for NOS 1.4 level 518/518 installation.

1.2 The format of the RELO tape is as follows:

<u>FILE</u>	<u>RECORD</u>	<u>DESCRIPTION</u>
1	1	Procedure to install files from RELO
	2	REP binaries (Installation Summary Report)
	3-n	Installation Decks (MODIFY PL)
2	1-n	Operating System Critical Code
3	1	518 Product Set Mods (UPDATE PL)
4	1	CCP Mods (UPDATE PL)
5		PSR Data Base
	1	Operating System PSRs (fixed)
	2	(Empty Record)
	3	518 PSRs (sorted by product and PSR number)
	4	518 PSRs (sorted by product and routine)
	5	518 PSRs (sorted by product and site)
6	1-n	Product Set Suggested Code (TEXT - referred to in this document as UPDSUGG)
7	1-n	Operating System Suggested Code (TEXT - referred to in this document as MDYSUGG).
8	1	Network Products Mods (UPDATE PL)
9	1-n	APL Mods (TEXT)

NOTE: File 2 of RELO contains critical code modsets only. Files 3,4,8, and 9 of RELO do not contain any code as the function of these files is not applicable to this release.

A SYSMOD tape is not being released with this CCR; instead, file 4 of the MODIFY tapes contain mods and new common decks.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

.0 INSTALLATION NOTES

2.1 The NOS 1.4 L518 released unconfigured deadstart tape must be used for updating to level 518/518.

The NOS 1.4-518/518 Deadstart Tape should be used as the base system when performing this initial GENSYS to create a 518 level deadstart tape in order to include the current controlware as listed in section 11. If nonstandard procedures are used to generate a 518 level deadstart tape then the controlware records PPU/BCS, PPU/BCF, PPU/FMD, and PPU/FIRM66X must be included in the new system.

2.2 The content of the system during the system test cycle consisted of the release level PLs plus the below listed modsets. It is strongly recommended that all of the listed modsets be added to the system during installation.

- * Operating System Critical Code - (MDYCRIT)
 all modsets
- * Product Set Suggested Code - (UPDSUGG)
 all modsets listed at the end of Section 6.0 except
 MC1A120 and LDRA423.

2.3 The NOS 1.4 - 518/518 deadstart tape should be used as the base system when performing the initial GENSYS to create a 518 level deadstart tape in order to include the current FMD controlware as indicated in Section 11.0. If non-standard procedures are used to generate a 518 level deadstart tape and be included in the new system.

If FMD controlware is needed for a system other than a 518 NOS system, then the controlware can be extracted from the NOS 1.4 - 518/518 deadstart tape. It should be remembered that there is 77 table information at the beginning of the record.

0 TECHNICAL NOTES

3.1 System Modifications

BINARY MAINTENANCE LOG

INTRODUCTION

A new system dayfile is added to NOS known as the Binary Maintenance Log, BML. Used for logging hardware error diagnostic information, it permits greater efficiency in information storage than is possible with the existing coded dayfiles. The Hardware Performance Analyzer package, HPA, is required in order to translate and make use of the information provided in the BML dayfile. At this level of NOS, only Mass Storage Facility information is recorded in the BML. The principal effects of this enhancement are as follows:

SYSTEM DAYFILE BUFFER POINTERS AND BUFFER CHANGES

- * The dayfile buffer pointers are reformatted to accommodate circular buffer processing. The buffer pointers now occupy three words for each dayfile.

MONITOR FUNCTION CHANGES

- All MSG and DFMM processing is now handled in CPUMTR.
- * A new function, Check Dayfile Buffer Status (CDBM) is added to MTR.
- * The values of all CPUMTR functions have changed. This requires reassembly of all PP programs.

DAYFILE MESSAGE RESTRICTIONS

- * PPR will no longer make repetitive DFMM requests. A PP program which calls DFM of PPR with a message greater than 50 characters in length will result in a "HUNG PP". PP programs may issue repetitive calls to DFM in order to issue a group of messages which formerly were issued by one DFM call.
- * PP programs can only issue messages up to 6 CM words to the BML dayfile.
- * CP programs with an SSJ= entry point or system origin privileges can issue messages to the BML dayfile. The maximum message length for a binary message is 60 CM words.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

- * Dayfile messages will be longer. Analysis programs must now accept up to 80 message characters per line, in addition to the time and (for non-user dayfiles) the job name.
- * DSD and DIS can show only 60 characters total per line. If they must continue on a second line, the continuation line does not contain a time or jobname field.
- * CP programs which assumed a 40 character break in dayfile messages may wish to reformat for the 80 character format.

DAYFILE RECOVERY CHANGES

- * The dayfile buffers are dumped when a system checkpoint is performed. This permits a level 0 deadstart to be performed later without losing dayfile information. However, in most cases this causes short PRUs to be written when the checkpoint is performed. Therefore, any applications which read and process system or user dayfiles should be examined to ensure they can process end of record conditions properly.
- * The support for this enhancement is provided by a new zero level overlay, OTD. This overlay transfers incomplete dayfile buffers to disk.
- * The DAYFILE utility is modified to recover from data errors which may occur when reading a dayfile. DAYFILE ignores any dayfile message which immediately precedes the data error and skips the unreadable sector. Message processing begins with the first message encountered following the unreadable sector. Previously DAYFILE processing was aborted by the occurrence of a data error.

DAYFILE MESSAGE CONTROL VALUE CHANGES

The message control symbols (ACFN, AJNN, ERLN, EJNN) values are changed and a new message control symbol for issuing messages to BML, BMLN is added.

DAYFILE MACRO

The DAYFILE macro requires the presence of COMSSFm.

DAYFILE OUTPUT DIAGNOSTICS

Informative messages, called notices, may appear in the output produced by the DAYFILE utility. These messages will have the following general format:

NOTICE*** descriptive text.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

y program which processes DAYFILE output should be prepared to handle these messages. For details see NOS System Maintenance Reference Manual.

CMRDECK ADDITION

The following new entry in a CMRDECK causes disk and central memory space reservation for the BML dayfile.

MAINLOG=eq,length.

eq: specifies the equipment on which the BML dayfile is to reside.

length: specifies the central memory to be allocated for the buffer. The value must be 0 or a multiple of 100B. The default BML buffer length is zero.

- * Dayfile buffer lengths can be set to zero with CMRDECK entries and messages destined to a zero length buffer are discarded.
- * Default buffer lengths, or buffer lengths specified on CMRDECKs are automatically increased by 14B words.

NEW DSDI DIRECTIVE

The BML dayfile buffer is dumped when the MAINLOG directive is specified.

NEW CONTROL STATEMENT

The MAINLOG control statement is available to dump the binary maintenance log. Refer to the System Maintenance Reference Manual for further information.

ERROR FLAG CHANGES

A new psuedo error flag for message exceed has been defined. There are no external changes to user programs receiving error flag status because of the new error flag. However, PP programs should use the lower 5 bits of the error flag field (bits 0 through 4) when checking for a specific error flag.

DOWNWARD COMPATIBILITY

If the dayfiles from a 518 level system are subsequently recovered on a pre-518 level system, DAYFILE on the pre-518 system will not be able to successfully dump the dayfile due to the embedded EOR's.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

NOS - SCOPE 2 Station

This product was released with the level 512 SCOPE 2 system to be installed with level 501 of NOS. Code to make it operable with level 509 of NOS was published in the Software Release Bulletin for level 512 of SCOPE 2. The NOS-SCOPE 2 Station has not been verified with level 518 of NOS and no release materials are available for it at this level. For further information on installing the station with NOS level 518, please contact SCOPE 2 Field Support.

3.2 IAF MODIFICATIONS

Autopacking

Under IAF/TELEX terminal operations, an exit from TEXT mode will automatically cause the primary file to be packed by the system. It is, therefore, not necessary for the user to enter a PACK command after exit from text mode. Stimulation scripts may be, but not need be, modified to remove redundant PACK statements.

Interactive LIB Command

The LIBRARY command under the timesharing subsystems is being replaced by the LIB command. This change resolves a conflict with the CYBER LOADER command of the same name. The new LIB command is effective with this CCR. Stimulation scripts must be modified to use the new command if they currently use LIBRARY.

3.3 SIM MODS

The code contained in the following SIM's is on the associated operating system PL:

A194	- (KRA660/LDRA409)
A195	- (CPUMT8)
A196	- (PFM15)
A198	- (PFDUM7)
A199	- (PFM18)
A200	- (PFM20)
A201	- (ITO12)
A209	- (CPUMT11)
A210	- (FIXSORT) - incorporated in DECKOPL

The code contained in the following SIM's is on the Operating System Critical Code file (MDYCRIT):

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

A202 - (CPUMT12)
A203 - (MTR2)
A204 - (DSD9)
A206 - (1MT18)

Code contained in SIM A205 (PFDUM7X) does apply to level 518.
The SIM had indicated code would be released at 518. This did
not occur. Users should still install PFDUM7X.

.0 OPERATING SYSTEM MODS

KRA641A

The CPM function 40 (VALID) has been changed to update access word (AACW) bits CLPF (2) and CSPF (3) in the parameter block returned by the function. This means that these AACW bits will be updated in the Control Point Area when a secondary user statement is issued. This ensures that a secondary user statement sets all permanent file validations to the values specified in the VALIDUZ file for that user number.

Entry and exit conditions in the parameter block used by CPM have been changed appropriately.

VALID has been corrected to not rewrite CPA words ALMW, ACLW and AACW if the secondary user statement entered does not have charge required or if VAL= is not required. Also, a secondary USER card will now cause the correct account file messages to be issued.

KRA648

Modset KRA648 makes changes to IAF and TELEX so that several commands which previously could be entered while another job step was being processed now are rejected under that circumstance. The commands affected are:

ASCII BRIEF CSET DIAL NORMAL

These commands are now legal only when the terminal is in idle status. The only IAF commands which are now legal during a job step are ENQUIRE and STATUS. ENQUIRE, STATUS, FULL, HALF, PARITY, ROUT and STOP are legal during a job step under TELEX.

KRA650

SRU limit processing has been corrected to the extent that it affects many external processes. The job step SRU limit, account block SRU limit and SRU validation limit are now strictly enforced, especially at beginning of job.

Time-sharing users are affected by the fact that SRU limits set by SETASL and SETJSL are no longer modified by the "S,nnnn" response to a "SRU LIMIT" message at the terminal. As soon as the job step (which corresponds to a control statement) completes, the account block SRU limit and job step SRU limit revert to their original values (which corresponds to the way time limit processing is now handled). This new method will seriously impact a user who responds to an "SRU LIMIT" message

with "S,*" or "S,77777". If, as a result of raising the SRU LIMIT for one job step (through "S,nnnn"), a user exceeds his account block SRU limit, the "SRU LIMIT" message will be issued almost immediately after the beginning of every subsequent job step. To remedy this situation, the user need only issue a "SETASL,n" command to raise his account block SRU limit above the number of SRU's already accumulated by the job.

A new constant has been added to COMSJCE. This new constant, TSLI is the increment added to the user's SRU accumulation to form the new SRU limit (used internally by CPUMTR). This increment is added only when the SRU accumulation equals or exceeds account block SRU limit, which happens when the user manages to exceed his account block SRU limit through use of the "S,nnnn" command. The addition of the increment then allows the user to raise his account block limit by using the "SETASL,n." command. However, addition of the increment will not allow the user to exceed his SRU validation limit under any circumstances.

KRA651

Modset KRA651 modifies DSD to optionally not set the complete bit in word 0 of the K-display buffers when the buffer is displayed. The complete bit will not be set if bit 58 of the parameter word is set before calling the CONSOLE macro.

KRA652

Modset KRA652 adds an automatic macro cross reference listing in the symbolic reference table, grouped under the qualifier MACRO\$, of the most commonly used system macros as defined in CPCOM, COMPMAC, COMCCMD, COMCMAC and COMCMTM (NOSTEXT, SYSTEXT, PSSTEXT). The SUBR macro is excluded from this group.

Each of the text and common decks listed above also define the MACREF macro which a user may include in a local macro to cause the macro to be included in the symbolic reference table. The format of the use of the MACREF macro consists of the macro called MACREF in the operation field followed by the macro name in the variable field. An example is shown below:

PURGMAC	USERMAC	
USERMAC	MACRO	A,B,C
	LOCAL	.1
	LOCAL	.2
	MACREF	USERMAC
	.	
	.	
ENDM		

DEFINE LOCAL MACRO
ADDITIONAL HEADER FIELDS
CREATE REFERENCE LISTING
MACRO BODY
END OF MACRO DEFINITION

All uses of the macro USERMAC will be shown in the COMPASS symbolic reference table under the qualifier MACRO\$.

KRA653

Modset KRA653 makes a number of additional monitor functions storage movable under certain conditions. It also makes MXFM storage movable in all cases. All monitor functions should be considered storage movable while the request is pending. Therefore, absolute addresses set in PP code must not be considered to be correct after a monitor function. While this is not completely true at this time, future development will make this goal a reality. Therefore, all PP routines should be recoded to take this into account.

KRA658

The P-Display in DSD has been modified to display the hardware P-Register for each PP on CYBER 17x mainframes. The information is not stored in memory, thus, an express dump will not show the P-Register values.

KRA660

There existed two problems with support of execute-only permission on files.

1. It was possible via LAJ/LDR to request a non-(0,0) overlay to be loaded from an execute-only file without control being transferred to the loaded code. This situation was a security violation.
2. It was not possible for LDD or LDQ (support routines for the fast dynamic loader - FDL) to process requests on an execute-only file. This meant that programs loading overlays or capsules via FDL could not utilize the execute-only capability to protect their main program and overlays.

Since it is required to allow valid overlay loads from execute-only files in some circumstances, it is necessary to define which overlay loads are to be considered "valid". The definition now enforced is:

Overlay loads will be allowed from an execute-only file only if the last main program (0,0) was loaded from that file.

This definition solves the first problem in that it only allows overlays to be loaded by the main program with which they are associated. It solves problem 2 by allowing overlay loads via FDL if the main program and overlays reside on the same file.

NOTE: Use of FDL to load overlays from other execute-only files is not supported.

In order to achieve this, a new interface has been defined for use by the CYBER LOADER to specify the file from which the last main program load occurred. With this file specified, LAJ, LDD and LDQ can then validate access to execute-only files. This interface sets a pointer to the loading file in the control point area (word EOCW). This pointer is cleared at job step initiation by LAJ and also by ODF if the file is returned during a job step. IRI/IRO will adjust it over rollin and rollout. This field will be preserved across DMP= activation but will not be reset on a RESTART rollin.

KRA661

KRA661 corrects QAP and LAJ to report accounting messages for RBF consistent with BATCHIO and with NOS accounting documentation. Machine ID and terminal name will now both be part of the RBF accounting messages:

UCxx, MTTTTTTTT, nnnnn.nnnuuuu.

where MM = machine ID

TTTTTTT = terminal name of the "owning" console.

KRA662

KRA662 implements the following changes:

1. The DSP interface has been modified in a way that may affect user programs.
 - a) A new disposition code has been added to DSP and to the ROUTE control statement. When "NO" is specified as the disposition code, the file will be routed to the input queue and all job output will be discarded at job completion. This adds the same capability to the ROUTE control statement that exists when specifying the N parameter on the SUBMIT control statement.
 - b) The B bit no longer needs to be set in order to specify a queue priority. Note that this means the priority flag must be cleared to change a parameter block from specifying a priority to not specifying a priority.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

c) The following table documents the change in the way the central site and TID flag bits are used to determine the destination origin type of a routed file. It indicates that:

- i) If both bits are clear, the file is routed to the default destination of the job (or to that of the previous routing if the file had been deferred routed), rather than to the remote batch queue.
- ii) The origin type of a deferred routed file now may be changed without first rescinding prior routing information.
- iii) If the central site bit is clear and the TID bit is set, the contents of the TID field are used to select the origin type. Previously, these settings would yield a remote batch route.

DISPOSITION OF FILE IF: *

CENTRAL SITE BIT	TID BIT	!	!	!	FILE DEFERRED
		!	FILE NOT	FILE DEFERRED	ROUTED TO
		!	DEFERRED	ROUTED TO	REMOTE BATCH
		!	ROUTED	BATCH QUEUE	QUEUE
clear	clear	!	DEFAULT	BATCH	REMOTE
		!	(REMOTE)	(ABORT)	(REMOTE)
clear	set**	!	BATCH/	BATCH/REMOTE	BATCH/REMOTE
		!	REMOTE	(ABORT)	(REMOTE)
set	clear	!	BATCH	BATCH	BATCH
		!	(BATCH)	(BATCH)	(ABORT)
set	set***	!	BATCH	BATCH	BATCH
		!	(BATCH)	(BATCH)	(ABORT)

- * REMOTE = File routed to remote batch queue.
 BATCH = File routed to batch queue.
 BATCH/REMOTE = File routed to either queue depending on TID specified.
 ABORT = Job is aborted.
 DEFAULT = File is routed to the job's default destination.
 (XXXXX) = Disposition of file based on old interface.

- ** If the TID field contains a batch ID code, the file is routed to the batch queue. If the TID field contains the complement of a CM address, the file is routed to the remote batch queue with a terminal identification given by the family/user number block at that address. If the address is zero, the family and user number from the job's control point area used.
 - *** If the TID field does not contain a batch ID code, the job is aborted.
2. LFM function 15B (request unit) has been expanded to allow preassignment of the following MSAL devices:
- TP - Temporary File Device
 - IN - Input File Device
 - OT - Output File Device
 - PY - Primary File Device
 - LO - Local File Device
 - LG - Binary File Device
3. As part of NOS 1.5 feature work, several unnecessary PP functions will be removed from the system (see the SRB item for KRA663). In preparation for this, system routines have been converted to not use these functions:
- a) Several decks have been changed to use the ROUTE macro instead of the SUBMIT or RELEASE macro, since the latter two will not be supported in NOS 1.5.
 - b) The OUT entry point and processing has been moved from FILES to MFILES, since the OUT PP program, which FILES called will not be available in NOS 1.5.
 - c) Code for submitting a file to the CYBERLINK queue has been removed from SUBMIT.

KRA663

Several existing functions will not be available in NOS 1.5. KRA663 issues warning messages when these functions are used. The functions to be deleted are listed in Section 5.0 under File queuing.

