Data General

Software Release Notice

AOS/VS II Release Notice

085-000930-08

Model Number 31585

Revision 3.10

2 September 1994

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1 Introduction

AOS/VS II, Model 31585, can be used in two very different ways. "Regular" AOS/VS II means that you load and install the AOS/VS II software and tailor your system according to the procedures documented in the manual "Installing, Starting, and Stopping AOS/VS II". "Preinstalled" AOS/VS II has the following meaning:

* Preinstalled AOS/VS II, as its name implies, comes already loaded and set up for use.

* Preinstalled AOS/VS II has the menu-driven System Management Interface (SMI) environment enabled; and

* You follow the procedures in either the manual "Starting and Updating Preinstalled AOS/VS II" or the manual "Starting and Updating Preinstalled AOS/VS II on ECLIPSE MV/3000 DC and ECLIPSE MV/5000 DC Series Systems."

Note: If your system is a new ECLIPSE MV/3200 DC, MV/3500 DC, MV/3600 DC, MV/5500 DC, or MV/5600 DC computer, it comes with AOS/VS II Revision 3.10 preinstalled. Do not load and install AOS/VS II Revision 3.10 because you will erase the preinstalled system software.

This release notice reports on enhancements and changes as well as notes and warnings about using AOS/VS II. It directs you in loading, installing, and bringing up revision 3.10. If you have been running AOS/VS, this notice will also guide you in upgrading from AOS/VS to AOS/VS II. Some of this information does not appear in other AOS/VS II documentation.

This product consists of the following parts:

Part Description	Part Number
AOS/VS II Revision 3.10 release notice	085-000930-08
AOS/VS II Revision 3.10 release media	See Section 7 of this release notice

This printed release notice always accompanies the software. After you have installed the product, you can print additional copies of this notice. Its pathname is :UTIL:085_000930_08.   Please note that the printed notice takes precedence over the notice on the medium.

2 Product Description

AOS/VS II (Advanced Operating System/Virtual Storage II) is a sophisticated, multi-user, virtual memory operating system that supports the full range of ECLIPSE MV/Family computers.

AOS/VS II features complete application compatibility with AOS/VS, and can be configured to handle a variety of user environments. During installation, the system manager tailors the operating system to the specific hardware configuration.

Other elements of AOS/VS II include eight-level, process-protected ring structure; demand-paging, virtual memory management capabilities; multi-programming and multi-tasking techniques; and utilities to simplify program development and system management.

3 Environment

3.1 Hardware and Microcode

1) To run AOS/VS II, your system must have at least 4 Mbytes of memory (5 Mbytes if you are also running one or more of XTS II, AOS/VS II TCP/IP or DG/OTS).

2) If you have MRC disk controllers, AOS/VS II 3.10 requires the following controller microcode revisions:

   * MRC disk controllers for model 6236, 6239, and 6357 class disks must use controller code revision 5.33 or greater.

   * MRC disk controllers for model 6581, 6588, 6589, and 6221 class disks must use controller code revision 5.21 or greater.

   If your MRC disk controller code is not at the required revision level, ask your field engineer to use MOST Rev 5.00 or greater to install the latest version of controller microcode.

3) If you use a MRC SCSI-2 adapter (model 6823) to run a system disk on a MV/40000 system, use CI microcode revision 8.00.01 or greater.

4) Combined Storage Subsystems (CSS) configurations with model 6433 or model 6435 controllers should be upgraded to revision 11.03 firmware or greater if the CSS is configured with tape devices. This firmware is required to assure all tape errors are reported correctly. It is also required to use the full capacity of 150-Mbyte or greater cartridge tape devices when using the DUMP_II and LOAD_II programs.

5) To use the /FASTFORWARD feature of DUMP_II and LOAD_II, Combined Storage Subsystems (CSS) configurations with model 6433 or model 6435 controllers should be upgraded to revision 13.15 firmware or greater (for 6433 controllers) or revision 12.19 firmware or greater (6435 controllers) if the CSS is configured with tape devices.

6) Preinstalled AOS/VS II comes with the proper revision of
   microcode already installed. If you are running Regular
   AOS/VS II, you must load system microcode as described in
   chapters 2 and 8 of the manual "Installing, Starting, and
   Stopping AOS/VS II" (093-000539). The microcode revision your
   system will need varies depending on your configuration. The
   following list shows the latest revisions of microcode
   available. AOS/VS II is qualified with these revisions, and
   will work with later revisions.

Computer	Microcode Revision	Additional Notes
MV/1000 DC	12.00	
MV/1400 DC	12.00	
MV/2000 DC	10.00	Level A
MV/2000 DC (enhanced)	12.00	
MV/2500 DC	8.00	
MV/3200 DC, MV/3500 DC, and MV/3600 DC	53/85	Dependent on the revision of the processor chip set
MV/4000	13.00	Models 8468, 8469, 8760, and 8761
MV/4000-class	13.00	Models 8764 and 8765
MV/5500 DC	53/85	
MV/5600 DC	53/85	
MV/6000	11.00	No hardware floating point
DS/7500	10.00	
DS/7500 (enhanced)	12.00	
MV/7800, MV/7800 DC, MV/7800 U, MV/7800 C	11.00	
MV/7800 DCX, MV/7800 XP	5.00	

MV/8000, MV/8000 II, MV/8000 C	11.00 9.00	No hardware floating point With hardware floating pt Model 9300 with ATI is not supported.
MV/9300	2.00	
MV/9500	5.12	
MV/9600	2.00	
MV/10000	9.00	Model 8780
MV/10000 SX	9.00	Model 8880
MV/15000 Models 8, 10, and 20	8.00	
MV/18000	3.00	
MV/20000	13.00	
MV/25000	64	
MV/30000	35, 67, or 99	Dependent on the rev of the processor chip set. All revs are equally valid.
MV/35000	64	
MV/40000	12.3	IDOS revision
MV/40000 HA	12.3	IDOS revision
MV/60000 HA	3.00	

7) If you have a TERMCONTROLLER, the following minimum revisions
   are required to assure proper functioning with AOS/VS II.