Modset KRA663 also issues a warning message to the user's dayfile when a CLOSE/RETURN or CLOSE/UNLOAD function routes a queued file to the I/O queue, since these functions will no longer support queueing in NOS 1.5. Users should note these warning messages and change appropriate programs.

KRA665

The ENTER entry point has been moved to CONTROL, so that an ENTER control statement in a loop will only be expanded once (as is the case with CALL).

KRA672

Modset KRA672 implements the following changes:

The comments field of the *COMMENT MODIFY directive has been changed in all system routines to the following format:

Deck - Description.

where:

Deck = MODIFY deckname.

Description = Description or title of the program.

By following this guideline, it will always be possible to determine which MODIFY decks generate which binaries from a CATALOG report. For example, the MODIFY deck 1AJ must be assembled to generate the binary for TCS.

KRA673

Modset KRA673 deletes all support for the obsolete TRANEX command and IPRDECK entry. Any existing IPRDECK's which have TRANEX entries must be modified to delete these entries.

KRA677

KRA677 adds a COMSSSJ symbol, FRT, to define the length of time a job will wait in the timed/event rollout queue when a fast attach file is busy. This is to prevent RESEX, for example, from waiting possibly four minutes when it finds one of the resource files busy.

KRA693

KRA693 implements the definition of several PPR entry points of the form ".xxx". These entry points will only be supported via CDC supplied macros. The initial entry points in this category are .EMS (supported from the ENDMS macro) and .SMS (supported from the SETMS macro). The values of these entry points are defined in PPCOM and COMSMSF. It is expected that more PPR/driver entry points will be added to this set in the future.

KRA703

The Binary Maintenance Log (BML) feature includes code to reformat the sector of local areas. This was necessary because there was no space available in the MST to record the first track of another dayfile. As a result, it was decided to remove first track pointers for all dayfiles from the MST (DULL word), and maintain this information in the sector of local areas on disk.

A compatibility issue presents itself for sites wishing to move back and forth between level 518 and earlier versions. The location of first track for the BML in the sector of local areas, for example, corresponds with the location of the system table track (system checkpoint file) in earlier systems. In order to solve this problem, it becomes necessary to identify each entry in the sector of local areas as to the system level on which said entry was most recently updated.

Modsets SLA485 and SLA50X are available through Field Support (and SIM A208) for integration into level 485 or level 501/509 systems (modset SLA485 for level 485 and modset SLA50X for level 501/509) to provide conditioning of the sector of local areas for upward compatibility with level 518. Before initially moving to 518, all disk packs should be recovered on a system containing SLA50X (SLA485).

SLA50X (SLA485) are not required when moving from a pre 485 system to level 518. All devices must be dumped, initialized, and reloaded on 518 due to changes in the permanent file catalog. Refer to SRB item on KRAPFL in the level 485/501 SRB. If an unconditioned sector of local areas is detected on a removable device by the level 518 system, LCK will issue a dayfile message "EQxx LOCAL AREA SECTOR ERROR", set error idle on the device, and abort the checkpoint in progress. If an unconditioned sector is found on a nonremovable device during deadstart, RMS will post a message "LOCAL AREA SECTOR ERROR." and hang.

It is important to be aware of the fact that this mod is part of the Operating System critical code file (listed in section 8.0) and not part of the Operating System PL.

CPM13

CPM function 47 (SETGLS) no longer rewrites control point words LB2W and LB3W if too many user or system libraries are specified. This function is used by the LIBRARY control statement.

IS12

Processing of the "(" and ")" keys as first characters has been changed in DIS. Before, these keys would unconditionally breakpoint the CPU to P + 1 even though no breakpoint command had been entered. Now these keys will only be processed if a breakpoint command has previously been entered.

LFM13

Modset LFM13 changes the LFM PRIMARY function so that it changes the existing primary file to type LOFT rather than returning it. This affects the PRIMARY and NEW (with ND option) control statements. This change makes NEW (with the ND parameter) work the same way that OLD (with the ND parameter) does.

PFM14

This modset removes the capability within PFM to attach files which have recovery errors set in the system sector and/or catalog entries. In order to attach these files, the user must now first clear the error status via the CHANGE command (with the CE parameter).

AJ17

Modset 1AJ17 modifies 1AJ to no longer allow EXIT processing when a binary sequence error or illegal hollerith code is detected by 1CD.

1CJ4

The dayfile header line (immediately preceding the dayfile) on local batch and remote batch listings has been expanded to include the system version as well as the system title. The format is now:

jobname.yy/mm/dd.system title system version

1R07

Prior to Modset 1R07, when 1R0 detected local file limit for a TXOT job, 1R0 would issue an MXFM monitor request to hang the PP. 1R07 changes this reaction to set the FLET (file-limit) error flag, issue the dayfile message LOCAL FILE LIMIT., and call 1AJ to abort the job.

CPUMT6

Any PP doing a STBM monitor function with the CGBS subfunction selected (clear Global MST bit in word ACGL) to clear a "PF Utility Active" bit will be "hung" by CPUMTR if the bit is already clear.

CPURE1

Modset CPURE1 changes the routine names in CPUREL to avoid loader conflicts with possible user routines. In particular, the routines CPUPFM, CPUECS and CPULFM have become CPU.PFM, CPU.ECS, and CPU.LFM. Since this change does not affect the entry point names of these routines, no user binaries should be affected unless the binaries contain LDSET directives referring to the old routine names. Any procedures which contain LDSET statements referring to these routines must be changed.

GTR14

The third parameter on GTR is expanded for use when the ULIB record type is specified in the directives. If the parameter is omitted, the first record of the user library, the user library directory (ULIB), is not copied; the old random access directory (OPLD) is copied but not altered. If "U" is specified, the first record of the user library (ULIB) is copied without alteration along with the relocatable records and the unmodified directory (OPLD). If "D" or a value other than "U" is specified, the user library is copied as for "U" and in addition a new directory for the file is added.

PURGA5

PURGA5 adds an AF parameter to PURGALL. This will indicate that files whose creation, last access or last modification date is after the one specified by the CD, AD or MD parameter will be purged.

ROUTE2

Modset ROUTE2 changes the ROUTE control statement so that the same keyword may not be used more than once.

ITASK2/New Deck XTASK

Several changes have been made in the area of transaction code processing:

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

- 1) The transaction/subtransaction code used to be recognized by ITASK in columns 2-4 of input. Now the transaction/subtransaction code is considered to be in the first 3 columns of input.
- 2) A new transaction code EX. is recognized by ITASK which can be used to schedule almost any named task. It will not execute tasks by the names--ITASK, KDIS, MSABT, OFFTASK, SYSMSG, and XTASK. These are the names of required system tasks. This code may be used to schedule LOGT as a means of logging a terminal out of transaction mode.

A site may want to delete this transaction code from ITASK and the task (XTASK) which this code will schedule.

XTASK was provided as a means of scheduling tasks and as an example of how a site might use such a task. However, it may provide too much flexibility and, therefore, should be used with discretion.

- 3) A number of different tasks were deleted from the transaction code table in ITASK since they were not supplied by CDC.

0 FUTURE CHANGES

CEDIAG/KEDIAG Diagnostic Replacement

The diagnostics for Unit Record Equipment written in COMPASS and currently residing in REL2B will be removed. These diagnostics, named CR1 for the 405 Card Reader, CP1 for the 415 Card Punch and LP1 for the 512 Line Printer, execute under the control of CEDIAG/KEDIAG.

The programs CR1, CP1 and LP1 will be removed from the CEDIAG/KEDIAG libraries for NOS 1.5 (Release 6) and MALET diagnostics with the same name and capabilities will be provided on the Concurrent Maintenance Library (CML).

CIO Processing

The following external changes to CIO processing will be made in NOS 1.5. Sites are recommended to warn users of the possible impact.

- 1) Device type will be returned to byte 0 of FET+1 for all CIO functions if the file is assigned to an equipment (and no CIO initialization error was detected), regardless of FET length. Previously, device type was not returned for a 5 word FET.

- 2) The device types "MT" and "NT" will be returned for all tape files. The NOS/BE device type containing incomplete density, format, track type information will no longer be returned for S, L, and SI format tapes. The FILINFO macro is available to return detailed tape information.
- 3) The six character match on file name if seven character match is not found will be removed from LFM (FILINFO), CIO (POSMF), and SFP/STS (NOS/BE STATUS), so file names are unique.
- 4) The level number field in FET+0 bits 14-17 will continue to be masked out and set to the level number of the last PRU transferred for READ and SKIP functions; however, for all other functions (WRITE, REWIND, RETURN, etc.) the level number field will be unaltered. Previously, CIO cleared the level number field except for a WRITER with level 17B and 1MT did not clear it.
- 5) CLOSE/RETURN and CLOSE/UNLOAD functions will no longer route queued files to the I/O queue. The file will be released from the job the same as for RETURN and UNLOAD functions.

Removal of COS Binaries

In a future release of NOS, the support code in the Operating System and the Product Set for COS binaries will be removed. This record type was produced by a now non-supported compiler (TSRUN) under the KRONOS Operating System. This record type was maintained for compatibility with KRONOS, and it is no longer felt necessary to support it in NOS.

Flaw Entry Processing

In the 5.3 CCR, a new overlay will be added to SET to process flaw entries during deadstart. Upgrading to this system will require placing flaw entries that would currently be in CMRDECKs in a new type of deadstart tape record called AFRDECKs.

Jobnames for EI200 Jobs

In the 5.3 CCR, the jobnames for jobs entered into the system through EI200 will be generated differently. Currently, the first four characters of the jobname is based on the user index of the user that logged into EI200. At 5.3, the first four characters will be generated from the users index associated with the user number specified on the USER statement of the job being read.

IF Changes

In a future release of NOS/IAF, secondary commands will be replaced by TIP commands.

IAF's secondary commands ENQUIRE, STATUS, and carriage return will still be valid, but will not be processed during a user job step. In order to obtain information during a jobstep users will have to use the new TIP commands of the format (control) (character) (CR). ENQUIRE and STATUS information will be available by entering (control) E (CR). The short status information currently obtained by entering a carriage return will be available by entering (control) S (CR).

TELEX will not be affected.

O26 Processing

In NOS 1.5, the OUT command in O26 will be eliminated. Output files may be released to the queue by using the OUT control statement under DIS.

File Queuing

In NOS 1.5, the following control statements, macros, and RA+1 requests will no longer be supported:

CONTROL STATEMENTS

<u>Function Being Eliminated</u>	<u>Alternative</u>
DISPOSE control statement	ROUTE control statement
SETID control statement	Specify an ID code with the ID parameter on a ROUTE control statement

MACROS

<u>Name</u>	<u>Function Being Eliminated</u>	<u>Alternative</u>
COMMON	LFM 2 - Enter common file	Use permanent files
RELEASE	LFM 4 - Release print file	Use DSP with the ROUTE macro
RELEASE	LFM 5 - Release O26 punch file	"
RELEASE	LFM 6 - Release PUNCHB file	"
RELEASE	LFM 7 - Release P8 file	"
RELEASE	LFM16B - Release file	"
SETID	LFM17B - Set file ID code	
"		
RELEASE	LFM30B - Release O29 punch file	"

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

SUBMIT	SFM 13B - Release file to CYBERLINK queue	None
SUBMIT	QFM 17B - Release file to input queue	Use DSP with the ROUTE macro
NONE	QFM 20B - Assign file to queue device	Use LFM function 15B with the REQUEST macro

RA + 1 REQUESTS

<u>Function Being Eliminated</u>	<u>Alternative</u>
OUT	Use DSP calls

TAF COMPATIBILITY

Future TAF features will be accompanied by some incompatibilities.

Significant areas in which there will be a lack of compatibility include:

1. Change in the duration of a transaction.

Currently when a WAITINP is executed a new transaction sequence number is assigned along with the communication block in which the new data comes. Though the input will still be placed in a new communication block(s), the same transaction sequence number (the one associated with communication block the task had prior to the WAITINP) will be used.

This change has some implications:

- a. Each terminal input will not necessarily have a unique transaction sequence number associated with it since the transaction sequence number will not be changed across a WAITINP. This is an external change because all input is journalled along with the associated transaction sequence number; also, the transaction sequence number is available to tasks in the user header area of the communication block.

- b. Since the transaction is considered to continue across a WAITINP, data manager cease requests will not be issued for the transaction when a WAITINP is performed. In general this means that the data managers (at least TAF/CRM and the TAF data manager) may have some resources locked up by a transaction which is waiting for terminal input. This in turn could degrade performance unless applications were careful about issuing WAITINP requests when using a data manager.
 - c. If DSDUMP has been used in a task in a transaction chain, then the DSDUMP parameter specifications will hold across a WAITINP request by that transaction.
- 2. Task Library Directory (TLD): The format of TLDs will be neither upward nor downward compatible.
 - 3. TCF: The method of specifying the data bases to use with TAF will be changed. CDBID, DBID and TDBID files will be replaced by TCF (TAF Configuration File). Also, the initialization time K-Display commands, K.DB1, K.DB2, K.DB3 will be deleted.
 - 4. xxPR procedure files: They will be deleted. (TAF data manager files may be attached in the TAF start up procedure file at that time).

1.0 NOTES & CAUTIONS

Modset CC4B468 was transmitted very late in the release process and consequently received no significant testing.

AAM2

Problem: To process a CM overflow situation CDCS may need to close some AAM files which in turn require loading a large (5400B words) capsule OPNM\$AA. As this amount of contiguous memory space cannot always be made available, CDCS may elect to lock the OPNM\$AA capsule permanently in CM.

Solution: Install idents AM2A223, SW1A450 and SW1A483 from UPDSUGG.

Problem: Extended AAM computes the amount of memory required for the buffers as a function of the number of files currently opened. This leads to critical CM overflow problems for CDCS that has typically many files opened although only a few of these files are active.

Solution: Install idents AM2A210 and SW1A450 from UPDSUGG.

AM

Problem: BUFFER OUT on a connected file may fail with a CRM error 142.

Solution: Install ident SW1A467 from UPDSUGG.

Problem: Extended AAM computes the amount of memory required for the buffers as a function of the number of files currently opened. This leads to critical CM overflow problems for CDCS that has typically many file opened although only a few of these files are active.

Solution: Install idents SW1A450 and AM2A210 from UPDSUGG.

CCP

Problem: NPU halt C, E and 07 are caused by mode 4 TIP processing a hard error.

Solution: Install ident CC4B368 from UPDSUGG.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

Problem: Passive 200 UT devices do not connect to RBF, Mode 4 Tip fails to respond to line enable requests, NS and CS did not NETOFF after other applications.

Solution: Install ident CC4B382 from UPDSUGG.

Problem: Erroneous error code 30, 714X printer not performing properly.

Solution: Install indent CC4B393 from UPDSUGG.

Problem: Attempts to set IVT control character to current value gives error.

Solution: Install ident CC4B315A from UPDSUGG. (Record COS/CC4B315)

Problem: Auto command fails from mode 4 terminal.

Solution: Install ident CC4B430 from UPDSUGG.

Problem: CCP hangs with no halt code.

Solution: Install ident CCB0028 from UPDSUGG.

Problem: PSR CC4B248 fails to restore global variables after doing a PNAWAIT.

Solution: Install ident CC4B248A from UPDSUGG.

Problem: Actively poll idle consoles to recover from RBF/IAF failure to send data to activate input.

Solution: Install ident CC4B367 from UPDSUGG.

Problem: PSR CC4B367 deleted code necessary for the 714. Without the 714 code, all mode 4C terminals are polled even when not necessary.

Solution: Install ident CC4B367A from UPDSUGG.

Problem: When the double space or triple space format effectors, or the virtual line feed or carriage return, or the over.. prompt are sent to a mode 4 display, all the data are translated to zero. Since these zeros are not displayed, messages appear to be lost.

Solution: Install ident CC4B402 from UPDSUGG.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

Problem: Halt C in Mode 4 TIP.

Solution: Install ident CC40261 from UPDSUGG.

Problem: Revise copyright notice for 1980.

Solution: Install ident CCP80 from UPDSUGG.

Problem: Provide PSR level number for level 518 release.

Solution: Install ident FS518 from UPDSUGG.

Problem: Mode 4 lines cannot be disconnected when downed.

Solution: Install ident CC4B468 from UPDSUGG.

Problem: 711 terminals occasionally get hung in an error state.

Solution: Install ident CC4B467 available from Field Support.

Note: CC4B467 and CC4B468 were discovered immediately before release and have not been exposed to extensive testing.

Logoff Procedures

When a user at a CRT (TC=2 or 7) with PG=Y and PL#0 set types HELLO from IAF, the logoff banner is printed followed by "OVER.." indicating that the terminal is in page wait. Entering (CR) does not clear the condition. Enter user break 2 at this point to get the new banner.

CEDIAG

Problem: Running GETLOG after SYSTEM CHECKPOINT causes GETLOG to hang in loop.

Solution: Install ident DIMA232 from UPDSUGG.

COBOL5

Problem: The statement IF SPACES = identifier may cause compiler aborts such as ILLEGAL LFN or bad code to be generated. This is caused by an error in CL5A992.

Solution: Install ident CL5B077 from UPDSUGG.

CDCS2

Problem: When CDCS 2.1 is run without any limits on its field length, its memory usage may become so large that there is no memory left for its user jobs. This is particularly true of a 131K central memory computer.

There is a MFL feature that is provided for limiting the CM usage of CDCS. The use of the MFL parameter, however, may cause CDCS to abort.

Solution: Corrective code is not available at this time but the problem has been reported by PSR CD2A221. When code is available it will lock the AAM Open/Close capsule. It is sometimes impossible to terminate a user because the Open/Close capsule cannot be loaded. This is not because of insufficient memory, but it is due to memory fragmentation. If the Open/Close capsule is kept in memory, this will also improve performance in many cases.

Corrective code for CDCS2 PSR CD2A234 and CRM modsets SW1A483 and AM2A223 from UPDSUGG will be required in support of CD2A221.

Problem: When all other CDCS and CRM memory overflow options have been exhausted, CDCS is intended to abort the user making the current request. The DB\$MFI own code routine will abort CDCS if any CMM memory error flag is present.

Code 3 is the normal memory error flag that is used for the options exhausted exit.

Solution: Corrective code is not available at this time but the problem has been reported by PSR CD2A234. When code is available it will correct DB\$MFI so it will not abort CDCS on a code 3 CMM exit.

DCAT2

Problem: Following a DCUPD run where an entity is added without categories, the MASTER file's information for the entity, and any entities added after it, become inaccessible by any of the Data Catalog systems.

Problem: Corrective code is not available at this time but the problem has been reported by PSR DC2A007. Users may prevent the problem by ensuring that each entity has at least one category.

FCL4/FCL5

Caution on PMD Usage

Problem: Several PSRs have been written against PMD for numerous errors. The version on CY176 does not work and will produce PP CALL errors in the reloading of the users field length. On lower CYBERs the improperly diagnosed "inexplicable error" message has appeared.

Solution: A new version (PMD 1.1) will be released soon. This will replace the first version entirely.

FTN4

Problem: Mode errors or time limits in (2,2) overlay with OPT=2 specified.

Solution: Install ident FCCA530 from UPDSUGG.

Problem: Mode errors or time limits in (2,2) overlay with OPT=2 specified.

Solution: Purge ident FCC2207 when installing FTN 4.8 compiler. Corrective code which applies to FCC2207 will be made available as FCC2288.

Problem: PSR FCCA473 causes performance degradation. Response time has increased from seven to ten percent. When the listing file is a connected file, FCCA473 causes an unwanted print density carriage control character to be written on the listing file. The degradation is most noticeable when L=0 is specified on the FTN control card.

Solution: Install ident FCCA534 from UPDSUGG.

FTN5

Problem: Mode errors or time limits in (2,2) overlay with OPT=2 or 3 specified.

Solution: Install ident CCGA027 from UPDSUGG.

Problem: Mode errors or time limits in (2,2) overlay with OPT=2 or 3 specified.

Solution: Purge CCGA023 when installing FTN 5.0 compiler. Corrective code, which applies to CCGA023, will be made available as CCGA031.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

F45

Problem: If an UPDATE correction set is produced by F45, it replaces every line instead of only converted lines.

Solution: Install ident F45A104 from UPDSUGG.

Problem: On NOS, an SSJ= job upon loading relocatables from the system library loses SSJ= status upon completion of the load. LOADU unconditionally executes the DISSJ macro call.

Solution: Install ident LDRA417 from UPDSUGG.

Problem: On NOS, the inclusion of LDRA409 causes the loader to fail in many cases, because it is issuing the SETLFE function on initial loads, even if the file it is loading is not an execute-only file.

Solution: Install ident LDRA423 from UPDSUGG.

LCS2

Problem: Carriage control characters in display statements are printed when "SYSTEM-OUTPUT" in the special-names clause is converted to "OUTPUT".

Solution: Install ident CA20005 from UPDSUGG.

MCS

Problem: MCS may abort with the message "WORKLIST/AQT UNLOCK CONFLICT AT LOC XXX" when a RECEIVE is done on a queue that is not the top level queue.

Solution: Install ident MC1A097 from UPDSUGG.

Problem: Non-fatal loader errors encountered if building MCS with level 1D/NOS. This is caused by a change in the name of a NOS routine (CPUCPM to CPU.CPM).

Solution: Install ident MC1A120 from UPDSUGG.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

NAM2

Problem: When CCP fails to acknowledge the delivery of a block to a terminal, NIP may get into a state where it stops processing input from the NPU. This will eventually cause all input from the NPU to be rejected by PIP. To the terminal users, it will look as if they are not getting any response from the application to their typeins.

Solution: Corrective code will be made available through field support under Ident NA20195.

Problem: The NOS Operating System may swap out an application without informing NAM about it causing NAM to stop communication with the application. If this happens to CS, the network will hang.

Solution: Install ident NA2B383 from UPDSUGG.

Problem: If an application fails or does a NETOFF, and this is followed by another NETOFF, PIP will hang. This condition can be triggered, for example, by an operator idling IAF.

Solution: Install ident NA2B368 from UPDSUGG.

Problem: PIP inserts extra blank character in upline messages (over 1200 decimal characters long) and loses last character.

Solution: Install ident NA2B410 from UPDSUGG.

Problem: PIP should not check coupler status bit for NPU memory parity error after NPU power failure until the NPU is reloaded.

Solution: Install ident NA2B427 from UPDSUGG.

Problem: NDL error 86 (invalid owning console name) is erroneously generated for TERMINAL statements of 714 line printers that specify terminal class (TC) but do not specify terminal address (TA).

Temporary
Solution: Specify TA on all 714 terminal statements. Ident NA2B394 will be forthcoming to fix the problem.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

RB2

Problem: RBF may fail to output an RBF-user file because the file contains a faulty family or user name. This occurs because RBF is given family or user names that are left-justified with trailing blanks. RBF should convert such trailing blanks to zeros prior to sending them to NOS.

Solution: Install RB2A429 from UPDSUGG.

Problem: RBF aborts under a variety of circumstances, especially if RBF commands RET and/or ABORT are used repeatedly during a session.

Solution: Install ident RB2A452 from UPDSUGG.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

The following is a list of the mods from UPDSUGG and the associated products they are applied against.

AAM

AM2A210 AM2A223

LCS2

CA20005

CCG

CCGA027

CCP

CC4B368	CC4B430	CC4B367
CC4B382	CC40261	CC4B367A (COS/CC4B367)
CC4B393	CCP80	CC4B248A (COS/CC4B248)
CC4B402	FS518	CC4B315A (COS/CC4B315)

COBOL5

CL5B077

CEDIAG

DIMA232

FTN4

FCCA530 FCCA534

F45

F45A104

LDR

LDRA417 LDRA423

MCS

MC1A097 MC1A120

NAM2

NA2B368	NA2B410	NA20195
NA2B383	NA2B427	

RBF2

RB2A429 RB2A452

BAM

SW1A450	SW1A467	SW1A483
---------	---------	---------

0 KNOWN PROBLEMS

Blocked Tasks

Potentially blocked tasks are not detected by TAF; that is, if TAF is unable to get enough field length to load a task without exceeding its maximum field length (specified via a K-Display command), then the task cannot be executed. This problem may be more noticeable under TAF/CRM since the amount of space available to run transient tasks may fluctuate as TAF allocates space to a CMM managed buffer used by the TAF/CRM data manager. Symptoms of this problem are:

1. It may be impossible to start up any non-system transaction if all allocatable communication blocks are assigned to tasks which cannot be loaded.
2. A task may run initially but not later.

If you observe this problem, then the maximum field length of TAF should be increased or the field length of blocked tasks reduced. It is planned that a future release will detect potentially blocked tasks.

Buffer Pointers

Due to an error in maintaining buffer pointers in subroutine *MSE* of 6DI, it is possible that a sector will be written redundantly to disk, with the second one linked to itself. This problem occurs during processing of a forced function time-out and is fixed by mod 6DI2 on the suggested code file.

DAYFILE Processing

Recently we have noticed cases where a "FILE TOO SHORT" or "FILE/CM BUFFER BOUNDARY ERROR" has occurred as a result of a DFD, ELD, or AFD command execution. It is believed that these are erroneous error conditions. Initial investigation has shown that there has been no data lost in the output of the dayfile processed. The "FILE TOO SHORT" message is a warning and does not cause the job to abort while the "FILE/CM BUFFER BOUNDARY ERROR" causes the job to be aborted. Code will be made available through Field Support when the problem is corrected.

Deadstart Diagnostic Sequencer

Customers who received NOS level 509, which was sent without a DDS tape, may install the HVS tape which accompanies this release on the level 509 system. HVS (hardware verification sequencer) is the replacement for DDS. It should be noted that DDS, HIVS, HVS and MSLA all refer to the Diagnostic Sequencer.

IAF

Logical vs. Physical Lines

As has been the case under past releases of IAF, a logical line may not consist of multiple physical lines. This characteristic will be changed in the next CCR.

CCP

IVT commands of the form (CTL)DL=Xnn, Cnnnn,TO are not working correctly.

CYBERLOG

CYBRLOG gets a CPU ERROR EXIT if you attempt to correct an error after all the data have been entered.

This problem has been reported as PSR #CC4B446.

.0 PREVIOUS SRB ITEM RETENTION

The information in this section is retained from previous Software Release Bulletins until it is incorporated into the Installation Handbook.

HIGH SPEED OUTPUT

When running a high speed line configuration (see NOTE 1 below), the *ABL* parameter and the assembly constants VSPL and VMPL found in COMSREM should be considered. The ABL parameter in the network configuration file must be set to 3 or greater for IAF to recognize the connection as a high speed terminal. In addition, the VSPL (minimum spare pots) and VMPL (maximum spare pots) must be increased to allow for the increased number of pots being requested when processing high speed output. The actual numbers would depend on the site's configuration of high speed lines.

In general, VSPL and VMPL provide for the specification of spare pots to ensure that there will be sufficient pots to allow IAF to continue through a peak pot demand period until additional pot memory can be requested. A general guideline for these parameters is as follows:

$$VSPL = 4((BSZ/60D)+1)$$

where BSZ = network block size as specified on the network configuraton file.

If terminals are configured with differing BSZ values, the maximum BSZ for any single terminal should be used in this calculation.

If BSZ is less than 220D; VSPL should be set to a minimum value of 16D.

$$VMPL = 2 \times VSPL.$$

While these numbers should provide adequate spare pot space in a large number of situations, the pot supply statistics in the IAF dayfile (Pots low, etc.) should be monitored to determine if future adjustments in these parameters are needed.

The previous method is the recommended guideline; however, the following is a guideline for those parameter selections for a worst case situation.

$$\begin{aligned} \text{min} &= n \times BSZ/60 \\ \text{max} &= 2 \times \text{min} \end{aligned}$$

Where

n = the number of high speed terminals
BSZ = network block size
min = the value to add to VSPL
max = the value to add to VMPL

- NOTE:
- 1) Any terminal with an ABL value of 3 or greater or a BSZ value of 240 or greater is considered to be a high speed terminal by IAF.
 - 2) For record block sizes, consult the NAM Reference Manual.

CCP MODIFICATIONS

NON-POSTPRINT HASP

The addition of support code for HASP terminals which do not support pre-print carriage control at level 485 causes a performance degradation for HASP terminals which support both pre- and post-print. For sites which use only HASP terminals supporting pre- and post-print, a performance improvement (restoration to the pre-485 performance level) can be effected by removing the conversion code. The following directions should be put on the USER file for the CCP2550 job to remove this code:

*IDENT YNKPOST
*YANK CC4A943

7.0 OPERATING SYSTEM CRITICAL CODE

All modsets contained on the critical code file have been fully system tested as they were integrated into the system before the initiation of the final system test cycle. The critical code file is larger than previous releases because PLs were frozen much earlier in the testing process to allow for parallel building and testing in preparation for the next CCR release.

KRA592A

KRA592A MMC. 80/02/22.
**** NOS 1.4 OS.
**** NS03284.
***** PROBLEM - *TAFNAM* MIGHT LOSE COMMUNICATION BLOCKS IF ALL INPUT/OUTPUT IS LARGE AND IS AT A HIGH SPEED (SUCH AS 960 CHARACTERS/SECOND). ROUTINE *NGL* INCORRECTLY CLEARS THE NETWORK REQUEST STATUS WORD *PPMA* CAUSING THE LOSS OF A *NETGETL* REQUEST INDICATOR.

SOLUTION - THIS MODSET CHANGES ROUTINE *NGL* SO THAT IT WILL CLEAR *PPMA* PROPERLY.

KRA661A

KRA661A DRH. 80/02/25.
**** NOS 1.4 OS.
**** NSOE070.
***** PROBLEM - *QAP* HANGS ON BAD ACCOUNTING MESSAGE IN A MULTI-MAINFRAME ENVIRONMENT. THIS MODSET REQUIRES *KRA661*.

SOLUTION - CORRECT USAGE OF DIRECT CELL *T6*.

KRA697

KRA697 PDH. 80/02/14.
**** NOS 1.4 OS.
**** NSOE117.
**** NSOE170.
**** NSOE172.
***** THE *BML* FEATURE INTRODUCED USAGE OF BIT 2**18 IN *MSG* REQUESTS TO INDICATE THE MESSAGE WAS LOCATED IN THE CONTROL POINT AREA. THIS CONFLICTS WITH PRODUCT SET USAGE OF BIT 2**18. THIS MODSET CHANGES THE SYSTEM TO USE BIT 2**23 AS THE CONTROL POINT AREA FLAG.

***** THE USER SHOULD NOT BE CHARGED FOR CONTROL STATEMENT MESSAGES ISSUED TO THE DAYFILE VIA *MSG* REQUEST.

KRA703

KRA703 PDH. 80/03/20.
**** NOS 1.4 OS.
**** NSOD992.
**** NSOD997.
**** NSOD998.
***** THIS MODSET PROVIDES FOR UPWARD/DOWNWARD
COMPATIBILITY IN THE RECOVERY OF DAYFILES BETWEEN
LEVEL 518 AND EARLIER SYSTEMS. THE RESOLUTION OF
THIS ISSUE ASSUMES INSTALLATION OF SLA485/SLA50X INTO
LEVELS 485/501/509 (REFER TO SRB FOR ADDITIONAL
INFORMATION REGARDING THE AFOREMENTIONED MODSETS).

CI018

CI018 RAJ/CSM. 80/03/25.
**** NOS 1.4 OS.
**** NSOE181.
***** PROBLEM - IF THE FOLLOWING CONDITIONS ARE MET -
1) *CIO* IS CALLED WITH A *POSMF* FUNCTION,
2) AN FNT ADDRESS IS SPECIFIED IN THE FET, AND
3) THE FILE IS NOT FOUND IN THE FNT, THEN THE *CIO*
ERROR PROCESSOR WILL WRITE INVALID DATA INTO THE FST
SPECIFIED BY THE FNT ADDRESS IN THE FET.

SOLUTION - ENSURE THAT *CIO/2CJ* CLEARS THE FST
ADDRESS (IN DIRECT CELL FA) IN THE ABOVE SITUATION
BEFORE CALLING THE *CIO* ERROR PROCESSOR.

DSD9

DSD9 CBL. 80/03/11.
**** NOS 1.4 OS.
**** NSOE134.
***** PROBLEM - AFTER 2/29/80 THE JULIAN DATE IS NOT
CORRECT.

SOLUTION - FIX LEAP YEAR PROCESSING IN *DSD* PRESET.

MTR2

MTR2 RCS. 80/03/05.
**** NOS 1.4 OS.
**** NSOE124.
***** CHANNEL REQUESTED STATUS IS NOT CHECKED FOR
PROPERLY ON BOTH CHANNELS OF A DUAL ACCESS EQUIPMENT.

MTR3

MTR3 PDH/WEG. 80/04/08
**** NOS 1.4 OS.
**** NSOE240.
***** *DSWM* PROCESSING CAN RELEASE UNIT RESERVE
WHILE CONTROLLER RESERVE IS STILL HELD,
CAUSING A DEADLOCK SITUATION IN A MMF
ENVIRONMENT.

PFM23

PFM23 PCS. 80/03/19
**** NOS 1.4 OS.
**** NSOE142.
***** PROBLEM - *MSSEXEC* ENCOUNTERS ERRORS IN
STAGING A FILE WITH USER INDEX LONGER THAN 12 BITS.

SOLUTION - FIX *PFM* TO CORRECTLY SET USER INDEX INTO
TDAM REQUEST BLOCK FOR *STAGE* REQUEST TO *MSSEXEC*.

PFM26

PFM26 PCS. 80/04/28.
**** NOS 1.4 OS
**** NSOE286.
***** PROBLEM - *PFM* SENDS *STAGE* REQUESTS TO
MSSEXEC FOR PSEUDO-RELEASED FILES WHOSE MSF COPIES
ARE OBSOLETE.

SOLUTION - ENSURE THAT *PFM* IGNORES THE *AFPDR* FLAG
IF THE *AFOBS* FLAG IS SET.

SET9

SET9 PDH 80/04/02.
**** NOS 1.4 OS
**** NSOD856.
***** *SET* DEFINES THE MAINFRAME TYPE AS C176 WHEN
BIT 2**11 IS SET IN THE *OPTN* WORD GENERATED BY
CTI.

SET10

SET10 PDH. 80/02/28.
**** NOS 1.4 OS.
**** NSOE089.
***** *SET* CHECKS INITIALIZE REQUEST FOR LINK DEVICE
INCORRECTLY.

1MT18

1MT18 JLL. 80/03/13.
 **** NOS 1.4 OS.
 **** NS03343.
 ***** PROBLEM - *1MT* LOSES EOF ON S, L, AND F
 FORMAT TAPE FOR *WRITECW* IF THE DATA BLOCK
 PRECEEDING AN EOF CONTROL WORD BLOCK IN THE USER I/O
 BUFFER REQUIRED PARITY ERROR PROCESSING AND WAS
 SUCCESSFULLY RECOVERED. *1MT* HAD PRE-PROCESSED THE
 EOF CONTROL WORD BLOCK BY ADVANCING THE *OUT* POINTER
 AND SETTING EOF WRITE FLAGS. WRITE ERROR RECOVERY
 CLEARED THESE EOF WRITE FLAGS, BUT DID NOT BACK-UP
 THE *OUT* POINTER.

SOLUTION - *1MT* WRITE ERROR RECOVERY PROCESSORS
 SHOULD RESET THE EOF WRITE FLAGS IF THE DATA BLOCK
 REWRITE IS SUCCESSFUL.

1SJ2

1SJ2 RJP. 80/02/15.
 **** NOS 1.4 OS.
 **** NS03288.
 **** NS03309.
 ***** *1SJ* WAS NOT SETTING CPU TIME SLICE LIMIT INTO
 TSCW CORRECTLY. THIS RESULTED IN A CPU SLICE FOUR
 TIMES LARGER THAN EXPECTED.

CPUMT12

CPUMT12 PTB. 80/03/05.
 **** NOS 1.4 OS.
 **** NS0E019.
 **** NS0E020.
 ***** PROBLEM - A SUBSYSTEM THAT DOES AN *SSC* CALL
 TO ITSELF ON A DUAL-CPU MACHINE CAN GET ASSIGNED TO
 BOTH CPU-S AT THE SAME TIME.

SOLUTION - ADD CHECK SO THAT THE SUBSYSTEM IS NOT
 RECALLED IF IT IS THE ONE MAKING THE RA+1 REQUEST.