    * If you have an ITC-128 or LTC-64 and you are running the
      XNS protocol, you should use revision 22026 (or greater)
      "TermController Software XNS" (models 30077, 30085,
      30074, 30075).

    * If you have an ITC-128 or LTC-64 and you are running the
      TCP/IP protocol, you should use revision 3.37 (or
      greater) "TermController Software" (models 30070, 30072,
      30073, 30076).

    * If you have an ITC-128A and booting from the TermManager,
      you should use revision 6.0 (or greater) "TermController
      Software ITC/128-A TCP/IP" (model 30215).

    * If you have an ITC-128A and booting from the host, you
      should use revision 6.0 (or greater) "TermController
      Software ITC/128-A TCP/IP Host Boot" (model 30216).

3.2 Software

1) Location of System Files

   AOS/VS II and many system programs in the root (:) expect to
   find system files in a particular directory structure. You
   should not rename system files or directories, or create links
   to them, unless specifically advised that you can do so.
   Otherwise, AOS/VS II may not work properly.

2) ONC/NFS Requirement

   AOS/VS II ONC/NFS users must run revision 1.30 of AOS/VS II
   ONC/NFS with AOS/VS II 3.10.

3) QNET.LB Requirement

   If you are using XTS II, AOS/VS II TCP/IP, or DG/OTS with
   AOS/VS II 3.10, you must build your system file with the
   QNET.LB that is part of Core XTS II 2.30 or a later revision.
   Revision 2.30 of QNET.LB is included in XTS II 2.30, AOS/VS II
   TCP/IP 1.30, and DG/OTS 1.30.

4) NVT Requirements for NPSD and QNET.LB

   NVT does not require NetWare services in order to run. It
   does, however, require the NetWare Portable Streams Daemon
   (NPSD) that is part of the NetWare Transports For MV/Family
   Systems. And NVT requires QNET.LB from the Core XTS prerequi-
   site product.

5) System Memory With XTS and TCP/IP

   Some AOS/VS programs, like XTS (Models 3990 and 30858), cannot
   run on systems with more than 128 Mbytes of memory. TCP/IP
   (Model 30997) cannot run on a system whose CPU type can
   support more than 128 Mbytes of memory even if the system
   currently has less memory. In either case, you may want to
   replace these AOS/VS products with the faster AOS/VS II
   ring0-based versions, XTS II (Model 31641) and TCP/IP (Model
   31758).

6) Model 6823 MRC SCSI-2

   If you are using the model 6823 MRC SCSI-2 disk and tape
   controller, you will need revision 6.00 (or a later revision)
   of the performance package.

7) ERMES Object Files

AOS/VS II ships with up-to-date error messages in the ERMES file and the related .OB files for AOS/VS II and its utilities. These .OB files can be found in :UTIL and include the error and diagnostic messages from both DGC language products used to build AOS/VS II and their language runtime environments.

If you rebuild your system's ERMES file (using the macro LINK_ERMES.CLI or your own tailored macro), the following language and runtime .OB files will be included, unless you update these with ERMES files obtained from more current revisions of the language or runtime product.

Product	.OB File	Revision
C	CERMES.OB	4.10
Common Language Runtime Environment	CLREERMES.OB	3.12
DGL	DGLERMES.OB	3.20
F77	F77ERMES.OB	4.10
LANG_RT	LANG_RTERMES.OB	3.53
PL/1	PL1ERMES.OB	2.52
PL/1 16	PL1ERMES16.OB	3.12

8) Patches to Resolve AOS/VS II System File Problems

Patchkit :UPDATE:3.10:3.10_AOSVSII_PAT contains a variety of fixes which must be applied to your AOS/VS II system file. The comments in the patchkit describe each of the individual patches. As needed, some of the patches are conditional; they only apply to system files built with certain VSGEN options or with certain libraries that provide kernel support for related products.

9) Patches to Resolve Problems with Other Products

There are patchkits in directory :UPDATE:3.10 for the following programs, which are not part of the AOS/VS II product, to resolve problems running these programs with AOS/VS II Rev 3.10. Each patchkit includes installation instructions and a description of the problem fixed by the patchkit.

Program Name	Patch Name
FTA.PR	5.50_FTA.PR_PAT
LOAD_3.PR	3.10_LOAD_3.PR_PAT
SVTA.PR	5.50_SVTA.PR_PAT
TPMSCCP.PR	3.51_TPMSCCP.PR_PAT

10) Patches to Enable AOS/VS II Options

There are patches in directory :UPDATE:3.10 which enable
certain options. The patchkits apply to either the AOS/VS II
system file or to one of the AOS/VS II program files. Each
patchkit includes installation instructions and a description
of the option provided by the patchkit.

3.10_AOSVSII_BCDLY_OPAT
3.10_AOSVSII_C2_OPAT
3.10_AOSVSII_CSS.BOOT_OPAT
3.10_AOSVSII_DISCONNECT_OPAT
3.10_AOSVSII_IAC24.CONS_OPAT
3.10_AOSVSII_MIXED.IO_OPAT
3.10_AOSVSII_MV78.SPTE_OPAT
3.10_AOSVSII_SCALL.CHARGE_OPAT
3.10_AOSVSII_SEA.ENTRIES_OPAT
3.10_AOSVSII_TCPIP.BCAST_OPAT

3.10_AGENT.PR_GIGATAPE_OPAT
3.10_AGENT.PR_RECREATE_OPAT

3.10_EXEC.PR_NULL.DELIM_OPAT

3.10_XLPT.PR_CLEANUP.ALL_OPAT
3.10_XLPT.PR_EMPTY.FULL_OPAT

3.10_XMNT.PR_DELAY_OPAT

3.10_XXXRS.PR_ESBB_OPAT
3.10_XXXRS.PR_VT100.DIM_OPAT

11) C2 Security

If you want to use AOS/VS II as a C2 secure system, follow the
guidelines in chapter 12 of "Managing AOS/VS and AOS/VS II",
part number 093-000541-03. Also, system patchkit
3.10_AOSVSII_C2_OPAT must be installed. This is the only
optional AOS/VS II patchkit that is approved for use on a
C2-level system.