CPUMT18

CPUMT18 PDH 80/04/24
 **** NOS 1.4 OS.
 **** NS0E306
 ***** A DEADLOCK SITUATION EXISTS WHEN FOR A GIVEN
 CP *CPUMTR* REJECTS A *DFMM* REQUEST BACK TO THE
 CALLING PP, A DUMP IS IN PROGRESS ON THE SELECTED
 DAYFILE, AND STORAGE MOVE IS SET. *DSWM* REQUESTS
 FROM *1DD* ARE NOT HONORED BECAUSE STORAGE MOVE IS
 SET, AND THE MOVE CANNOT TAKE PLACE BECAUSE *DFMM* IS
 NOT A MOVABLE FUNCTION. THIS MODSET ELIMINATES
 REJECTING *DFMM* BY CHANGING THE REQUEST TO *CDBM*
 WHICH IS MOVABLE.

PFLOA8

PFLOA8 PLV. 80/01/24.
**** NOS 1.4 OS.
**** NS0D962.
***** PROBLEM - WRONG BIT BEING SET FOR ALTERNATE
STORAGE ADDRESS VERIFICATION NEEDED (*ASVER*) FLAG.

SOLUTION - MODIFIED THE PROCESS CATALOG BUFFER
(*PCB*) ROUTINE TO SET BIT 52 IN LIEU OF BIT 54 IN
PFC WORD *FCAF*.

BDBM29

BDBM29 SMK. 80/02/26.
**** NOS 1.4 OS.
**** NS03111.
***** PROBLEM - THE PRU ADDRESS OF THE DESIRED
RECORD FOR INDEXED FILE TYPES IS NOT BEING PLACED IN
THE *PARL* BLOCK WHEN *NREC* IS GREATER THAN ONE AND
THE RECORD IS ALREADY IN CORE. THE CONTENTS OF
PARL +7 FROM A PREVIOUS DATA MANAGER CALL IS BEING
USED, RESULTING IN INCORRECT RECORD TRANSFERS.

SOLUTION - UPON FINDING THE DESIRED RECORD ALREADY IN
CORE AND NOT HELD BY THE REQUESTOR, COPY THE PRU
ADDRESS FROM WORD *BSTA* OF THE DESIRED-RECORD *BST*
TO WORD EIGHT OF THE USER PARAMETER LIST (*PARL*).
EIP NOW CLEARS WORD *PARL* +7 SO THAT IT IS IN A
KNOWN STATE PRIOR TO THE DATA MANAGER CALL.

BDBM30

BDBM30 SMK. 80/03/10.
**** NOS 1.4 OS.
**** NS0E049.
***** PROBLEM - *TAF* AND *BDMI* ABORT WITH A *CIO*
DIAGNOSTIC WHEN THE DISK ADDRESS OF THE CURRENT DATA
MANAGER REQUEST IS BEYOND THE *EOI* OF THE FILE AND
NO *FET* HAS BEEN ASSIGNED.

SOLUTION - ABORT THE DATA MANAGER REQUEST IF THE DISK
ADDRESS IS GREATER THAN THE CURRENT *EOI* OF THE FILE.

10.0 OPERATING SYSTEM SUGGESTED CODE

Modsets 6DI2 and DAYFI7 were transmitted late in the release process and consequently were only tested for 2 days of the test cycle.

Operating System suggested code on the file MDYSUGG can be divided into four specific groups:

1. Corrective code that corrects system interrupts that were encountered very late in the release process. Modsets in this group include:

KRA699 KRA701 KRA736 6DI2

2. Corrective code that corrects regression problems between level 509 and level 518. Modsets in this group include:

KRA665A DSD15 DAYFI6 BLANK3A
KRA696 MSM6 DAYFI7
KRA703A 1SJ3 XEDT13A
KRA716 CPUMT19 CSTF1A

3. Corrective code for TAF related problems. Modsets in this group include:

KRA705 TAF20 TAF22 KNWC11

4. Corrective code for MSS related problems. Modsets in this group include:

KRA691 KRA725 1MF4 ER021 PFATC3
KRA700 KRA727 ASDEB2 ER032 PFLOA10
KRA709 KRA728 CPUMT13 EXDES2
KRA714 KRA729 DR022 EXDES3
KRA719 KRA730 DR023 EXHLR2
KRA720 KRA732 EIPR1 EXINI3
KRA721 PFM25 ER015 EXLLR1
KRA722 PFS7 ER016 EX3UC1

These mods are applicable only to MSS. Any customers who are not using MSS should not be concerned with them.

KRA665A

KRA665A CRL. 80/05/01.

**** NOS 1.4 OS.

**** NSOE001.

***** PROBLEM - *ENTER* DOES NOT SUPPLY A TERMINATOR
IF IT IS MISSING FROM ANY DIRECTIVE IN THE LINE.

SOLUTION - IF THE LAST CHARACTER OF A DIRECTIVE IS
NOT A TERMINATOR, INSERT ONE AFTER THAT DIRECTIVE.

KRA691

KRA691 PLV. 80/04/04.
**** NOS 1.4 OS.
**** NSOD960.
***** PROBLEM - NO INDICATION IS MADE IN THE PF
UTILITIES OUTPUT REPORTS THAT A *PFC ONLY* FILE HAS
BEEN PROCESSED.

SOLUTION - MODIFIED *PFDUMP/PFLOAD/PFATC* TO APPEND
THE MESSAGE *PFC ONLY* TO THE RIGHT-MOST END OF THE
LAST MESSAGE LINE RETURNED BY A *COMCFCE* CALL, WHEN
THE FILE ENTRY PROCESSED IS A *PFC ONLY*.

KRA696

KRA696 BMS. 80/03/11.
**** NOS 1.4 OS.
**** NSOD857.
***** PROBLEM - FOR *LFM* EQUIPMENT ASSIGNMENT
FUNCTIONS 14B, 15B and 26B, *LFM* ISSUES A DAYFILE
MESSAGE INDICATING THE EQUIPMENT TO WHICH THE FILE
WAS ASSIGNED. UNDER SOME CIRCUMSTANCES THIS MESSAGE
IS MEANINGLESS TO THE USER AND SHOULD NOT BE ISSUED.

SOLUTION - WHEN BIT 19 OF THE FUNCTION PARAMETER
FIELD IS SET IN THE *LFM* CALL, THE DAYFILE MESSAGE
WILL NOT BE ISSUED.
A PARAMETER HAS BEEN ADDED TO THE *REQUEST* MACRO
INDICATING IF THE DAYFILE MESSAGE SHOULD NOT BE
ISSUED. IF THIS PARAMETER IS OMITTED, THE DAYFILE
MESSAGE WILL BE ISSUED.
THE *FNT* ADDRESS OF THE ASSIGNED FILE WILL NOW BE
RETURNED TO BYTE 0 OF *FET* +4 FOR FUNCTIONS 14B, 15B
AND 26B.

KRA699

KRA699 RCS. 80/04/17.
**** NOS 1.4 OS.
**** NS01910.
***** WHEN A *TDAM* REQUEST IS MADE BY A PP, AND
STORAGE MOVE STATUS IS RETURNED, THE PP MUST PAUSE
AND DELAY SUFFICIENTLY BEFORE REISSUING THE REQUEST.
TDAM-S BEING ISSUED AT A HIGH RATE COULD PREVENT
THE STORAGE MOVE FROM COMPLETING DUE TO THE
INTERRUPTION OF AN ECS TRANSFER OR *CMU* OPERATION.

KRA700

KRA700 PLV/PCS. 80/04/09.

**** NOS 1.4 OS.

**** NSOE144.

**** NSOE161.

**** NSOE228.

**** NSOE247.

**** NSOE264.

**** NSOE290.

**** NSOE300.

**** NSOE303.

**** NSOE333.

**** NSOE334.

***** PROBLEM - *PFDUMP* MAY GENERATE AN ORPHAN *PFC ONLY* ENTRY ON THE ARCHIVE FILE, WHICH HAS A ZERO ALTERNATE STORAGE ADDRESS FIELD.

SOLUTION - CHANGE THE *PFC ONLY* DUMPING ROUTINES (IN THE MAIN LOOP AND IN THE *GRL* SUBROUTINE) TO PROPERLY FORCE AN EOR, WHEN TERMINATING A *PFC ONLY* ENTRY.

***** PROBLEM - A DEADLOCK SITUATION EXISTS BETWEEN *PFDUMP* AND THE *MSS* EXECUTIVE. *PFDUMP* HAS THE *MSS* CATALOGS INTERLOCKED (ATTACHED IN READ MODE), THEN ISSUES AN *MSS* FILE STAGING REQUEST. THE *MSS* EXECUTIVE NEEDS TO ATTACH THE *MSS* CATALOGS IN WRITE MODE, IN ORDER TO HONOR THE STAGING REQUEST, BUT CANNOT BECAUSE OF THE *PFDUMP* INTERLOCK.

SOLUTION - CHANGE *PFDUMP* TO DELAY DUMPING THE *MSS* CATALOGS UNTIL ALL *MSS* STAGING REQUESTS HAVE BEEN HONORED, THEN INTERLOCK AND DUMP THE NEEDED *MSS* CATALOGS. CHANGE *PFM* TO ALLOW *UATTACH* WITHOUT SPECIAL REQUEST BLOCK, AND TO ALLOW *UATTACH* WHEN THE DEVICE IN ERROR IDLE STATUS. CHANGE *CIO* TO CLEAR THE SYSTEM SECTOR PROCESSING BIT IN THE FST OF A *UATTACH* FILE, WHEN PROCESSING A *REWIND* REQUEST FOR THE FILE.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

KRA701

KRA701 PTB. 80/03/12.
**** NOS 1.4 OS.
**** NS03347.
***** PROBLEM - A USER JOB THAT EXECUTES AN *RJ 0*
INSTRUCTION ON A 6000 CPU WILL BE ABORTED WITH A
PARITY ERROR, DUE TO THE *EQ* INSTRUCTION PLACED IN
RA. ALSO, *1AJ* WILL NOT RECOGNIZE THAT AN
INSTRUCTION IS OCCUPYING RA, AND WILL GET HUNG IN AN
INFINITE LOOP WHILE TRYING TO REPORT THE ERROR.

SOLUTION - FIX *CPUMTR* AND *1AJ* TO CORRECTLY
DIAGNOSE THE ERROR AS THE CYBER 70 AND 170 HARDWARE
DOES.

KRA703A

KRA703A PDH. 80/05/09.
**** NOS 1.4 OS.
**** NSOE359.
***** NEW DAYFILES ARE CREATED ON LEVEL 1 AND 2
RECOVERIES.

KRA705

KRA705 MMC. 80/04/08.
**** NOS 1.4 OS.
**** NS03162.
**** NS03242.
***** THIS MODSET RESOLVES A SECURITY PROBLEM WITHIN
TAF INTRODUCED BY MODSET TAF3 AND TAF3A. WITH
THESE MODSETS PRESENT *TAF* DOES NOT ZERO FILL THE
COMMUNICATION BLOCK AFTER PLACING INPUT WITHIN IT.
THUS, A TRANSACTION MIGHT BE ABLE TO PICK UP SECURE
INFORMATION IN ITS COMMUNICATION BLOCK BY SCANNING
THE PORTION OF THE COMMUNICATION BLOCK AFTER THE END
OF ITS INPUT.

KRA709

KRA709 DWB. 80/04/16.
**** NOS 1.4 OS.
**** NSOE079.
***** PROBLEM - *MSS* MASTER/SLAVE COMMUNICATION
FILES ARE NOT UNCONDITIONALLY DEFINED AS ECS-RESIDENT.

SOLUTION - ROUTINE *GETFAM* IS CHANGED TO RETURN THE
LINK DEVICE TYPE, AND THIS TYPE IS SPECIFIED WHEN
DEFINING THESE FILES.

KRA714

KRA714 GAK. 80/04/03.
**** NOS 1.4 OS.
**** NSOE175.
***** PROBLEM - *STAGER* AND *DESTAGR* ARE NOT
PUTTING THE CARTRIDGE VSN INTO THE *LLRQ* ENTRY THAT
IS SENT TO THE MSS DRIVER.

SOLUTION - INCLUDE THE VSN IN THE *LLRQ* ENTRY FOR
CARTRIDGE REQUESTS WHICH MAY GET HARDWARE ERRORS SO
THAT THE VSN WILL BE INCLUDED IN THE *BML* RECORD.

KRA716

KRA716 DRH 80/04/11.
**** NOS 1.4 OS.
**** NSOE239.
***** PROBLEM - BATCHIO's DAYFILE IS GETTING DAYFILE
MESSAGES -
* ENDING SUPPORT OF FILE QUEUEING BY CIO CLOSE
FUNCTIONS (170, 174, 30).*

SOLUTION - INSTEAD OF USING *CIO* FUNCTION 170
(*CLOSE UNLOAD*), WHICH WILL BE REMOVED IN A FUTURE
RELEASE, USE *CIO* FUNCTION 60 (*UNLOAD*).

KRA719

KRA719 DWB. 80/04/15.
**** NOS 1.4 OS.
**** NSOE242.
***** PROBLEM - *ASDEBUG* ABORTS IN PROCESSING THE
RC DIRECTIVE IF THE CUBICLE ASSOCIATED WITH THE
CSUMAP ENTRY BEING REMOVED IS EMPTY.

*SOLUTION - CHANGE *ASDEBUG* TO CORRECTLY REMOVE A
CSUMAP ENTRY REGARDLESS OF THE CONDITION OF THE
CORRESPONDING CUBICLE. IF NO CARTRIDGE IS FOUND, A
NEW INFORMATIVE MESSAGE IS ISSUED.

KRA720

KRA720 GJM. 80/04/17.
**** NOS 1.4 OS.
**** NSOE241.
***** PROBLEM - ASVAL WILL OCCASIONALLY NOT PERFORM
RELEASE PROCESSING EVEN THOUGH THE *RL* AND *FX*
PARAMETERS ARE USED CORRECTLY. THIS OCCURS BECAUSE
RELEASE PROCESSING IS DEPENDENT UPON THE LAST PURGE
DATE BEING BEFORE THE RDF FILE CREATION DATE AND
CURRENTLY THE LAST PURGE DATE IS INCORRECTLY
OBTAINED, THUS MAKING IT ONLY OCCASIONALLY MEETING
THIS RELEASE CRITERIA.

SOLUTION - CHANGE MSSEXEC AND ASVAL TO TRANSFER THE
LAST PURGE DATE IN INTEGER ITEMS RATHER THAN
CHARACTER ITEMS SO THAT NO CHARACTER CONVERSION TAKES
PLACE.

KRA721

KRA721 GJM. 80/04/24.
**** NOS 1.4 OS.
**** NSOE308.
***** PROBLEM - ASVAL GENERATES *PFM* REQUESTS THAT
WILL SOMETIMES CAUSE A *PFM* ABORT DEPENDING ON WHAT
TYPE OF INFORMATION IS ON THE *FIXIT* FILE.

SOLUTION - ZERO FILL THE CHARACTER DATA PARAMETERS IN
VLFIXP SO THAT THE PARAMETERS WILL NOT CAUSE A
ILLEGAL *PFM* FET TO BE BUILT.

KRA722

KRA722 GJM. 80/04/22.
**** NOS 1.4 OS.
**** NSOE284.
**** NSOE299.
***** PROBLEM - IF AN MST ENTRY IS TURNED ON
IMMEDIATELY AFTER MSSDRVR HAS TURNED IT OFF,
SCANUDT WILL START TO INITIALIZE THE TRANSPORT
BEFORE MSSDRVR HAS FINISHED FLUSHING THE TRANSPORT,
THUS HANGING *IMF.*.

SOLUTION - CHECK THE *UDT* FLUSH BIT BEFORE CLEANING
UP DEVICES.

***** PROBLEM - MORE THAN ONE TRANSPORT
INITIALIZATION CLEAN UP PROCESS MAY BECOME ACTIVE
OVER A CSU GROUP IF DEVICES ARE TURNED ON DURING
CLEAN UP. THIS MAY CAUSE *IMF* ABORTS.

SOLUTION - DEFINE A NEW FLAG FOR THE CSU UDT ENTRY
WHICH WILL SERVE AS AN INTERLOCK TO ENSURE THAT ONLY
ONE CLEAN UP PROCESS CAN BE ACTIVE OVER A CSU GROUP.

KRA725

KRA725 GAK. 80/04/25.
**** NOS 1.4 OS.
**** NSOE266.
**** NSOE317.
**** NSOE319.
***** PROBLEM - MSSEXEC WILL NOT GO INTO RECALL IF
THERE ARE ENTRIES IN THE RAW *TDAM* REQUEST QUEUE.

SOLUTION - ALLOW MSSEXEC TO GO INTO RECALL IF THE
STAGE REQUEST COUNT IS EQUAL TO THE STAGE REQUEST
THRESHOLD.

***** PROBLEM - IF A *UCP* IS SWAPPED OUT WHEN
MSSEXEC TRIES TO ISSUE A RESPONSE TO IT, THE RESPONSE
MAY NEVER BE ISSUED TO THE *UCP*.

SOLUTION - RESET THE GLOBAL *UCP* SWAPPED FLAG AND
THE SWAPPED *UCP* EXPIRATION TIME IN *SCAN\$LTCT* IF
THE *UCP* HAS NOT BEEN SWAPPED IN YET, SO THAT ITS
STATUS WILL BE RECHECKED AND A RESPONSE ISSUED WHEN
SWAPPED IN.

KRA727

KRA727 DWB 80/05/01.
**** NOS 1.4 OS.
**** NSOE340.
***** PROBLEM - IN PROCESSING *CEVAL* REQUESTS,
MSSEEXEC DOES NOT CORRECTLY SET THE BASED ARRAY
POINTERS BEFORE REFERENCING SENSE AND LABEL FIELDS.
THIS RESULTS IN VALID CE CARTRIDGES BEING REJECTED BY
MSSEEXEC.

SOLUTION - CHANGE *MSSEEXEC* TO SET BASED ARRAY
POINTERS PROPERLY.

KRA728

KRA728 TRS. 80/05/05.
**** NOS 1.4 OS.
**** NSOE298.
***** PROBLEM - PPU TIMEOUT DETECTION IS
COMMUNICATED TO THE PPU IN SUCH A WAY THAT THE PPU
MIGHT EXECUTE THE REQUEST TWICE, INSTEAD OF RETURNING
IT WITH AN ERROR.

SOLUTION - CREATE A FLAG IN THE PPU COMMUNICATIONS
PACKAGE TO EXPLICITLY INFORM THE PPU THAT THE REQUEST
HAS TIMED OUT.

KRA729

KRA729 TRS 80/05/06.
**** NOS 1.4 OS.
**** NSOE249.
***** FEATURE - DETECT CARTRIDGES WITH SHORT TAPES
AT THE TIME THEY ARE LABELED AND REJECT THEM.

KRA730

KRA730 TRS. 80/05/05.
**** NOS 1.4 OS.
**** NSOE370.
***** PROBLEM - THE DISMOUNT OF A CE CARTRIDGE WILL
NOT FIRST SEEK RESERVE THE TRANSPORT.

KRA732

KRA732 TRS. 80/05/09.
**** NOS 1.4 OS.
**** NSOE372.
***** PROBLEM - BUFFER CONGESTION IN CM AT END OF
STREAM CAUSES DATA TO NOT BE SENT TO THE BUFFER.

SOLUTION - RETRY THE STREAMING OPERATION.

KRA736

KRA736 JLL. 80/05/20.
**** NOS 1.4 OS.
**** NSOE421.
***** PROBLEM - *1MT* ISSUES USER ERROR DAYFILE
MESSAGES EXCEEDING 50 CHARACTERS IN LENGTH, CAUSING
PP HANG.

SOLUTION - SHORTEN *1MT* USER ERROR MESSAGES,
ALLOWING FOR FILE NAME AND ADDRESS INFORMATION TO NOT
EXCEED 50 CHARACTERS.

DSD15

DSD15 CBL. 80/03/26.
**** NOS 1.4 OS
***** NSOE185.
***** PROBLEM - THE A-DISPLAY IN *DSD* CONTAINS
OVERWRITTEN DATA AT THE BOTTOM OF THE SCREEN.

SOLUTION - MODIFY END-OF-LINE CHECKING TO HANDLE
LINES OF 60 CHARACTERS FOLLOWED BY A ZERO WORD.

MSM6

MSM6 PDH. 80/03/26.
**** NOS 1.4 OS.
**** NSOE162.
***** DAYFILE INITIALIZATION FLAGS ARE CLEARED BY THE
DEADSTART PROCESS, THUS FORCING THE OPERATOR TO
INTERACT WITH *MSI* IN ORDER TO PROCESS REQUESTED
INITIALIZATION.

PFM25

PFM25 PCS. 80/04/08.
**** NOS 1.4 OS.
**** NSOE232.
***** PROBLEM - *PFM* DOES NOT ALLOW AN *ATTACH* OF
AN MSS-RESIDENT FILE WHEN RUNNING MSS ON A MAINFRAME
IN *SLAVE* MODE, UNLESS THE CORRECT *CSU* IS PRESENT
IN THE CONFIGURATION FOR THAT MAINFRAME.

SOLUTION - CHANGE *PFM* TO ASSOCIATE ALL *MSS-ATTACH*
REQUESTS WITH THE SAME *CSU* WHEN CONSTRUCTING THE
EVENT FOR STAGE COMPLETION. THIS ALLOWS A *SLAVE*
MAINFRAME TO RUN WITH ONLY A SINGLE DUMMY *CSU* IN
THE CMRDECK.

NOTE - NEITHER THIS MODSET NOR THE SYSTEM WITHOUT
THIS MODSET REQUIRES ACTUAL MSS EQUIPMENT BE
CONNECTED TO A SLAVE MAINFRAME. ALL THAT IS REQUIRED
ARE *CS* CMRDECK ENTRIES.

PFS7

PFS7 RCS. 80/04/04.
**** NOS 1.4 OS.
**** NSOE132.
***** PROBLEM - IF BOTH *UI* AND *RD* PARAMETERS ARE
SPECIFIED ON A *PFDUMP*, THE *RDF* FILE IS NOT
CORRECTLY WRITTEN FOR A SUBSEQUENT *ASVAL*.

SOLUTION - MAKE *RD* AND *UI* MUTUALLY EXCLUSIVE
PARAMETERS ON *PFDUMP*.

IMF4

IMF4 JAP. 80/05/10.
**** NOS 1.4 OS.
**** NSOE358.
***** PROBLEM - IF *IMF* GETS AN ERROR WHILE READING
THE *MSF*, THE SAVING OF THE TEMPORARY *IN* POINTER
CLEARS THE NUMBER OF *PICK* AND *PUTS* KEPT IN THE
CONTROL BLOCK.

SOLUTION - LOAD AND SAVE THE UPPER 6 BITS OF *PICK*
AND *PUTS* IN THE *A* REGISTER AND ADD THE UPPER 6
BITS OF TEMPORARY *IN*.

1SJ3

1SJ3 CBL. 80/03/12.
**** NOS 1.4 OS.
**** NSOE051.
***** PROBLEM - ONCE THE *DAYFILE BUFFER* HAS BEEN
FLUSHED TO DISK, *DSD* AND *DIS* USE AS MUCH OF THE
BUFFER AS POSSIBLE TO KEEP A FULL SCREEN ON THE
A-DISPLAY. DURING THE TIME PERIOD WHEN THE BUFFER
HAS BEEN FLUSHED TO DISK ONCE (100 WORDS ENTERED) AND
UNTIL THE BUFFER IS COMPLETELY FILLED ONE TIME (114
WORDS ENTERED), THE *A-DISPLAY* MAY CONTAIN DAYFILE
MESSAGES FROM A PREVIOUS JOB AT THAT CONTROL POINT.

SOLUTION - HAVE *1SJ* CLEAR THE DAYFILE BUFFER WHEN
BEGINNING A NEW JOB.

6DI2

6DI2 RMD. 80/05/21.
**** NOS 1.4 OS.
**** NS03563.
***** PROBLEM - *6DI* PROCESSES FORCED FUNCTION
TIME-OUT INCORRECTLY CAUSING SECTOR TO BE LINKED TO
ITSELF WHEN WRITTEN.

SOLUTION - MODIFY *6DI* TO USE THE CORRECT BUFFER
POINTER WHEN REWRITING THE SECTOR ON WHICH THE ERROR
OCCURRED.

ASDEB2

ASDEB2 DWB. 80/04/23.
**** NOS 1.4 OS.
**** NSOE294.
***** PROBLEM - *ASDEB2* FAILS TO ISSUE A
CHANGE\$XY REQUEST WHEN REMOVING A CARTRIDGE AS PART
OF THE SEQUENCE FOR THE *RC* DIRECTIVE.

SOLUTION - CHANGE *ASDEB2* TO ISSUE THE *CHANGE\$XY*
REQUEST APPROPRIATELY.

BLANK3A

BLANK3A KMH. 79/03/07.
**** NOS 1.4 OS.
**** NS02706.
***** PROBLEM - *BLANK* MAKES THREE ATTEMPTS TO
WRITE AND VERIFY LABELS CORRECTLY. IF AFTER THAT
TIME LABELS STILL DO NOT VERIFY, THE TAPE WILL BE
UNLOADED AND AN ERROR MESSAGE WILL BE ISSUED.

SOLUTION - INSTEAD OF JUST UNLOADING THE TAPE, ALSO
ERASE INCORRECT LABEL.

CPUMT13

CPUMT13 PLV. 80/03/13.
**** NOS 1.4 OS.
**** NSOE066.
***** PROBLEM - WHEN MULTIPLE COPIES OF *PFDUMP* ARE
RUNNING (EACH INCREMENTING THE PF ACTIVITY COUNT),
PFM REQUESTS TO ATTACH THE *MSS* CATALOGS MAY NOT
BE HONORED. THIS IS CAUSED BY *CPUMTR* DELAYING ALL
PFM REQUESTS UNTIL THE PF ACTIVITY COUNT DROPS
BELOW A PREDEFINED THRESHOLD (NPFS).

SOLUTION - REMOVE THE *CPUMTR* THRESHOLD RESTRICTION
ON *PFM* REQUESTS.

CPUMT19

CPUMT19 PDH. 80/04/29.
**** NOS 1.4 OS.
**** NSOE327.
**** NSOE354.
***** THE NOS PRODUCT SET DOES NOT ALWAYS GENERATE
DAYFILE MESSAGES WHICH TERMINATE IN ACCORDANCE WITH
THE RULES FOR END OF LINE. THIS MODSET CAUSES
DETECTION OF AN END OF MESSAGE BYTE EMBEDDED ANYWHERE
WITHIN A CM WORD. *CPUMTR* WILL NO LONGER SET A
PROPER END OF MESSAGE WITHIN THE CALLERS FL.

DAYFI6

DAYFI6 PLV. 80/02/20.
**** NOS 1.4 OS.
**** NSOD890.
***** PROBLEM - CHECKPOINT BOUNDARY MESSAGE
MISLEADING.

SOLUTION - ELIMINATE ISSUING CHECKPOINT BOUNDARY
MESSAGE WHEN AN EOR/EOF IS ENCOUNTERED ON A CODED
DAYFILE. HOWEVER, CONTINUE TO ISSUE THE BINARY
VERSION OF THIS MESSAGE FOR THE BINARY MAINTENANCE
LOG.

DAYFI7

DAYFI7 RAJ. 80/05/27.
**** NOS 1.4 OS.
**** NSOD841.
***** PROBLEM - THE DAYFILE UTILITIES,
AFD/DFD/ELD/MAINLOG OCCASIONALLY DO NOT GENERATE AN
OUTPUT REPORT. THIS WILL HAPPEN WHEN MORE THAN ONE
DAYFILE UTILITY ATTEMPTS TO PROCESS THE SAME DAYFILE
AT THE SAME TIME.

SOLUTION - THE DAYFILE UTILITIES SHOULD CHECK FOR THE
DAYFILE BUSY STATUS RETURNED TO THE FET BY *SFM*
AND ATTEMPT TO ATTACH THE DAYFILE AGAIN.

DR022

DR022 TRS. 80/05/06.
**** NOS 1.4 OS.
**** NSOE190.
***** PROBLEM - USING *RDEST* TO ACCESS THE EST WILL
WIPE OUT PART OF THE OVERLAY IF EST ORDINAL 0 IS USED.

SOLUTION - CHECK FOR ZERO AND RETURN AN ERROR CODE IF
ZERO IS THOUGHT TO BE AN MSS EST ENTRY.

DR023

DR023 TRS. 80/05/08.
**** NOS 1.4 OS.
**** NSOE291.
***** PROBLEM - EXEC ISSUES A CLEANUP REQUEST TO A
DEVICE WHICH HAS BEEN TURNED OFF.

SOLUTION - DELAY TURNING OFF A DEVICE UNTIL THE
SCHEDULED CLEANUP HAS BEEN COMPLETED.

EIPRI

EIPRI GAK. 80/04/22.
**** NOS 1.4 OS.
**** NSOE256.
***** PROBLEM - THE STAGING DELAY ON AN INTERLOCKED
CATALOG TRACK IS TOO LONG.

SOLUTION - DECREASE THE DELAY INTERVAL USED TO 5
SECONDS.

ER015

ER015 TRS. 80/04/24.
**** NOS 1.4 OS.
**** NSOE296.
***** PROBLEM - A PICK FAILURE DURING A DISMOUNT
CAUSES A MSSDRVR ABNORMAL, CONVERR2 ABORT.

SOLUTION - CHANGE THE OPTIONS FOR THOSE ERRORS SUCH
THAT THE REQUEST IS NEVER ABANDONED.

ER016

ER016 TRS. 80/05/05.
**** NOS 1.4 OS.
**** NSOE259.
***** PROBLEM - AN ATTEMPT TO PUT A CARTRIDGE TO A
FULL SPOT IN THE LOWER DRAWER SOMETIMES FAILS,
RESULTING IN A LOOP IN ERROR RECOVERY.

SOLUTION - FIND AN EMPTY SPOT IN THE DRAWER AND PUT
THE CARTRIDGE IN IT.

ER021

ER021 TRS. 80/05/05.
**** NOS 1.4 OS.
**** NSOE369.
***** PROBLEM - IF THE MST IS LEFT WITH AN ISD
ERROR, THE DEVICE IS TURNED OFF DURING INITIALIZATION.

SOLUTION - ISSUE A PURGE MODE MASTER CLEAR TO RESET
THE ERROR AND RETRY.

ER032

ER032 TRS. 80/05/05.
**** NOS 1.4 OS.
**** NSOE371.
***** PROBLEM - CLEARING AN MST WHICH CONTAINS A
LOADED CARTRIDGE AT END OF STREAM DOES NOT CORRECTLY
HANDLE THE END OF STREAM ERROR RESPONSE.

SOLUTION - CALL THE CORRECT OVERLAY.

EXDES2

EXDES2 GAK. 80/04/21.
**** NOS 1.4 OS.
**** NSOE260.
***** PROBLEM - DESTAGING STOPPED BEFORE PROCESSING
OF THE MOVE REQUEST FILE WAS COMPLETE.

SOLUTION - CORRECT *ALLOCAT* SO THAT A NEW CARTRIDGE
WILL NOT BE SELECTED TO COMPLETE A DESTAGE REQUEST IF
ENOUGH STREAMS ARE AVAILABLE ON THE CURRENT CARTRIDGE.

EXDES3

EXDES3 GAK. 80/04/29.
**** NOS 1.4 OS.
**** NSOE339.
***** PROBLEM - MSSEEXEC MAY WRITE AN INCORRECT BLOCK
READ CHECK IN A STREAM LABEL.

SOLUTION - UPDATE THE BASED ARRAY POINTER FOR THE
LABEL TO GET THE BLOCK READ CHECK VALUE FROM THE
LABEL BUFFER.

EXHLR2

EXHLR2 GJM. 80/04/17.
**** NOS 1.4 OS.
**** NSOE258.
***** PROBLEM - MSSEEXEC ABORTS IN TRANSPORT
INITIALIZATION ROUTINE *MSFINIT* IF AN ATTEMPT TO
ACCESS A CSUMAP ENTRY FINDS THE CSUMAP INTERLOCKED.
THIS OCCURS BECAUSE *MSFINIT* DELAYS AND RETRIES, BUT
BEING PSEUDO REENTRANT, WILL LOSE ITS LABEL POINTER
UPON REENTRANCE FOR THE SECOND ATTEMPT.

SOLUTION - *MSFINIT* IS CHANGED TO RESET THE LABEL
POINTER UNDER THE ABOVE CIRCUMSTANCES.

EXINI3

EXINI3 DWB. 80/05/07.
**** NOS 1.4 OS.
**** NSOE337.
***** PROBLEM - *MSSEEXEC* ABORTS IN *MSFINIT* IF THE
CSUMAP NEEDED IS NOT ATTACHED.

SOLUTION - CHANGE ROUTINE *OPENCAT* TO SET THE FATAL
ERROR FLAG IF AN *ATTACH* OR *CIO* ERROR IS
ENCOUNTERED FOR ANY CSUMAP.

EXLLR1

EXLLR1 GAK. 80/04/15.

**** NOS 1.4 OS.

**** NSOE236.

***** PROBLEM - IF *ASDEBUG* ABORTS, *CPY\$RS\$ WILL
ISSUE A READ BLOCK REQUEST TO THE MSS DRIVER AFTER A
DISMOUNT FOR THE CARTRIDGE HAS BEEN ISSUED.

SOLUTION - BEFORE ISSUING A READ BLOCK REQUEST TO THE
DRIVER, *CPY\$RS* CHECKS TO SEE IF *ASDEBUG* HAS
ABORTED.

***** PROBLEM - IF THERE IS NO DATA READ ON A BLOCK,
CPY\$RS WILL LOOP TRYING TO READ BLOCKS.

SOLUTION - CHECK THE FET POINTERS ON A READ BLOCK
REQUEST IF AN UNRECOVERABLE READ ERROR WAS RETURNED
BY THE DRIVER TO SEE IF ANY DATA WAS READ.

EX3UC1

EX3UC1 DWB. 80/05/08.

**** NOS 1.4 OS.

**** NSOE268.

**** NSOE360.

***** PROBLEM - REQUESTS FROM *ASDEBUG* TO RELEASE
FROZEN CHAINS ARE INCORRECTLY HANDLED BY *MSSEXEC*.
ONLY THE STREAM BUSY FLAG IS CLEARED.

SOLUTION - CHANGE *MSSEXEC* TO CLEAR THE ENTIRE
STREAM DETAIL FOR STREAMS WHICH ARE RELEASED.

PFATC3

PFATC3 PLV. 80/01/24.

**** NOS 1.4 OS.

**** NSOD961.

***** PROBLEM - *PFATC* NOT REPORTING *PFC ONLY*
FILES.

SOLUTION - MODIFIED THE PROCESS CATALOG BLOCK (*PCB*)
ROUTINE TO REPORT *PFC ONLY* FILES IN LIEU OF
SKIPPING THEM.

PFLOA10

PFLOA10 PLV. 80/04/03.
**** NOS 1.4 OS.
**** NSOE226.
***** PROBLEM - WHEN RECOVERING A FULL *MSS* NO
MEANS EXIST TO EXCLUDE THE LOADING OF *PFC ONLY*
FILES.

SOLUTION - CHANGE THE *PFLOAD* OP=Z OPTION TO EXCLUDE
THE LOADING OF *PFC ONLY* FILES IN ADDITION TO
CLEARING THE ALTERNATE STORAGE ADDRESS FIELD IN THE
PFC OF COMPLETE FILES LOADED.

NOTE - THIS REQUIRES THE PRESENCE OF MODSET *KRA700*.

TAF20

TAF20 MMC. 80/04/10.
**** NOS 1.4 OS.
**** NSOE218.
***** THIS MODSET CHANGES CODE IN *TAF* SO THAT THE
NETWORK FILE DOES NOT HAVE TO BE PUBLIC.

TAF22

TAF22 EDR. 80/04/17.
**** NOS 1.4 OS.
**** NSOE013.
***** PROBLEM - TAF DOES NOT SET THE ERROR EXIT
MODES FOR SUB-CONTROL POINTS THE SAME WAY THE *OS*
DOES FOR NORMAL CPU JOBS. BECAUSE OF THIS
INCONSISTENCY, THE UNDERFLOW MODE FOR MODEL 176 TYPE
CPU-S IS INCORRECT.