4 Enhancements and Changes

This section lists all enhancements to AOS/VS II since Revision 3.01. The "Changes" section lists differences since Revision 3.01.

4.1 Enhancements

1) New Hardware Support:

   a) The new MV/25000 is supported, both single and dual JP.

   b) Three new SCSI-2 disks are supported, model 61005 (1 GB), model 61006 (2 GB), and model 61007 (4 GB).

   c) A new SCSI-2 disk array with 10 disks is supported, model 78100. Capacity is 20 GB.

   d) A new SCSI-2 8 mm cartridge tape is supported, model 61004. Capacity is 7 GB uncompressed, or up to 14 GB compressed.

   e) A new SCSI-2 4 mm cartridge tape is supported, models 6885 and 6886. Capacity is 4 GB uncompressed, or up to 8 GB compressed.

   f) A new SCSI-2 4 mm cartridge tape array, with 7 tapes, is supported, model 7931. Capacity is 24 GB uncompressed, or up to 48 GB compressed.

2) AOS/VS II System Enhancements:

   a) AOS/VS II now offers support for up to 16 directories in a searchlist, instead of just 8 directories, as in previous revisions. This support is optional; by default, AOS/VS II only allows 8 directories in a searchlist. However, if you want to allow all users and all processes to have up to 16 directories in their searchlists, then you can enable this support by installing the optional patchkit 3.10_AOSVSII_SEA.ENTRIES_OPAT.

   Using more than 8 directories in your searchlist will tend to make your searchlists longer than in the past. Some applications may not be able to handle these longer searchlists, or more than 8 directories in the searchlist. If you install this patch, and find that it causes problems in some applications, then you cannot use this option.

Note that in AOS/VS II the ?SLIST and ?GLIST system calls have no limit on the byte length of a searchlist. This is different from AOS/VS, which imposes a limit of 512 bytes for the searchlist length.

b) The ?CHAIN system call now allows you to pass the current grouplist. This is controlled by bit 29 in AC1 —

bit 29 = 0 to pass process's initial grouplist
      (as in previous revisions)

bit 29 = 1 to pass process's current grouplist
      (new in revision 3.10)

The manual "AOS/VS, AOS/VS II, and AOS/RT32 System Call Dictionary, ?A Through ?Q" (part number 093-000542-02) was updated via the documentation changes file to describe this new feature.

3) CLI32 Enhancements

a) CLI32 now supports a larger searchlist length limit, 4128 bytes, for handling searchlists.

On a command to set the searchlist, CLI32 now makes sure the specified directories don't total more than this searchlist length limit. If they do, it gives the new error "Searchlist too long."

On a command to get the searchlist, CLI32 now handles the case that the entire searchlist doesn't fit in the buffer, under AOS/VS II. In this case, it prints the error "Insufficient room in buffer".

b) The QDISPLAY command will now display the "X" flag when a job has been queued with the /PASSTHRU switch.

c) The CHAIN command now accepts the /GROUPLIST switch. This may be used if you want the current group list passed to the new program. If this switch is missing, the initial group list is passed to the new program.

The manual "Using the CLI (AOS/VS and AOS/VS II)" (part number 093-000646-01) was updated via the documentation changes file to describe this new feature.

4) DJ Enhancements:

   a) Disk Jockey now supports POLISH scripts for polishing
      LDUs noninteractively. The stand-among Disk Jockey can
      take its input from a script file. This script file
      contains all the information that Disk Jockey normally
      would obtain by requiring you to fill in Disk Jockey
      screen fields interactively.

      Previously, the POLISHER utility provided a means for
      polishing LDUs noninteractively. Disk Jockey POLISH
      scripts are now recommended for polishing LDUs noninter-
      actively because this provides safer and better control
      of error conditions. With POLISH scripts, the user can
      optionally interact with Disk Jockey to respond to
      questions related to error conditions. With the POLISHER
      utility, such conditions resulted in POLISHER hangs.

      If you have been using the POLISHER utility, you should
      convert over to Disk Jockey POLISH scripts to take
      advantage of the improved support for polishing LDUs.
      The POLISHER utility is still included with AOS/VS II
      3.10, but this is the last revision that will include the
      POLISHER utility.

      The design of POLISH scripts is very similar to LDCOPY
      scripts. In fact, both POLISH and LDCOPY sections can be
      included in the same Disk Jockey script.

      The manual "Installing, Starting, and Stopping AOS/VS II"
      (part number 093-000539-04) was updated via the documen-
      tation changes file to describe this new feature.

5) FSCOPY Enhancements:

   a) FSCOPY now supports backing up multiple LDUs to the same
      set of one or more tape volumes. Each time FSCOPY is
      executed, it can back up only one LDU. But a subsequent
      FSCOPY can back up another LDU to the same tape set.
      Unique ANSI tape labels distinguish the multiple LDUs on
      the same tape set.

      The /TAPEFILEID=label switch is used to specify the label
      used to identify an LDU backup on a tape set. If you use
      the /TAPEFILEID=label switch to back up an LDU, you must
      also use the same switch for restore operations. The
      /TAPEFILEID switch should not be used when restoring from
      a tape created by AOS/VS II 3.01 FSCOPY.

Before writing an LDU backup to a tape set, FSCOPY normally searches for any previous LDU backups on the tape set to check for expiration dates and for TAPEFILEID label uniqueness. To save time, you can have FSCOPY skip these checks by using the /SEQUENTIAL=pathname switch. This switch directs FSCOPY to save information about the state of the tape set in the specified pathname.

Chapter 6 of the manual "Managing AOS/VS and AOS/VS II" (part number 093-000541-03) was updated via the documentation changes file to describe this new feature. Also, the FSCOPY HELP file, CLI.TPC.FSCOPY, was updated appropriately.

b) FSCOPY now provides an option to skip bad blocks that are encountered while reading from disk during backup, or while reading from tape during restore operations. The /SKIPBADBLOCKS switch enables this new feature.