SOLUTION - CORRECT TAF TO BE CONSISTENT WITH THE WAY
THE *OS* SETS THE ERROR EXIT MODES FOR NORMAL CPU
JOBS. THIS MEANS THAT FOR NON 176 TYPE CPU-S, BITS
59, 58, and 57 WILL ALSO BE SET. LIKEWISE, FOR 176
TYPE CPU-S THE UNDERFLOW MODE BIT 48 WILL NOT BE SET.

KNWC11

KNWC11 MMC 80/04/02.
**** NOS 1.4 OS.
**** NSOE336.
***** *TAFNAM* MIGHT ABORT IF A TERMINAL OPERATOR
TYPES IN DATA FOLLOWED BY A LINE FEED (LF) WITHOUT A
CARRIAGE RETURN (CR) AND THEN TYPES IN NOTHING FOR
MORE THAN TWENTY MINUTES. THIS IS BECAUSE *TAFNAM*
DID NOT CLEAR THE COMMUNICATION BLOCK INDEX IN THE
NETWORK COMMUNICATION TABLE (NCT) AFTER RELEASING THE
COMMUNICATION BLOCK ASSIGNED TO THE TERMINAL IN
RESPONSE TO A TERMINAL INACTIVE SUPERVISORY MESSAGE
FROM THE NETWORK.

XEDT13A

XEDT13A SPB 80/05/02
***** NOS 1.4 OS.
**** NSOE183.
***** *XEDIT* DOES NOT PROPERLY HANDLE PREFIX
CHARACTERS IN THE 63 CHARACTER SET.

CSTF1A

CSTF1A PDF 80/05/09.
**** NOS 1.4 OS.
**** NSOE255.
***** PROBLEM - CODE IN THE ORIGINAL MODSET *CSTF1*
DOES NOT CHECK FOR NULL FILE NAME AND STATUS BEFORE
SETTING THE FET COMPLETION BIT.

SOLUTION - CORRECT MODSET *CSTF1* TO CHECK FOR NULL
FILE NAME AND STATUS BEFORE CALLING *CIO* TO OPEN THE
FILE.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

1.0 CONTROLWARE LEVELS

NOS 1.4 Level 518 was tested in an environment containing the following controlware part numbers:

7054/844 (BCS Half Track)	MA710-A13 (PN52706607)
7021/66X (FIRM66X)	MB434-A14 (PN52653361)
2550-100 667X (Emulation)	MC402-E03 (PN74875333)
7154/844 (BCF - Full Track)	MA401-A05 (PN24616082)
7155/885/844-4X (FMD - HT/FT)	MA721-A03 (PN53695294)

and also tested with CML 3.1 Level 114 release.

2.0 MISCELLANEOUS INSTALLATION COMMENTS

12.1 NAM/RBF START-UP PROCEDURES

NAM and RBF installation creates permanent files that have to be transferred to the SYSTEM user index (377777B) in order to start-up the network.

Located below are the names of those files required for Network Operation:

Indirect Access Files

1. NAM
2. NPUDUMP
3. NAMPROC
4. JOBNS
5. JOBCS
6. JOBNVF
7. JOBTVF
8. NETPROC
9. NPSDUMP
10. NETSS
11. NETUVSN
12. RBF
13. RBFPROC

Direct Access Files

14. NAMLOCK
15. RBFLOCK
16. APPLOCK
17. NIPLOCK
18. NSLOCK
19. CSLOCK
20. NVFLOCK
21. TVFLOCK
22. NPSLOCK

X.MOVEPF can be used to transfer files. In order to save time, all direct access files can be created under the system user number (SYSTEMX) without using X.MOVEPF.

12.2 NOTES ON PRODUCT INSTALLATION

Several installation jobs exhibit overlapping corrections, non-fatal loader errors, or "COPYL DID NOT FIND" messages. These are not conditions which affect the generated binaries although it is expected that these conditions will be corrected in a future release. These are described under the respective product installation note or in DECKOPL. The frequency of occurrence of these conditions as documented below is relative to the products as released. Any local code may change these frequencies. For this information to be applicable, users must install all suggested code.

The installation procedure file for TAF is incorrectly documented in the Installation Handbook. The procedure should be replaced by:

<u>File Comments</u>	<u>Comments</u>
TAFffff	Optional procedure file name; refer to the following paragraph.
RFL(100000)	Field length must met the requirements described in the following paragraph.
1,TAFvvv1. TAFvvv2.	vvv must be NAM if the NAM version of TAF is being installed or TS if the time-sharing version is being installed.
EXIT.	
DMP. DMP(0,377777)	Optional; refer to the following paragraph.
TAFvvv2.	vvv must be as previously described.
DLFP.	Use only when TAF/NAM is being installed with NETIOD.
IF(SW4)GOTO,1. IF(SW5)GOTO,2. RETURN(OUTPUT) 2,EXIT.	Optional; refer to the following paragraph.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

The procedure file may begin with the file name. The other statements indicated as optional should be included if an error dump is desired as described in the NOS Operator's Guide. The field length specified on the RFL control statement must equal or exceed the value that COMPASS assigns to the symbol FFL= when assembling TAFNAM1 or TAFTS1. Inspect the listing produced by COMPASS to determine this value. A field length of 100000B is sufficient for the released versions of TAF. If TAF operations are to be initiated automatically upon entry of the DSD AUTO command, the procedure file must have the three-character name TAF and a TAF. entry must be present in the IPRDECK (refer to section 8).

The installation procedure files for MCS are incorrectly documented in the Installation Handbook. The procedures should be replaced by the following:

```
MCS
RETURN(MCS)
RFL(30000)
MCS(GO)
EXIT.
REWIND(ZZZZZDN)
DLFP(I=0)
```

```
MCSTEST
SER,MCS0443,PASSWRD,SYS172.
RFL(30000)
ONSW(1)
ATTACH,ADLLIB/UN=username.
MCS.
EXIT.
REWIND(ZZZZZDN)
DLFP(I=0)
```

TEXT

UPDATE will detect a total of one non-fatal error.

SYSJOB

SYSJOB does not show up on REPORT if run from system origin. Therefore, there is no record of it failing or passing and in such a case a useless DAYFILS file will be created on user number SYSTEMX.

FCL1

Notice that FCL1 and FCL2 are actually two parts of the FTN Common Library 4. It is recommended that mods to FCL4 under Notes and Cautions be applied at both times if they are applied at all.

BAM

UPDATE will detect one non-fatal error.

FCL2

The message "NONEXISTENT LIBRARY GIVEN - AAMLIB" may appear in the load map for overlay PMDMP with an accompanying non-fatal loader error in the dayfile. This is not a condition which affects the generated binaries.

AAM1

COPYL will issue 13, 109, and 111 "COPYL DID NOT FIND" messages respectively on three different COPYLs. LOADER also issues two error messages.

ALGOL5

COPYL will issue five "COPYL DID NOT FIND" messages.

FTN

LIBEDIT issues one error.

BASIC 3

COPYL will issue two "COPYL DID NOT FIND" messages.

CDCS2

COPYL will issue one "COPYL DID NOT FIND" message.

F45

COPYL will issue one "COPYL DID NOT FIND" message.

DBU

LOADER issues one error which is expected and documented in the dayfile.

TNTS

LIBEDIT issues one error.

NAM2

UPDATE will detect 17 overlapping corrections and "deck structure changed".

COBOL5

COPYL will issue eight "COPYL DID NOT FIND" messages.

FTN5

COPYL will issue three "COPYL DID NOT FIND" messages.

PLI

COPYL will issue one "COPYL DID NOT FIND" message.

CCP

UPDATE will detect two overlapping corrections for jobs CCPBASE, CCPDIAG, CCPREMT and CCP2550.

2.3 NOTES ON INSTALLATION VERIFICATION JOBS

Several of the installation verification jobs generate diagnostics in the output file which should not be reason for concern. Several others contain errors which should be corrected as described below. The frequency of occurrence of these conditions as documented below is relative to the products as released. Any local code may change these frequencies.

VALGEDT

Expect 2 diagnostics against line 110, 4 against line 190, and 1 against line 250 of the test program.

VALGOL

Expect 1 diagnostic against line 5 of the test program.

VC4C5

Expect several diagnostics against the test program.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

VFTN

Expect one diagnostic against line 15 of the test program.

VLCS2

Expect several diagnostics against the test program.

2.4 NDL Source Input Examples

The first 7 lines of figure 6-7 in the Installation Handbook Revision should be replaced with the following 23 lines:

ARHNET:NETNAME.

NCFFILE:NFILE.

HOST1:HOST NODE=^a01.

COUP2:COUPLER NPUNAME=NPUA,NODE=^b2.

LINK1:LOGLINK HNODE=^b2,TNODE=^c3.

NPUA:NPU P1LID=^dP1A,P2LID=^eP2A,NODE=^c3,SIZE=^f8.

END.

ARHLOC:LOCAL.

LCFFILE:LFILE.

HOST1:HOSTDATA.

RBF:APPL,UID.

IAF:APPL.

TVF:APPL.

NPUA:NPUDATA.

01:LINE PORT=01,LTYPE=S1,TIPTYPE=MODE4,AUTO.

L01T1:TERMINAL DT=CON,STIP=M4BCD,TC=200UT.

L01T1CR:TERMINAL OCTERM=L01T1,DT=CR,IAPPL=RBF,
TC=200UT,ALFAM=FAMA,ALUN=USERA,STIP=M4BCD.

L01T1LP:TERMINAL OCTERM=L01T1,DT=LP,IAPPL=RBF,
TC=200UT,ALFAM=FAMA,ALUN=USERA,STIP=M4BCD.

L02:LINE PORT=02,LTYPE=A1,TIPTYPE=ASYNCR,AUTO.

L02T1:TERMINAL IAPPL=IAF.

END.

All of figure 6-14 in the Installation Handbook Revision should be replaced by the following:

ARHNET:NETNAME.

NCFFILE:NFILE.

HOST1:HOST NODE=^a01.

COUP2:COUPLER NPUNAME=NPUA,NODE=^b2.

COUP3:COUPLER NPUNAME=NPUB,NODE=^c3.

LINK1:LOGLINK HNODE=^b2,TNODE=^d4.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

LINK2:LOGLINK HNODE= $\frac{b}{c}$,TNODE= $\frac{f}{e}$.
 LINK3:LOGLINK HNODE= $\frac{3}{c}$,TNODE= $\frac{5}{f}$.
 LINK4:LOGLINK HNODE= $\frac{3}{c}$,TNODE= $\frac{6}{f}$.
 NPUA:NPU P1LID= $\frac{m}{p1A}$,P2LID= $\frac{p}{p2A}$,NODE= $\frac{d}{4}$,SIZE= $\frac{s}{8}$,NPATYPE=2550.
 TRNK1:TRUNK PORT= $\frac{g}{01}$,NNODE= $\frac{f}{6}$.
 NPUB:NPU P1LID= $\frac{n}{p1A}$,P2LID= $\frac{q}{p2B}$,NODE= $\frac{e}{5}$,SIZE= $\frac{t}{10}$,NPATYPE=2550.
 TRNK2:TRUNK PORT= $\frac{h}{01}$,NNODE= $\frac{f}{6}$.
 NPUC:NPU P1LID= $\frac{m}{p1A}$,P2LID= $\frac{r}{p2C}$,NODE= $\frac{f}{6}$,SIZE= $\frac{u}{10}$.
 TRNK1:TRUNK PORT= $\frac{j}{01}$,NNODE= $\frac{d}{4}$.
 TRNK2:TRUNK PORT= $\frac{k}{02}$,NNODE= $\frac{e}{5}$.

END.

COMMENT LOCAL DIVISION.

ARHLOC:LOCAL.
 LCFFILE:LFILE.
 HOST1:HOSTDATA.
 RBF:APPL,UID.
 IAF:APPL.
 TVF:APPL.
 NPUA:NPUDATA.

COMMENT DEFINE 2 ASYNCHRONOUS LINES FOR THE LOCAL 2550.

LA1:LINE PORT=02,LTYPE=A1,TIPTYPE=ASync,LSPEED=1200.
 LA1T1:TERMINAL IAPPL=IAF,TC=M33.
 LA2:LINE PORT=03,LTYPE=A1,TIPTYPE=ASync,LSPEED=134.
 LA2T1:TERMINAL IAPPL=IAF,TC=2741,STIP=2741C.

NPUB:NPUDATA.

COMMENT DEFINE 2 SYNCHRONOUS AND 1 ASYNCHRONOUS LINES
 FOR THE LOCAL 2550.

LB1:LINE PORT=02,LTYPE=S2,TIPTYPE=MODE4,DI.
 LB1T1:TERMINAL DT=CON,STIP=M4BCD,TC=200UT,CA=70,TA=60.
 LB1T1CR:TERMINAL OCTERM=LB1T1,DT=CR,IAPPL=RBF,TC=200UT,
 ALFAM=FAMA,ALUN=USERA,STIP=M4BCD,CA=70,TA=60.
 LB1T1LP:TERMINAL OCTERM=LB1T1,DT=LP,IAPPL=RBF,TC=200UT,
 ALFAM=FAMA,ALUN=USERA,STIP=M4BCD,CA=70,TA=60.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

LB2:LINE PORT=03,LTYPE=S1,TIPTYPE=MODE4,AUTO.
LB2T1:TERMINAL DT=CON,STIP=M4BCD,TC=200OUT.
LB2T1CR:TERMINAL OCTERM=LB2T1,DT=CR,IAPPL=RBF,TC=200OUT,
ALFAM=FAMA,ALUN=USERA,STIP=M4BCD.
LB2T1LP:TERMINAL OCTERM=LB2T1,DT=LP,IAPPL=RBF,TC=200OUT,
ALFAM=FAMA,ALUN=USERA,STIP=M4BCD.
LB2T2:TERMINAL DT=CON,STIP=M4ASCII,TC=200OUT.
LB2T2CR:TERMINAL OCTERM=LB2T2,DT=CR,IAPPL=RBF,TC=200OUT,
ALFAM=FAMA,ALUN=USERA,STIP=M4ASCII.
LB2T2LP:TERMINAL OCTERM=LB2T2,DT=LP,IAPPL=RBF,TC=200OUT,
ALFAM=FAMA,ALUN=USERA,STIP=M4ASCII.
LB2T3:TERMINAL STIP=M4C,TC=714.
LB2T4:TERMINAL STIP=M4C,TC=714.
LB2T5:TERMINAL STIP=M4C,TC=714.

LB3:LINE PORT=04,LTYPE=A1,TIPTYPE=ASYNCR,AUTO.
LB3T1:TERMINAL IAPPL=IAF.

NPUC:NPUDATA.

COMMENT DEFINE 1 SYNCHRONOUS AND 1 ASYNCHRONOUS LINES
FOR THE REMOTE 2550.

LC1:LINE PORT=03,LTYPE=S2,TIPTYPE=MODE4,DI.
LC1T1:TERMINAL DT=CON,STIP=M4BCD,TC=200OUT,CA=70,TA=60.
LC1T1LP:TERMINAL OCTERM=LC1T1,DT=LP,IAPPL=RBF,TC=200OUT,
ALFAM=FAMA,ALUN=USERA,STIP=M4BCD,CA=70,TA=60.

LC2:LINE PORT=04,LTYPE=A1,TIPTYPE=ASYNCR,AUTO.
LC2T1:TERMINAL IAPPL=IAF.
END.

12.5 Future Changes to Installation Decks

At NOS 5.3 CCP and CROSS Installation Decks in DECKOPL will be converted from KCL to CCL.

3.0 DETAIL INSTALLATION NOTES

13.1 SAMPLE LIBDECK WITHOUT ECS

This deck is provided as a reference only.

LIBDECK

```
*CM      PP/CIO,2CA,2CB,2CC,2CD,2CE,2CF,2CG,2CH,2CI
*CM      PP/1AJ,TCS,3AE,3AF,LDR
*CM      PP/1CK,1MA,0BF,0DF,0AV,ORP,0FA,ORF
*CM      PP/LFM,3LB,3LF,3LG
*CM      PP/LDD,LDQ,RPV
*CM      PP/1RI,3RH,1RO,3RP,3RQ
*CM      PP/PPM,3PA,3PB,3PD,3PG,3PI,3PK,3PO
*CM      PP/1DC (RBF RELATED)
*CM      PP/1TA,1TO,3TJ,3TK
*CM      PP/1MT,3MG,3MH,3ML,3MT
*CM      PP/1LS,1DL
*CM      PP/2TO (IAF RELATED)
*CM      PP/1IO,1SJ,1SP,QAC,3QS
*CM      PP/9A1,9A5,9A6,9A7 (DSD RELATED)
*CM      OVL/LDC
*PROC    LIBMOD,GENVAL,GENHELP,MOVEPF
*FL      ABS/FTN-6410,ABS/COBOL-6630
*FL      ABS/BASIC-6250,ABS/CDCS2-6565
*FL      ABS/DDI-6540,ABS/DFRCV-6650
*FL      ABS/DDI3-6540,ABS/PLI-6600
*FL      ABS/DDLF-6540,ABS/DML-6540
*FL      ABS/FILE-6030,ABS/ALGOL-6500,ABS/ALGEDIT-6400
*FL      ABS/COPYCL-6370,ABS/COBOL5-6600,ABS/SIFT-6410
*FL      ABS/ESTMATE-6370,ABS/SISTAT-6210,ABS/IXGEN-6650
*FL      ABS/COPY8P-6200,ABS/SORTMRG-6600,ABS/QU-6600
*FL      ABS/REPORT-6420,ABS/ALGOL5-6450,ABS/NDA-200
*FL      ABS/F45-6600,ABS/FTN5-6530
*FL      ABS/CDCSBTF-6515,ABS/PMDMP-6410
*SC      ABS/REPORT,QUMIP,DDL3,DML,CDCSBTF
*SC      ABS/COMPASS,FILE,SYMP,COBOL5
*SC      ABS/UPDATE,COPYL,ITEMIZE,DFRCV,DFRST
*SC      ABS/ALGOL,COBOL,FTN,SORTMRG
*SC      ABS/NDA,NDLP,LFG,REPORTR,SCRIPT,STIM
*SC      ABS/COPY8P,QU,DDL,DDL3,BASIC
*SC      ABS/ESTMATE,SISTAT,IXGEN,ALGOL5
*SC      OVL/RUN
*SC      ABS/DBQRFA,DBQRFI
*SC      ABS/F45,FTN5,DLFP,CDCS2,SIMULA,ADLP
*SC      ABS/DBMSTRD,DBRCVR
```

NOTE: If RBF or IAF are not being used, the respective entries (1DC and/or 2TO) may be deleted.

13.2 SAMPLE LIBDECK WITH ECS

In the sample LIBDECK below, equipment 11 represents ECS which is not used for swapping. This deck is provided as a reference only.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

LIBDCK1

CM PP/CIO,1AJ,0DF
 *CM PP/9A1,9A5,9A6,9A7 (DSD RELATED)
 *CM PP/3MB (TAPE ERROR RECOVERY)
 *CM PP/1DC (RBF RELATED)
 *AD 11,PP/1DL
 *AD 11,PP/ORF,0FA,ORP,0BF,0AV,0AU
 *AD 11,PP/QAC,3QS
 *AD 11,PP/1CJ,1CK,TCS,LDR,1MA,2MA,3AA,3AB,3AD,3AE,3AF,OTD
 *AD 11,PP/3AG,LDD,LDQ
 *AD 11,PP/2CA,2CB,2CC,2CD,2CE,2CF,2CG,2CH,2CI
 *AD 11,PP/1RI,3RG,3RH,3RI,1RO,3RP,3RQ
 *AD 11,PP/LFM,3LB,3LF,3LG
 *AD 11,PP/PPM,3PA,3PB,3PD,3PE,3PG,3PH,3PI,3PK,3PO
 *AD 11,PP/CPM,RPV,3CA,3CB,3CC
 *AD 11,PP/2TO (IAF RELATED)
 *AD 11,PP/1TA,1TO,3TC,3TD,3TE,3TF,3TJ,3TK,TLX
 *AD 11,PP/1MT,3MG,3MH,3MI,3ML,3MN,3MT
 *AD 11,PP/1IO,1SJ,1SP
 *AD 11,PP/1LS
 *AD 11,ABS/FILES,PFILES,CATLIST,CTL2,CTL3,EDIT,RESEX
 *AD 11,ABS/ACCFAM,MODIFY,LOADER,CHARGE,COPYB,MFILES
 *AD 11,OVL/LDC
 *AD 11,ABS/COMPASS
 *AD 11,OVL/COMP3\$,COMP3\$A,MSORT
 *PROC LIBMOD,GENVAL,GENHELP,MOVEPF
 FL ABS/FTN-6410,ABS/COBOL-6630
 *FL ABS/BASIC-6250,ABS/CDCS2-6565
 *FL ABS/DDI-6540,ABS/DFRCV-6650
 *FL ABS/DDLF-6540,ABS/DML-6540
 *FL ABS/DDI3-6540,ABS/PLI-6600
 *FL ABS/FILE-6030,ABS/ALGOL-6500,ABS/ALGEDIT-6400
 *FL ABS/COPYCL-6370,ABS/COBOL5-6600,ABS/SIFT-6410
 *FL ABS/ESTMATE-6370,ABS/SISTAT-6210,ABS/IXGEN-6650
 *FL ABS/COPY8P-6200,ABS/SORTMRG-6600,ABS/QU-6600
 *FL ABS/REPORT-6420,ABS/ALGOL5-6450
 *FL ABS/F45-6600,ABS/FTN5-6530,ABS/PMDMP-6410
 *FL ABS/CDCSBTF-6515,ABS/NDA-200
 *SC ABS/REPORT,QUMIP,DDLF,DML,CDCSBTF
 *SC ABS/COMPASS,FILE,SYNPL,COBOL5
 *SC ABS/UPDATE,COPYL,ITEMIZE,DFRCV,DFRST
 *SC ABS/ALGOL,COBOL,FTN,ADLP,SORTMRG,SIMULA
 *SC ABS/NDA,NDLP,LFG,REPORTR,SCRIPT,STIM
 *SC ABS/COPY8P,QU,DDL,DDI3,BASIC
 *SC ABS/ESTMATE,SISTAT,IXGEN,ALGOL5
 *SC OVL/RUN
 *SC ABS/DBQRFA,DBQRFI
 *SC ABS/F45,FTN5,DLFP,CDCS2
 *SC ABS/DBMSTRD,DBRCVR

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

NOTE: If RBF or IAF are not being used, the respective entries (1DC and/or 2T0) may be deleted.

SAMPLE IPRDECK

This deck is provided as a reference only.

```
IPRDECK
TDEN=HY.
CSM=64.
LOCK.
EI200.
VALID.
IAF.
QUEUE,SY,IN,OP7757,LP700,UP3000.
QUEUE,SY,RO,OP6000,LP100,UP1000.
QUEUE,SY,OT,OP400,LP100,UP7700.
SERVICE,SY,PR1,CP100,CM20.
QUEUE,BC,IN,OP2400,LP2000,UP4010.
QUEUE,BC,RO,OP2400,LP1010,UP4004.
QUEUE,BC,OT,OP200,LP100,UP7000.
SERVICE,BC,PR30,CP400,CM200.
QUEUE,EI,IN,OP3400,LP2400,UP4010.
QUEUE,EI,RO,OP3400,LP1400,UP4006.
QUEUE,EI,OT,OP200,LP100,UP7600.
SERVICE,EI,PR30,CP400,CM200.
QUEUE,TX,IN,OP4000,LP3770,UP7006.
QUEUE,TX,RO,OP4004,LP3740,UP7000.
QUEUE,TX,OT,OP200,LP100,UP7000.
SERVICE,TX,PR30,CP40,CM10.
QUEUE,MT,IN,OP6774,LP6700,UP7400.
QUEUE,MT,RO,OP6774,LP4000,UP7400.
QUEUE,MT,OT,OP6000,LP100,UP7700.
SERVICE,MT,PR31,CP400,CM60.
QUEUE,NS,IN,OP7374,LP7360,UP7500.
QUEUE,NS,RO,OP7374,LP7350,UP7500.
QUEUE,NS,OT,OP500,LP100,UP7700.
SERVICE,NS,PR73,CP400,CM200.
DELAY,JS1,CS10,AR1000.
DSD,0,MAI%X.QREC(NK)
DSD,3,AUTO.
SCP.
MS VALIDATION.
PF VALIDATION.
SRST=40.
```

13.3 NOS EVALUATION CHANGES TO INSTALLATION DEFAULTS

The following code is installed in the NOS Evaluation System.
It has been provided for reference only.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

TEXT INSTALLATION

The following code allows the LOADER to access ECS.

```
*IDENT ALLOWECS
*I,IPARAMS.15
  IP.MECS  EQU    7777B
*/ END OF MODSET.
```

LOADER INSTALLATION

The following code is used to turn off the LOAD map and to preset central memory to zero(s).

```
*IDENT NOS01
*I LDRCOM.13
  IP.MAP   CEQU    0
  IP.PSET  CEQU    1
*/ END OF MODSET.
```

COBOL4 INSTALLATION

The following code is used to turn on the CDCS (Version 1) option.

```
*IDENT NOS01
  INSERT,ASSEMOP.23
  DB1.1    EQU     1
*/ END OF MODSET.
```

COBOL5 INSTALLATION

The following code is used to turn on CDCS. Set n to 1 for CDCS Version 1 and 2 for CDCS Version 2.

```
*IDENT NOS01
*PURGE DMGMNT
*DELETE CB5TEXT.245
  OP.DCS   CEQU    OP.DCSn      CDCS ACTIVE
*DELETE ASSEMOP.36
  DEF CB5$CDCS      #"CDCSn"#;   #CDCS ACTIVE#
*/ END OF MODSET.
```

The above code should be placed on file USER when installing the product concerned to insure its proper installation if these options are desired.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

13.4.1 Network Host Product

The following code is installed in the NOS Evaluation System.
It has been provided for reference only.

NAM2 (Network Access Method) Installation

```
*IDENT BUILDLEV
*B,HISTORY.2
  BUILDLEV LOCAL MOD TO UPDATE BUILD LEVEL
*C,HISTORY
*D,PSRLEVEL.3
  NAMLV C(1,18,5) = ("518"),
*C,NAMLEV
*/ END OF MODSET.

*IDENT MULTNODE
*/ LOCAL MOD TO ALLOW TWO FRONT ENDS
*/ AND MAXIMUM NODE NUMBER OF 5 AND UP TO 12
*/ APPLICATIONS.
*D INPARU.160
  DEF NUMHNODE#2#;
*D INPARU.161
  DEF MAXAPP#12#;
*D INPARU.163
  DEF MAXNN#5#;
*C INPARU
*/ END OF MODSET.
```

RBF2 (Remote Batch Facility)

```
*IDENT RBFSTAT
*/ TURNS ON RBF BANDWIDTH COUNTER
*DEFINE STAT
*/ END OF MODSET.
```

13.4.2 CMU Installation

If any user wishes to utilize the CMU option for those products
which provide this option, set IP.CMU in IPTEXT.

For example:

```
*IDENT CMUON
*INSERT IPPARAMS.15
  IP.CMU CEQU 1
*COMPILE IPTEXT
*/ END OF MODSET.
```

The following products reference this variable:

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

TEXT

AM SORT/MERGE
COBOL5 COBOL4

Note: CMU installation must be performed on a CMU hardware system if the CMU option is to be utilized.

13.4.3. CYBER 176 Installation

If any user wishes to activate CYBER 176 code for those products which provide this option, set the MODEL micro and HF.LIST micro at IPARAMS.15 in IPTEXT. For example:

The following modset must be placed on file USER when installing TEXT if the CYBER 176 Product Set code is to be activated.

```
*IDENT C176MOD
*INSERT IPARAMS.15
  MODEL      MICRO 1,,*176*
  HF.LIST    MICRO 1,,*P176,S10,L*
*/ END OF MODSET.
```

The following product installation jobs are effected by the MODEL micro being set to 176 and the HF.LIST micro being set as listed.

TEXT
TEXTIO
COMPASS
FCL1
SYMPL
BAM
FTN
FTNTS
FCL2
CCG
CID
FTN5
FCL5

13.5 RECOMMENDED INSTALLATION PROCEDURE

GROUP 0

GROUP 0 jobs create the COMPOSITE OPL. Since none of these jobs assemble code, there is no restriction as to which system they are run under.

GROUP I

GROUP I jobs are to be run in consecutive order. No job should be started until the preceding job has finished.

It is required that a deadstart tape be built at the end of this phase.

GROUP II

No GROUP II job should be started until all jobs in GROUP I have been completed. Jobs in GROUP II are not order dependent. Thus, any number can be running at the same time. Care should be taken that system resources are not overcommitted by running too many installation jobs at once.

GROUP III

Jobs in GROUP III require output that was created by a job in GROUP II. Thus, the GROUP II job must be completed before the corresponding GROUP III job can be started.

It is recommended that a deadstart tape be built at the end of this phase.

The S3 switch can have special meaning in the installation of each product. The COMMENTS section for the product in DECKOPL should be reviewed before the GENJOB CALL is issued. It should be noted that the S3 switch for the SYSTEM job specifies if MSSLIB will be preserved as a permanent file when building MSS.

**** WARNING ****

Do not call GENJOB twice under the same DIS package or in the same SUBMIT job.

The jobs on DECKOPL which used to request REL1A as an auxiliary PL now request SYSOPL. The advantages of this modification are:

1. Local modifications to common decks will be reflected in those products which needed them, such as NAM, RBF, etc.
2. Possible conflicts between NOSTEXT and common decks, such as actually occurred due to critical code at level 501, are avoided.
3. Sites doing installation from disk will no longer have to remember to attach SYSOPL as REL1A in order to avoid COMPASS errors.

GROUP 0 - UPDATE MODIFY PL'S AND CREATE COMPOSITE OPL

PRODUCT	! SWITCH	! PRODUCT	! OTHER	! JOB THAT	!	COMMENTS
	! SETTINGS!	TAPE	! TAPES	! LAST USED	!	
	! S1! S2! S3!	VSN	! REQUIRED	! PRODUCT TAPE!	!	
COMBINE	! 0! 0! 0!	SYSOPL	! All MODIFY!		!	Refer to COMMENTS
	! ! !	! (OUTPUT	! PL's	!	!	section in COMBINE
	! ! !	! ONLY)	!	!	!	for details on its
	! ! !	!	!	!	!	use.
MDYBIN	! ! !	!	!	!	!	Install binaries
	! ! !	!	!	!	!	only.

The procedure COMBINE builds the composite OPL (SYSOPL) by merging the modify PL's into one file. Critical code and user code (if present on file USER) are also added. Suggested code from file 7 of RELO may be installed by placing it on file USER. Before running COMBINE, the *IGNORE directives must be placed on the file IGNORE for each MODIFY product which is not being installed if critical and suggested code is to be applied. The *IGNORE directives required for level 518 are listed below.

<u>PRODUCT</u>	<u>DIRECTIVE</u>
TAFTS, TAFNAM	*IGNORE TAF, COMBDBM, COMKNWC
XEDIT	*IGNORE XEDIT

The procedure MDYBIN can be used if a binary installation is desired.

GROUP I - INSTALL IN CONSECUTIVE ORDER

PRODUCT	! SWITCH ! ! SETTINGS ! ! S1 ! S2 ! S3 !			PRODUCT TAPE VSN	OTHER TAPES REQUIRED	JOB THAT LAST USED PRODUCT TAPE	COMMENTS
TEXT	!	1!	1!	0!	REL1E	!	!
TEXTIO	!	1!	1!	0!	REL1E	!	TEXT
COMPASS	!	1!	1!	0!	REL3A	!	!
UPDATE	!	1!	1!	0!	REL3A	!	COMPASS
LOADER	!	1!	1!	0!	REL1E	!	TEXTIO
SYSTEM	!	1!	0!	0!	SYSOPL (INPUT ONLY)	!	Refer to COMMENTS section in SYSTEM for details on its use (NOS, EI200, MMF, XEDIT, TELEX, TAFTS)
SYSJOB	!	1!	0!	0!	!	!	Note: S2=0.
BCS	!	1!	0!	0!	!	!	Note: S2=0.
BCF	!	1!	0!	0!	!	!	Note: S2=0.
CTI	!	1!	0!	0!	REL2B	SYSOPL	Note: S2=0.
FMD	!	1!	0!	0!	!	!	Note: S2=0.
MTS	!	1!	0!	0!	REL2A	SYSOPL	Note: S2=0.
FCL1	!	1!	1!	0!	REL4C	REL3A	!
	!	!	!	!	!	!	!
SYMPL	!	1!	1!	0!	REL2E	!	!
BAM	!	1!	1!	0!	REL3B	REL1E	!
FTN	!	1!	1!	0!	REL4A	REL3A	Omit if FTNTS installed.
FTNTS	!	1!	1!	0!	REL4B	REL3A	Omit if FTN installed.
FCL2	!	1!	1!	0!	REL4C	REL3A	!
SORT	!	1!	1!	0!	REL6A	!	!
AAM1	!	1!	1!	0!	REL3E	!	!
AAM2	!	1!	1!	0!	REL3E	!	AAM1
DDL2	!	1!	1!	0!	REL11F	!	!
DDL3	!	1!	1!	0!	REL11H	REL3A	!
GENSYS	!	0!	0!	0!	!	!	!

See Group I notes on the following page.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

- NOTE 1: For the TEXT/TEXTIO/LOADER product installation sequence, it should be noted that the output PL (REL1E) created for TEXT should be used as the input PL to the TEXTIO job, and the TEXTIO output should be used as the LOADER input. This also applies to other product set installations where more than one product is on the same output tape. A name in the column "JOB THAT LAST USED PRODUCT TAPE" indicates this situation.
- NOTE 2: The job SYSTEM (Group I and III) assembles the various MODIFY products using SYSOPL. This job should be run after LOADER in Group I and at some time during GROUP III. Each time, only those products specified under COMMENTS should be installed.
- NOTE 3: Run SYSJOB only if CYBERLOG is to be used.
- NOTE 4: Jobs SYSJOB, BCS, BCF, FMD, MTS, and FCL1 produce no output tapes.

GROUP II - INSTALL IN ANY ORDER

PRODUCT	! SWITCH ! ! SETTINGS ! ! S1 ! S2 ! S3 !			PRODUCT TAPE VSN	OTHER TAPES REQUIRED	JOB THAT LAST USED PRODUCT TAPE	COMMENTS
ALGOL4	!	1!	0!	0!	REL7A	!	
ALGOL5	!	1!	0!	0!	REL7B	!	
APL2	!	1!	0!	0!	REL8B	! SYSOPL	! See COMMENTS section ! in APL2.
	!	!	!	!	!	!	
BASIC3	!	1!	0!	0!	REL8A	! SYSOPL/REL3A	!
BIT8	!	1!	0!	0!	REL3D	!	!
CCG	!	1!	0!	0!	REL14B	!	!
CCL	!	1!	0!	0!	REL3B	! BAM	!
CDCS1	!	1!	0!	0!	REL11C	!	!
CDCS2	!	1!	0!	0!	REL11G	! SYSOPL/REL3E	!
	!	!	!	!	! REL11H	!	!
CEDIAG	!	1!	0!	1!	REL2B	! SYSOPL	! CTI
CID	!	1!	0!	0!	REL3F	! SYSOPL	!
CROSS	!	1!	0!	0!	REL13A	!	! S3=1 for 77k.
C4C5	!	1!	0!	0!	REL5D	!	!
DBU	!	1!	0!	0!	REL11D	!	!
F45	!	1!	0!	0!	REL4F	! REL3A	!
FCL5	!	1!	0!	0!	REL4G	! REL3A	!
FDBF	!	1!	0!	0!	REL4D	! REL11H/REL3A	!
FORMAT	!	1!	0!	0!	REL2C	! SYSOPL	!
LCS2	!	1!	0!	0!	REL5B	!	!
NAM2	!	1!	0!	0!	REL12A	! SYSOPL	!
SIFT	!	1!	0!	0!	REL2A	!	!
COBOL5	!	1!	0!	0!	REL5C	!	! Refer to COMMENTS ! section in COBOL5.
	!	!	!	!	!	!	!
COBOL5Q	!	1!	0!	0!	REL5C	!	! See note below.

NOTE 1: Refer to comments section in DECKOPL before using COBOL5Q.