Chapter 6 of the manual "Managing AOS/VS and AOS/VS II" (part number 093-000541-03) was updated via the documentation changes file to describe this new feature. Also, the FSCOPY HELP file, CLI.TPC.FSCOPY, was updated appropriately.

6) PREDITOR Enhancements:

a) PREDITOR now supports a /NOECHO switch. Use this switch if, for security reasons, you want to prevent PREDITOR from echoing passwords on your terminal when creating or editing user profiles. The /NOECHO switch may be used to specify this option when you execute PREDITOR, with :UTIL in your searchlist, as follows:

) XEQ PREDITOR/NOECHO

When this option is used, PREDITOR confirms the correct entry of a password by prompting the user to reenter the password.

Two manuals were updated via documentation changes files to describe this new option, namely: "Installing, Starting, and Stopping AOS/VS II" (part number 093-000539-02) and "Managing AOS/VS and AOS/VS II" (part number 093-000541-03).

7) Terminal Services Enhancements:

   a) AOS/VS II has added the capability for a PID 2 or a user
      with SYSTEMMANAGER privilege mode turned on to initiate
      an IAC Dump/Reboot sequence. This feature is supported
      by all IAC's that currently support the Automatic Reboot
      functionality after an IAC failure.

      The new functionality is accessed via two new options to
      the ?CLRDV system call, that are passed via AC2 IN:

         ?CDRENG - Dump/Reboot Engine associated
                   with this CONSOLE

         ?CDRCNTL- Dump/Reboot Controller associated
                   with this CONSOLE

      CLI32 has added two new switch options to the CLEARDEVICE
      command:

         CLEARDEVICE/RENG - Dump/Reboot engine associated
                             with this console

         CLEARDEVICE/RCNTL - Dump/Reboot controller associated
                             with this console

      For more information on the above functionality, please
      refer to the following manuals, updated via documentation
      changes files:

         093-000541-03 - Managing AOS/VS and AOS/VS II
                         ("Operator Initiated IAC Reboot"
                         section of chapter on
                         "Improving System Availability")

         093-000542-02 - AOS/VS, AOS/VS II, AOS/RT32 System
                         Call Dictionary, ?A through ?Q.
                         (?CLRDV System Call)

         093-000646-01 - Using the CLI(AOS/VS and AOS/VS II)
                         with addendum 086-000200-00.
                         (CLEARDEV command)

4.2 Changes

1) AOS/VS II Changes:

   a) A problem was fixed that caused the SYSLOG, ERROR_LOG, and CONO_LOG files to lose records when the system crashes and ESD is not run. These records were lost because the end-of-file for these files was not updated. AOS/VS II now updates the end-of-file of these three log files on disk every time it writes out a buffer full of data. Now the most that will be lost is one buffer.

   b) A masking problem in the Power Fail Restart code that caused the device codes reported for Restarted IAC's to always reflect IOC 0, has been corrected.

   c) AOS/VS II has corrected a problem, where a hung process termination would result in a hang of its parent process, which was usually EXEC. A problem with remote ?SEND's that could cause the child termination to hang has also been corrected.

   d) A problem with process termination cleanup which could have caused 25030 panics when a process tried to ?CHAIN after making a ?MRCDEF call has been fixed.

   e) A problem has been fixed in large memory systems that caused PANIC 24015 when full detail logging was turned on.

   f) When a ?PROC was done in a directory that the user had no access to, "File access denied" erroneously was returned. Now "Directory access denied" is returned.

   g) A problem, where a non-existent IAC would cause a System Dump to a System Area to appear to hang, has been fixed. This problem could also make a System Dump to TAPE appear to hang during the dumping of IAC memory.

   h) A problem that could cause a system deadlock during process termination or ?PROC, on multiple processor systems, has been fixed.

   i) An IO race condition, with termination IO abort code, that could cause a system hang, has been corrected.

j) On certain multi-processor systems, microcode can only be loaded at system power-up time; ?JPINIT cannot be used to load microcode on these systems: MV/25000, MV/30000, MV/35000, MV/40000, and MV/60000.

   With AOS/VS II 3.01, the ?JPINIT option ?JPI_PKT.FLAGS_EX_UC was required with these processors to avoid error ERULN "Cannot load microcode on this CPU Model - use existing microcode" or error ERFDE "File does not exist".

   With AOS/VS II 3.10, ?JPINIT handles these processors differently. If ?JPINIT flags ?JPI_PKT.FLAGS_IN_UC and ?JPI_PKT.FLAGS_EX_UC are zero, AOS/VS II will use the microcode that was loaded on the JP during power-up of the system.

   This change affects how the CLI command JPINITIALIZE functions for these processors. The /EXISTING switch is no longer required for processors that only load micro-code at system power-up. For such processors, the JPINITIALIZE command may be used without either the /EXISTING or /MCODEFILE=pathname switches.

   Related documentation changes were made to page 2-318 of manual "AOS/VS, AOS/VS II, and AOS/RT32 System Call Dictionary, ?A Through ?Q", part number 093-000542-02. Also, documentation changes were made to page 5-225 of manual "Using the CLI (AOS/VS and AOS/VS II)", part number 093-000646-01, and to the CLI helpfile for JPINITIALIZE.

k) A panic 25147 was removed from the ?MRCDEF disconnect code that was added in 3.01. The situation that was thought to be invalid was actually legitimate.

l) A problem was fixed in the ?MRCDEF abort code that occasionally failed to start chained requests.

m) A problem was fixed that could cause 32013, subcode 100, panics.

n) A problem was fixed that could cause a 7300 panic when processing some hard disk errors.

o) The close processing for an MCA was changed to be com-
patible with AOS/VS. Previously, AOS/VS II sometimes
returned the error ERSRR, short receive request, when
writing the end of file to the MCA, which could cause
applications to fail. AOS/VS never returned an error on
the close, so AOS/VS II has been changed to never return
the error.

p) A problem was fixed that could cause 32013, subcode 130,
panics.

q) A problem was fixed that could cause 7300 panics when
processing MRC requests.

r) When "Override default specs" was selected and "BOTH" was
entered for the Swap/Page directory definition, and the
Disk unit name contained a period, such as DPJ3.1, the
message "Error: Code: 25" was incorrectly returned. This
has been fixed; a disk with a period in its name is now
allowed.

s) A problem was fixed that could cause erroneous hard
errors, with status code 140011, to be reported by MTJ
tape drives that do not support the 'get soft error'
command.