NOTE 2: Set DS=3 when building APL.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

GROUP III - PRODUCTS WHICH ARE DEPENDENT ON A GROUP II JOB

PRODUCT	! SWITCH	! PRODUCT	! OTHER	! JOB THAT	! COMMENTS
	! SETTINGS	! TAPE	! TAPES	! LAST USED	
	! S1! S2! S3!	! VSN	! REQUIRED	! PRODUCT TAPE!	
ALGEDIT	! 1! 0! 0!	REL7A	!	! ALGOL4	!
COBOL4	! 1! 0! 0!	REL5A	!	!	! Install after BIT8.
DCAT2	! 1! 0! 0!	REL11A	!	!	! Install after COBOL5
FCS2	! 1! 0! 0!	REL5B	!	! LCS2	! Install after LCS2.
FTN5	! 1! 0! 0!	REL4E	! REL3A/REL14B	!	! Install after CCG.
FORM	! 1! 0! 0!	REL3D	!	! BIT8	! Install after BIT8.
MCS	! 1! 0! 0!	REL12F	! SYSOPL/REL12A	!	! Install after NAM2.
NPS2	! 1! 0! 0!	REL12D	! SYSOPL/REL12A	!	! Install after NAM2.
PLI	! 1! 0! 0!	REL14A	! REL14B/REL3A	!	! Install after CCG.
QU3	! 1! 0! 0!	REL11E	! SYSOPL/REL11F	!	! Install after DBU
	! ! ! !		! (REL11H can be used	!	! and CDCS2.
	! ! ! !		! place of REL11F)	!	! Refer to COMMENTS
	! ! ! !		!	!	! section in QU3.
RBF2	! 1! 0! 0!	REL12B	! SYSOPL/REL12A	!	! Install after NAM2.
SYSTEM	! 1! 0! 0!	SYSOPL	!	!	! Refer to COMMENTS
	! ! ! !	! (INPUT	!	!	! section in SYSTEM
	! ! ! !	! ONLY)	!	!	! for details on its
	! ! ! !		!	!	! use.
	! ! ! !		!	!	! (IAF, MSS, TAFNAM,
	! ! ! !		!	!	! TOOLS).
SENSYS	! 0! 0! 0!		!	!	! Run after all GROUP
	! ! ! !		!	!	! III jobs have
	! ! ! !		!	!	! completed

CCP INSTALLATION

PRODUCT	! SWITCH !			! PRODUCT	! OTHER	! JOB THAT	! COMMENTS
	! SETTINGS !			! TAPE	! TAPES	! LAST USED	
	! S1 !	! S2 !	! S3 !	! VSN	! REQUIRED	! PRODUCT TAPE !	
CCPBASE	!	!	!	!	!	!	!
CCPDIAG	!	!	!	!	!	!	! (OPTIONAL)
CCPREMT	!	!	!	!	!	!	! (OPTIONAL)
CCP2550	!	!	!	!	!	!	!
	!	!	!	!	!	!	! DEF=OLDIAG
	!	!	!	!	!	!	! DEF=REMOTE
	!	!	!	!	!	!	! DEF=BOTH
CCPVAR	!	!	!	!	!	!	!
	!	!	!	!	!	!	! DEF=OLDIAG
	!	!	!	!	!	!	! DEF=REMOTE
	!	!	!	!	!	!	! DEF=BOTH
CCPLOAD	!	!	!	!	!	!	!
CCPEDIT	!	!	!	!	!	!	! (OPTIONAL)

1. CCP installation should be done sequentially starting with CCPBASE and ending with CCPLOAD.
2. If ON-LINE DIAGNOSTICS or the REMOTE CONCENTRATOR have not been ordered, those installation steps can be skipped (i.e. jobs CCPDIAG and CCPREMT).
3. CCPVAR should be run to create NODEs two through n for a multi-node network. CPPVAR uses binaries (containing all of the various TIPS) created by CCP2550.

WARNING...

CCP2550 and CCPVAR modify the file *L2550*. For more than one NODE, this name must be changed to be unique for each NODE in the NETWORK.

4. CCPEDIT has been provided to update the tape REL13C without going through a complete build. Knowledge of the use of MPEDIT is required.
5. DF63=63CSET should be defined for 63 character installations.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

PRODUCT	! SWITCH ! ! SETTINGS !	! PRODUCT ! ! TAPE !	! OTHER ! ! TAPES !	! JOB THAT ! ! LAST USED !	! COMMENTS
	! S1 ! S2 ! S3 !	VSN	! REQUIRED	! PRODUCT TAPE !	
VAAM	! 0! 0! 0!		!	!	!
VALGDT	! 0! 0! 0!		!	!	!
VALGOL	! 0! 0! 0!		!	!	!
VALGOL5	! 0! 0! 0!		!	!	!
VAPL2	! 0! 0! 0!		!	!	!
VBAM	! 0! 0! 0!		!	!	!
VBASIC3	! 0! 0! 0!		!	!	!
VBIT8	! 0! 0! 0!		!	!	!
VCDCS1	! 0! 0! 0!		!	!	!
VCDCS2A	! 0! 0! 0!		!	!	! Read NOTE 2 below.
VCDCS2B	! 0! 0! 0!		!	!	!
VCID	! 0! 0! 0!		!	!	!
VCOBOL4	! 0! 0! 0!		!	!	!
VCOBOL5	! 0! 0! 0!		!	!	!
VCROSS	! 0! 0! 0!	REL13A	!	!	!
VC4C5	! 0! 0! 0!	REL5D	!	!	!
VDBU	! 0! 0! 0!		!	!	!
VDDL2	! 0! 0! 0!		!	!	!
VDDL3	! 0! 0! 0!		!	!	!
VFCS2	! 0! 0! 0!	REL5B	!	!	!
VFDBF	! 0! 0! 0!		!	!	!
FORM	! 0! 0! 0!		!	!	!
FTN	! 0! 0! 0!		!	!	!
VFTNTS	! 0! 0! 0!		!	!	!
VFTN5	! 0! 0! 0!		!	!	!
VF45	! 0! 0! 0!		!	!	!
VJOBS	! 0! 0! 0!		!	!	! Submits all
	! ! ! !		!	!	! verification jobs
	! ! ! !		!	!	! except VCDCS2A
	! ! ! !		!	!	! and VCDCS2B.
VLCS2	! 0! 0! 0!	REL5B	!	!	!
VMCS1A	! 0! 0! 0!		!	!	!
VMCS1B	! 0! 0! 0!		!	!	!
VNPS2	! 0! 0! 0!		!	!	!
VPLI	! 0! 0! 0!		!	!	!
VQU3	! 0! 0! 0!		!	!	! Run as batch
	! ! ! !		!	!	! job only.
VSORT	! 0! 0! 0!		!	!	!
VSYMP	! 0! 0! 0!		!	!	!

NOTE 1: VJOBS sets the output ID to 30 so that all the verification output can be put on one printer.

NOTE 2: The verification of CDCS2 is a multi-step process which is outlined in the COMMENTS Section of VCDCS2A.

SOFTWARE RELEASE BULLETIN FOR LEVEL 518/518

NOTE 3: The user card and charge card for the installation user index should be on the file USER for VJOBS.

NOTE 4: When running VJOBS, the densities of the output tapes from other jobs may not match the densities on the request cards. To avoid a mismatch, use the 800=X and MT=Y parameters on the GENJOB call to VJOBS.

14.0 INSTALLATION RESPONSE FORM

NOS Field Support maintains a site list of the sites using NOS. In order that we can represent the customer base more effectively, we ask that you fill out the form found below and return it to Field Support. Thank you.

- - - - -

SITE NAME AND CODE _____

SITE ADDRESS _____

CONTACT _____

DATE _____

This site has installed NOS 1.4 Level 518 and is currently using it in a production environment.

Communications software being used:

() TELEX () IAF

() EI200 () RBF

Please return to:

NOS FIELD SUPPORT - ARH213
CONTROL DATA CORPORATION
4201 Lexington Avenue North
St. Paul, MN 55112

ADDENDUM FOR MASS STORAGE SUBSYSTEM (MSS)

I. Description

This feature provides support for the Mass Storage Facility (MSF) hardware product by allowing direct access permanent files to reside on MSF instead of traditional rotating mass storage (RMS or disk) devices when the file is not being accessed. Control over which files reside on MSF is done by site operations personnel via the ASMOVE utility. Files on MSF are automatically restored to disk residency when attached by an authorized user. Terminal users may experience a short delay while the file is being retrieved. Options to the DEFINE and CHANGE statements are provided so a user may indicate that a particular file is appropriate for being MSF resident and should, therefore, receive special consideration by the file migration algorithm.

Refer to the System Maintenance Reference Manual for more detailed information of MSS software.

II. Compatibility

The introduction of the MSS capability will not require that any changes be made by end users. Permanent files will become MSF resident under the site's control via the ASMOVE utility and will be automatically restored to disk when the file is attached. A terminal user may experience a few seconds delay while the file is being retrieved from MSS.

III. Notes and Cautions

Modification to operational procedures for permanent file backup and recovery will be required. The major change will be elimination of the use of full dumps of all permanent files cataloged on a device, due to the expected increase of the size of the permanent file base, and new techniques for managing the retention of old dump tapes. This is discussed in greater detail in the System Maintenance Reference Manual.

The RT (real time) parameter on an ATTACH utilizes a bit previously unused by the system. This is bit 43 in word 1 of the FET. If any user currently uses this bit, setting it will have the effect of specifying the RT parameter.

1. CMRDECK ENTRIES

The Mass Storage Subsystem (MSS) hardware consists of a cartridge storage unit (CSU), a cartridge selector and one to four cartridge transports. The selector and each transport (one to four transports per selector) is represented by a unique EST entry in the CMRDECK. The EST entries for the transports on a CSU must immediately follow the EST entry for the selector of that CSU. The EST entries for the selector and transports represent the entries in the EST for a given CSU.

NOTE: There must be no other EST entries between the entries (selector and transports) representing a CSU.

A. MSS CARTRIDGE SELECTOR ENTRY

The following is the CMRDECK entry description for the MSS Cartridge Selector:

EQord	=	CS, Status, equipment, unit, channel, 0, CSU index, MSA MSID, unit MSID.
Where: ord	=	octal EST ordinal of equipment (1 through 75).
CS	=	Equipment type for MSS selector.
status	=	Specifies whether equipment is available for use (ON or OFF).
equipment	=	1 character octal number of MSS channel coupler (0-7).
unit	=	2 character octal number of MSS cartridge selector (0-37). This is the port number on the MSA to which the selector is connected.
channel	=	octal channel number (0-13, 20-33).
CSU index	=	1 or 2 character letters used by MSS EXEC to identify the CSU (A-M).
MSA MSID	=	1 to 2 character octal number (0-17).
unit MSID	=	1 to 3 character octal number (0-377).

B. MSS CARTRIDGE TRANSPORT ENTRY

The following is the CMRDECK entry description for the MSS Cartridge Transport:

EQord	=	CT, status, equipment, unit, channel, 0, CSU position, MSA MSID, unit MSID.
Where: ord	=	octal EST ordinal of equipment (1 through 75).
CT	=	Equipment type for MSS transport.
status	=	Specifies whether equipment is available for use (ON or OFF).
equipment	=	1 character octal number of MSS channel coupler (0-7).
unit	=	2 character octal number of MSS cartridge selector (0-37). This is the port number on the MSA to which the selector is connected.
channel	=	octal channel number (0-13, 20-33).
CSU position	=	1 character octal number specifying the physical position of the transport in the CSU; (0-3).
MSA MSID	=	1 to 2 character octal number (0-17).
unit MSID	=	1 to 3 character octal number (0-37).

C. EXAMPLES OF CMRDECK ENTRIES

The following are examples of CMRDECK entries for selector and transport.

Selector	-	EQ35=CS,ON,0,6,27,0,B.11,0.	MSS-CSU B
Transport	-	EQ36=CT,ON,0,0,27,0,0,11,0.	MSS-B0
		EQ37=CT,ON,0,2,27,0,2,11,2.	MSS-B2

2. IPRDECK ENTRIES

A. The following are the IPRDECK entries needed for the Mass Storage Subsystem (MSS):

MSS.	=	Toggles the setting for bringing up MSSEXEC on an AUTO command (default = OFF).
MSS MASTER.	=	Toggles between master and slave (default = master).
FILE STAGING.=		Toggles between staging and aborting MSF resident file requests (default = ON).

MSS OUTSTANDING PROBLEMS

NSOE244

NSOE282

MSS Utilities do not return local files when terminating.

NSOE337

MSSEXEC aborts in MSFINIT if a CSUMAP is not attached.

NSOE320

MSSEXEC allocator sometimes causes unnecessary scatter of MSF files.

NSOE291

If an MST is turned off while EXEC is trying to initialize it, MSSDRVR will abort with a GETDEV3 error.

NSOE257

Files attached with the RT parameter tend to get staged in twice.

NSOE335

ASVAL does not report CSUMAP/MSF catalog mismatch in some circumstances.

NSOE295

MSSDRVR sometimes turns off equipment which will run ok if used singly.

NSOE065

If the MSF coupler is reserved by another mainframe, MSSEXEC does not report it.

NSOE042

If the MSA controlware is faulty, MSSEXEC may loop.

NSOE179

If PFDUMP needs to dump an MSF catalog that MSSEXEC is using for file destaging, MSSEXEC won't give up (return) the catalog until all the destaging is completed.

NSOE190

If ASLABEL adds cartridges to a CSU which has no EST entry, MSSEXEC may abort with an illegal instruction.

NSOE310

The ASVAL report of discrepancies between CSUMAP and MSF catalog is confusing.

MSF DOCUMENTATION DEFICIENCIES

1. The IHB description of EST entries for MSF equipment should state that a slave mainframe must have a CS entry even though no MSF hardware is configured.
2. The NOS Reference manual volume description for ATTACH should state that if a job tries to ATTACH an "MSF only" file that is not immediately accessible because the MSF hardware is down, or because the cartridge has been misplaced, the job will not be aborted but will stay in the system retrying the ATTACH approximately every 3 minutes.

3. The NOS OPERATORS GUIDE description for dismounting a mass storage device should state that if MSSEXEC is active it must be idled before unloading a removable family pack which has MSS files.
4. The NOS OPERATORS GUIDE description for n.IDLE should state that the MSS subsystem (MSSEXEC) will terminate when no stage or destage requests are outstanding and no MSS utilities are connected.
5. The System Reference Maintenance Manual (SMRM) description of MSF error conditions and corrective actions states in Method 2 for permanent file recovery that ASVAL will clear the ASA. This is incorrect. ASVAL sets the ASOBS flag instead in this circumstance.
6. The SMRM description of an MSF CATALOG preamble should state that the first word of the header is followed by the first word of each of the subcatalog entries. These are then followed by the second word of the header which is followed by the second word of each of the subcatalog entries.
7. The NOS OPERATORS GUIDE description of the action required for message "SLVi MTOSPFN xxxx." should state that:
 - a) If xxxx is "NO MID MATCH", the action required is to idle MSSEXEC on the master mainframe and then restart it while the slave EXEC remains running.
 - b) If xxxx is "ATTACH PROBLEM", the action required is to start MSSEXEC on the master mainframe while the slave remains running, unless MSSEXEC is already running on the master mainframe. If MSSEXEC is already running on the master mainframe, the action required is to first idle MSSEXEC on both the slave and master mainframes, then purge the MTOSPFN file, then restart MSSEXEC on the slave mainframe and then on the master mainframe.
 - c) If xxxx is "LENGTH PROBLEM", the action required is to inform the site analyst.

```

MSS
SUI(377760)
PURGE(LOGFILE,OLDLOG1,OLDLOG2,OLDLOG3,OLDLOG4/NA)
MSSEXEC(TM)  CALL TO EXEC.
** THE INITIAL EXECUTION OF MSSEXEC CAN TERMINATE WITH
** REGISTER *R1* SET TO ONE OF THREE VALUES.
**   R1=0, INDICATES A TERMINATION DUE TO AN
**       ABORT CONDITION, OR IN RESPONSE TO AN IDLE
**       REQUEST.
**   R1=1, INDICATES THAT THE OPERATOR KEYED IN A
**       *DISABLE=MSS MASTER* COMMAND AND THAT THE
**       *MSSSLV* PROGRAM SHOULD BE IN COMMAND.
**   R1=2, INDICATES THAT A READ ERROR OCCURRED ON A FILE
**       CONTAINING PART OF EXEC-S FIELD LENGTH.  SINCE
**       EXEC CANNOT CONTINUE TO RUN, IT NEEDS TO BE
**       RESTARTED.
**
IFE(R1=1,SLAVE)
MSSSLV.  CALL THE SLAVE EXEC.
ENDIF(SLAVE)
**
IFE(R1=2,RESTART)
WHILE(R1=2,RES)
SET(R1=0)  FORCE TERMINATION UNLESS EXEC RESETS R1=2.
MSSEXEC.  RESTART EXEC.
ENDW(RES)
ENDIF(RESTART)
** NORMAL TERMINATION OF MSS PROCESSING.
DAYFILE.
EXIT.
DMD.
DMD(0,120000)
REWIND(*,OUTPUT)
TDUMP(I=OLDLOG4,0)
TDUMP(I=OLDLOG3,0)
TDUMP(I=OLDLOG2,0)
TDUMP(I=OLDLOG1,0)
TDUMP(I=LOGFILE,0)
TDUMP(I=MSSROLL)
DAYFILE.

```

8. The MSS procedure file on p. 6-5 of the IHB Rev. R should be replaced by the following:

MSS ERROR RECOVERY TRACE FILES

MSS error recovery activity is recorded in push-down fashion in five files named LOGFILE, OLDLOG1, OLDLOG2, OLDLOG3 and OLDLOG4 on the default family. In addition, file MSSROLL contains a snapshot of MSSEXEC's FL prior to its last FC reduction. A TDUMP of these files (together with other support materials) should be included with all PSRs submitted against the MSS subsystem.

The error recovery trace files contain extensive additional detail if sense switch 1 is on while the trace files are being written. Thus, it will be helpful if sense switch 1 is turned on while gathering support materials to document a problem.

It is planned that this trace file facility will be deleted in a future release when HPA processing of MSS maintenance log output is in place.

MSS Suggested Code

All MSS related mods on the suggested code file are specified at the beginning of section 10.0.