2) AGENT Changes:

a) A problem where a second attempt to close an already
closed channel would result in an AGENT TRAP, has been
corrected.

b) A multi-tasking problem, where an ?OPEN with option to
?CREATE if file does not exist, would sometimes fail with
"File Already Exists", has been corrected.

c) When an ?LDUINFO system call was made with the
?LDUINFO_GET_PIECE_INFO/ ?LDUINFO_RTN_INIT_PATH options
and the ?PIECE_PKT.LDU_PATH byte pointer was not
initialized, the system would crash with an INFINITE
PROTECTION FAULT. This has been fixed. Now, "Invalid
byte pointer passed as system call argument" is returned.

d) A problem with FED not being able to translate numbers to
symbols with very large .ST files has been corrected.

e) A problem with FED handling AOS .PR files, that could
either result in AGENT TRAPs or corruption of the .ST
file, has been corrected. This was only a problem with
AOS .PR/ST files.

f) A problem with ?READ, where a ?READ to a WRITE ONLY file,
such as a QUEUE file, was not clearing the ?IRLR value,
has been corrected. This problem was reported against
the LFE utility, where a listing file to a QUEUE file
would show duplicated data in the output file.

3) BROWSE Changes:

a) BROWSE.PR had a problem displaying the list of selectable
files when the number of files was a multiple of 16. A
Hardware Protection Violation resulted. This has been
fixed.

4) CLI16 Changes:

a) CLI16 did not function properly if the SYSLOG/RENAMEERROR
command was used and an argument was not specified.
"System call parameter address error" was incorrectly
returned. This has been fixed. Now, "Command requires
arguments" is returned.

5) CLI32 Changes:

a) A bug has been fixed that caused the [!exit] pseudo-macro
to sometimes work incorrectly.

b) A bug has been fixed in the PROCESS command, in handling
the /SYSTEMMANAGER switch. Previously, when CLI32 saw
this switch, it incorrectly tried to pass the "superuser"
and the "unlimited sons" privileges. It now correctly
passes the "system manager" privilege.

c) A bug has been fixed in the PROCESS command, in handling
the /GROUP and the /LOCALITY switches. Previously, CLI32
did not correctly initialize some system call packet
fields. In particular, PROCESS/GROUP= would work correc-
tly once, but PROCESS/GROUP= from this new process would
fail.

d) When doing a "F/SORT=<sort-key> <template>" or a
"[!F/SORT=<sort-key> <template>]" and the template caused
the filestatus to span into sub-directories, the
sub-directory's filenames were sorted by filename instead
of by the sort-key. This has been fixed.

e) When the error "Unmatched]) or >" or "Unmatched [(or
<" was given, CLI32 did not always display the correct
macro text of the failing line. This has been fixed.

f) Starting in revision 3.00, when an extra right parenthesis was added to a command during QBATCH/I or QBATCH/M input, CLI32 would display extra ampersands in the output file. This has been fixed.

g) When a batch macro containing the !LOOPSTART/!LOOPEND pseudo macros called another macro, the batch job would abort incorrectly with "!LOOPEND specified without !LOOPSTART". This has been fixed.

h) Occasionally, when a QBATCH/M was done and a filename template, such as +, was used within the macro, CLI32 would report "We found the pointer but it is the wrong type." This has been fixed.

i) CLI32 did not correctly handle searchlists longer than 512 bytes:

> On a request to set the searchlist, CLI32 did not correctly terminate the string, so the ?SLIST system call would read past its end. This produced indeterminate results.

> A request to get the searchlist correctly reported an error under AOS/VS Classic. However, under AOS/VS II, CLI32 did not correctly handle the partial searchlist that the system call returned. Specifically, it printed the first directory in the searchlist, and did not report an error.

These problems are fixed. The description of the CLI32 enhancement for longer searchlists has more details on these fixes.

j) When you paused a queue with an active job, and then issued a CONTROL @EXEC STATUS against that queue before the current job finished, the status was supposed to report "Will pause." It did not report this under AOS/VS II revisions 3.00 and 3.01. This is now fixed.

6) DJ Changes:

   a) A problem with standalone DJ erroneously initiating MI calls to the support center when sizing MV25000's or MV35000's has been fixed.

   b) In the "Install an AOS/VS II Release or Update" screen there is a prompt for the "Pathname to load from". If function key F1 is typed after entering the pathname, then the subsequent answer values on the screen are taken without further prompting. If the screen had a "D" answer to the question about deleting existing files, then DJ performed the load incorrectly, asking for confirmation of each deleted file. This problem is now fixed in DJ; when F1 is typed after entering the pathname, the "D" answer properly gets handled as DELETE instead of CONFIRM.

   c) The DJ polisher function would loop if it encountered certain kinds of file system corruption in a directory on the LDU it was polishing. DJ will now report an error. The error contains the name of the directory followed by an "Invalid bucket id" error message. If you receive this error it means that something is wrong with the directory. You may have trouble creating files in this directory in the future. The best way to fix this problem is to backup your LDU. Then delete the old LDU, create a new one and reload your files from backup. This problem existed in both standamong and standalone DJ and has been fixed in both.

7) DUMP_II Changes:

   a) DUMPing to a multi-reel tape set would appear to work correctly, but at LOAD time, an 'Indecipherable Dump Format' error would be given when the second tape was accessed. This has been fixed.

   b) DUMPing with the TAPEMEMORY switch would appear to work correctly, but in rare occasions, the DUMP was incorrect. At LOAD time, an 'Indecipherable Dump Format' error would be given. This has been fixed.

8) EXEC Changes:

   a) If you create the EXEC process with the PROCESS switch
      /CONSOLE=@CON0, then EXEC can treat CON0 as a logon
      console. However, if you disabled and enabled CON0, EXEC
      continuously reported an error. This problem has been
      fixed.

   b) If you CX START a printer that's off-line, and enter
      another command to the printer before EXEC reports it
      off-line, XLPT.PR used to hang. This problem has been
      fixed.

   c) If a user profile specifies an initial IPC file that has
      an odd number of bytes, then at log on time, the last
      byte of the file was lost. This is now fixed.

   d) Previously, custom logon was built using a PID size of 16
      bits. A size of 32 bits is required since ?GPORT returns
      the PID in AC1 which is 32 bits. The "server_pid" field
      is now 32 bits. This problem caused HCONs not to work
      properly.

   e) There was a problem that affected XMNT when the system
      date was set forward. XMNT calculated that the PID to
      which EXEC sends mount messages had terminated and set
      the "operator PID" to PID 2; if the operator PID was
      already PID 2, this led to an XMNT Hardware Protection
      Violation. This XMNT problem is now fixed.

   f) XMNT now properly logs labelled and unlabelled tape
      dismounts to :SYSLOG.

   g) Occasionally in batch, jobs would incorrectly abort with
      "Caller not privileged for this action". This has been
      fixed.

   h) EXEC previously allowed 9 XLPT processes to be started
      when the /NAME= switch was not specified on the CX START
      command. EXEC now allows 17 XLPT processes to be
      started, allowing a total of 255 printers on one machine.

   i) A typographical error was corrected in COOP_TOOLKIT.H.
      The "foldlonglines" flag bit in the $t_XFGS flag word was
      misspelled.

9) File System Changes:

   a) The system would sometimes PANIC with a 7300 if you
      terminated a process with a ?BLKIO system call
      outstanding. This problem is fixed.

   b) A "hole" in a file refers to blocks in the file before
      the EOF but that were never written to.

      If a file had a hole in it, and two or more processes or
      tasks wrote to different blocks in this hole at the same
      time, the two writes were sometimes not both successful.
      This resulted in data loss. In some cases, attempts to
      access this data at a later time caused "Invalid block
      ID" errors. These problems are now fixed.

   c) The ?GNAME system call sometimes hung. This could only
      happen in the rare case that the target file and its
      parent directory shared the same fit block in the AOS/VS
      II fit file. This would cause the process that issued
      the ?GNAME system call to hang, and eventually your
      system might hang. This has been fixed. The ?GNAME
      system call now works properly when the file and its
      parent directory share the same fit block.

10) FSCOPY Changes:

   a) There were some FSCOPY problems encountered when doing
      backups. If you wrote to the LDU being backed up or
      deleted files in that LDU, the backup was not always
      created correctly. Also, in come cases this led to a
      system PANIC 7300. These problems are now fixed.

   b) If FSCOPY fullvolume backup or restore encountered an
      error, it sometimes returned the wrong error code. This
      problem is now fixed.

   c) On an FSCOPY fullvolume backup or restore, after the file
      system finishes backing up or restoring the data, the
      FSCOPY program takes about another minute to finish up.
      During this time, the screen display (present if you
      specified /display) sometimes displayed incorrect
      statistics. This problem is now fixed. Note: The final
      statistics (displayed if you specify /statistics) were
      correct.

11) LOAD_II Changes:

    a) LOAD_II would not load empty directories when using the template "+:#". This has been fixed.

12) Miscellaneous Changes:

    a) The :UTIL:UP.CLI macro was changed. The comments about use of JPINIT now specify the /1=WARNING switch rather than the /2=WARNING switch. By default, a class2 error is reported as WARNING. For JPINIT, a class1 error is best handled as WARNING, rather than ERROR, so that the remainder of the UP.CLI macro can be processed in spite of a JPINIT error.

13) REPORT Changes:

    a) Support was added to REPORT to handle new error codes as implemented in revision 6.38 of Flare Ucode. The Flare Ucode ships on MV Damit media, revision 5.0 model number 30135.

    b) A problem was fixed in REPORT.PR that prevented reporting the log file entries for date/time changes.

14) SMI Changes:

    a) When the "Terminate a user process" option was selected and there were more than 48 users on the system, the message "Enter the PID of each process you want to terminate:" overwrote the last line of the PID list. This has been fixed.

15) TAR_VS Changes:

    a) If TAR_VS was executed by typing "TAR_VS" in mixed case (such as "Tar_VS") TAR_VS was not executed properly. This has been fixed.

16) Terminal Services Changes:

    a) A problem was fixed that occurred when the optional media patch 3.01_AOSVSII_IAC24.CONS_OPAT was applied.

    b) A problem where an attempt to set a reserved characteristic word, that was already set, would result in an error, has been fixed.

    c) AOS/VS II has corrected an IAC scheduling problem that could cause an aborted line to hang, and eventually panic with an ERDTO(TIMEOUT) code.

    d) AOS/VS II has corrected several problems with 16bit IPC messages to Ring 0 Terminal Services, that were resulting in incorrect message data being passed.

    e) AOS/VS II has corrected a number of locking problems with NCON(TSNVT) handling, which could either result in spin lock hangs, or data bases being unlocked while still in use.

    f) AOS/VS II has added logic to DUART MODEM handling to not accept characters before MODEM signals CD and DSR are established. This is consistent with MODEM handling for all IAC's.

    g) AOS/VS II has corrected a number of problems where IAC's could write to HOST memory that has been released. This could cause data corruption problems and panics, such as 7300 panics.

    h) A problem, where a 32 bit page number was being truncated to 16 bits, has been corrected. This problem could result in 34035 IAC panics.

    i) AOS/VS II has corrected a problem with TELNET OPTION handling for TCON's, that could result in a 34017 panic.

    j) A problem with prematurely deallocating an XTS-II data base after an ABORT of PCCON IO, has been corrected. This could result in 7300 or 26000 panics.

    k) A new optional patch has been added to change the 68K IAC VT100 translation string for DIM to <33>[0m from the current string of <33>[0;2m, as certain terminals were reported to be having problems with the current output string. The optional string is compatible with the string produced by the Eclipse based IACs. The optional patch is 3.10_XXXRS.PR_VT100.DIM_OPAT.

1) A 34017 panic, due to TELNET BREAK processing not prop-
erly considering all potential FSM states, has been
corrected.

m) A SCREEN EDIT problem that would leave an extra character
at the end of a line after a Control-K in insert mode,
followed by a number of left arrows, and another
Control-K or Control-E, has been fixed. This problem was
thought to be a SED problem, but was reproducible in CLI,
as well.

17) VSGEN Changes:

a) Corrected the spelling of TERMMANAGER in the "IAC Ter-
minal Controller" menu. Also, corrected the HELP infor-
mation for the "TERMMANAGER down-load" question. Related
documentation changes were made to pages 4-109, 4-110,
and 4-112 for the "Installing, Starting, and Stopping
AOS/VS II" manual, part number 093-000539-04.

b) If the LBUS IMC download file (:LMC8RS.PR) was deleted
from an Eclipse machine and an IAC-8 was gen'ed in the
Eclipse's spec-file, a level 3 Verify would fail with
"Unable to find controller download file :LMC8RS.PR".
This message is no longer displayed and lack of the
:LMC8RS.PR on an Eclipse machine will not cause the
Verify to fail.

c) Under Rev. 3.00, system configurations that had a
MRC_CHASSIS and MRC_CHANNEL, but without MRC_CONTROLLERs
or MRC_UNITs defined, did not build. This is now fixed.

18) SED Changes:

a) SED used to return a Fixed Point Overflow during initial-
ization if many SED "split" messages were sent to screen.
This has been fixed.

b) When an "APPEND <source>" command was done and the source
file had page break(s) that were inserted after the
maximum SED page, 1023, the APPEND command inserted an
extra page break causing a blank page. This problem has
been fixed.

c) When an "APPEND <source>" command was done and the source
file contained more than 32767 lines, a Fixed Point
overflow occurred. This problem has been fixed.

5 Notes and Warnings

5.1 Notes

1) CPU Resource Charges

   Normally, an estimated amount of system CPU resources used
   during AOS/VS II system calls is charged against the user's
   accumulated CPU time. You can install an optional patch,
   3.10_AOSVSII_SCALL.CHARGE_OPAT, to enable more accurate
   accounting of user CPU time. This patch will cause the actual
   amount of CPU time spent in the system on behalf of a user
   process to be added to that user's accumulated CPU time.

   System calls ?RUNTM, ?PSTAT and ?XPSTAT can be used to report
   user CPU time use as before, but only when this patch is not
   installed. Otherwise, the CPU time used will have the Opera-
   ting System component of CPU time added to the user's CPU time
   spent. This means that the user CPU time number returned in
   ?RUNTM, ?PSTAT and ?XPSTAT will include any operating system
   CPU time spent on behalf of that user.

   The affected number returned in the ?RUNTM, ?PSTAT, and
   ?XPSTAT system calls is at offset ?GRCH for the ?RUNTM system
   call, ?PSCH/?PSCL for the ?PSTAT system call, and ?XPCH
   (double word) for the ?XPSTAT system call.

2) Terminal Dependent Function Tables

   AOS/VS II only supports TDFTs (Terminal Dependent Function
   Tables) in the following environments; CPI, MCP1, IAC-12,
   IAC-16, IAC-8 (non 68k version). TDFT support is not planned
   for other controllers.

3) CLI CHAR/AUTOBAUD

   Use of the CLI characteristic "/AUTOBAUD" is only supported on
   lines that are set up with 7 data bits and MARK parity or 8
   data bits and NO parity.

4) CLI32 Ampersand Interpretation

   CLI32 normally expects a newline after the ampersand continua-
   tion character. In some cases, CLI16 and CLI32 will interpret
   the ampersand differently if the ampersand is not followed by
   a newline.

5) Greater Than 512 M-bytes of Memory

   AOS/VS II includes support for systems with greater than 512
   M-bytes of memory. If you plan to configure a system with
   more than 512 M-bytes of memory, contact your Data General
   Sales Representative for more information.

6) System Initialization of the :PROC:HIF File

   To minimize the time required to boot AOS/VS II systems, the
   :PROC:HIF file is not rebuilt during system initialization if
   this file already exists. The :PROC:HIF file contains remote
   host names and is used by RMA. For systems with large numbers
   of remote hosts the time savings may be a minute or more.

   Since revision 3.00, AOS/VS II no longer deletes the :PROC
   directory or the HIF file in the :PROC directory at boot time.
   In previous AOS/VS II revisions, :PROC was deleted and recrea-
   ted and the HIF file was rebuilt every time the system was
   booted. This rebuild was redundant. All other files in :PROC
   except the HIF file are still deleted at boot time.

   If your system crashes while you are in the process of running
   netgen and recreating your network files, your HIF file will
   be in an inconsistent state. This will not be corrected by a
   reboot. You will need to rerun netgen to recreate the HIF
   file.

5.2 Warnings

1) ?CHAIN System Call Change

Beginning with AOS/VS II 3.10, the ?CHAIN system call will recognize bit 29 to specify passing the current group list to the new program. If the bit is zero, then the initial group list is passed to the new program, which was the only method for passing the group list in previous AOS/VS II revisions.

In previous AOS/VS II revisions, bit 29 was undefined, and it should have been set to zero in any program. If this bit was mistakenly set however, such a program will function differently under AOS/VS II 3.10 if the program is affected by the different group list handling. If this bit is zero, the program will continue to function identically.

2) Booting Pre-Installed AOSVSII.PR or AOSVSII_SMI.PR

When booting a pre-installed system, AOSVSII.PR or AOSVSII_SMI.PR, you may receive the following error message while the system is booted.

Map slot allocation failure on device code: xx
Bypassing all devices on this controller.

In the case of the pre-installed systems, there are normally more devices gen'd than are actually configured on the system. In cases where there are insufficient map slots to support the gen'd configuration, this warning is reported. If the warning references a controller that is actually present, you need to run VSGEN to tailor the system to your configuration, removing unnecessary devices from the VSGEN configuration. Otherwise, you can ignore the warning message.

3) Auto-Reboot with Combined Storage Subsystem

There are some configurations where auto-reboot will not work properly. If you are using the Combined Storage Subsystem (CSS) as your system disk and your processor is faster than the CSS, auto-reboot will hang. There is an optional patch provided with AOS/VS II Revision 3.10 that will work around this problem. If you experience this problem with auto-reboot, please apply this patch to your tailored system file and auto-reboot should work properly. The patchkit is named, 3.10_AOSVSII_CSS.BOOT_OPAT and is found in the :UPDATE:3.10 directory.

4) Rename Across Directory — Switching to a Previous Revision

   If you have renamed across a directory, you can not bring up
   any AOS/VS II system file with a revision earlier than revi-
   sion 2.03. Bringing up revision 2.02 or earlier can result in
   multiply allocated disk blocks.

5) Rename Across Directory — Pathname Length Restrictions

   The rename across directories feature allows users to rename a
   directory to a different directory depth. In doing so, it is
   possible to have subordinate file names in the file hierarchy
   that become inaccessible (due to pathname length
   restrictions). If this situation occurs, you may have to
   rename the directory to a higher level in the file hierarchy
   to access these files.

6) Using LOAD_3 (revision 3.10) with AOS/VS II

   The patchkit 3.10_LOAD_3.PR_PAT must be installed in order for
   revision 3.10 of LOAD_3 to work properly with AOS/VS II 3.10.
   This patchkit fixes a problem with LOAD_3 checking the revi-
   sion of AOS/VS II. This patchkit is located in the
   :UPDATE:3.10 directory.

7) Using FTA (revision 5.50) with AOS/VS II

   The patchkit 5.50_FTA.PR_PAT must be installed in order for
   EXEC to properly handle queues of type, "FTA". This patchkit
   is located in the :UPDATE:3.10 directory.

8) Using SVTA (revision 5.50) with AOS/VS II

   The patchkit 5.50_SVTA.PR_PAT must be installed in order for
   SVTA to properly handle terminal characteristics in con-
   junction with AOS/VS II Rev 3.10. This patchkit is located in
   the :UPDATE:3.10 directory.

9) Using TPMS (revision 3.51) with AOS/VS II

   The patchkit 3.51_TPMSCCP.PR_PAT must be installed in order
   for TPMS to work properly with AOS/VS II Rev 3.10. This
   patchkit is located in the :UPDATE:3.10 directory.

10) ?GPORT and PID 0

    Consoles supported by Terminal Services will return a PID of 0
    if an application does a ?GPORT on the associated global port
    number. For example, an application does an ?ILKUP system
    call on @CONSOLE. Next the returned global port number is
    given to the ?GPORT system call and the PID returned in AC1 is
    0.   PID 0 cannot be used as a target PID number to the ?PNAME
    system call.

11) CONINFO with TermController Connections

    When using CONINFO on lines connected through a
    TermController, interpretation of the TCP port number is
    dependent on the network configuration. Termserver vendors
    have their own way of generating a port number for this field.
    In the instance of 3COM termserver boxes the physical port
    number is stored in the low order 8 bits of the returned port
    number. The rest of the port number is a randomly generated
    value and must be masked off to reveal the actual physical
    port. MV Telnet connections generate a software port number
    in the low order 16 bits of the port number field. Again it
    is up to the user to interpret the port number according the
    way the source of the connection builds up that number.
    (NOTE: use the ip address to map the source to the vendor and
    interpret the port number accordingly)

12) CTRL-O and CTRL-S Restriction

    When CTRL-O is used to discard output to a terminal display,
    the CTRL-S command to suspend output is normally ignored.
    Thus, the command sequence ^O ^S ^O will discard some output,
    and then resume output. However, on terminals attached
    through a TermController or a network connection, the CTRL-S
    will not be ignored. On such terminals, the command sequence
    ^O ^S ^O will leave the terminal in "suspend output" mode, and
    a CTRL-Q command will be required to resume output.

13) Loading Microcode from MRC Devices

    MV/6000, MV/8000, and MV/10000 systems cannot load microcode
    from MRC devices. The system will hang while attempting to
    load microcode and will have to be cold started. To work
    around this problem, each of the above systems must have an
    ECLIPSE device connected to it from which microcode can be
    loaded.

14) Tape Cartridges and Data Interchange

If you use 150MB or greater tape cartridge media to move data between systems, please note that there are tape interchange restrictions with the latest versions of DUMP_II and LOAD_II. AOS/VS II 2.10 (and greater) allows the DUMP_II and LOAD_II programs to access more than 65534 tape records in one tape file. Prior revisions of AOS/VS II did not. Tapes containing these "high record" counts cannot be read by earlier revisions of AOS/VS II (or revisions of AOS/VS prior to 7.69). To avoid this problem, use large buffer sizes when using DUMP_II/LOAD_II for media interchange (16KB for 150MB cartridge and 32KB for 2GB cartridge if possible).

15) Tape Cartridges and Record Counts

If you use 150MB or greater tape cartridge devices, note that only FSCOPY, the DUMP_II/LOAD_II programs, and the DJ logical disk copy facility allow the full capacity of the tape to be accessed. All other AOS/VS II utilities that access tape media (such as DISPLAY, CLI COPY command and AGENT labeled tape) cannot access record counts greater than 65534 and will have unpredictable results if used to access or create a tape file with greater record counts.

16) VSGEN and Older Configuration Files

The configuration files created by newer revisions (3.00, 3.01, 3.10) of VSGEN cannot be read by older revisions (2.21 and earlier) of VSGEN. If you need to build a system for an older revision, you must use a configuration file created with an older VSGEN.

17) Line Printer Status

There are various line printer controllers that incorrectly return the status of the line printer (i.e. status indicates that the line printer is on-line and ready when it is off-line or even powered off). Because of this incorrect status the process (including EXEC if executing a CONTROL @EXEC START queue @line-printer) will hang when trying to open the line printer. To avoid this problem insure that the line printer is powered on and is on-line before trying to access it.

18) AOS/VS II Panic 14430

AOS/VS II will sometimes panic with panic code 14430 when it
runs out of physical memory. This can happen when you are
running an application that uses large I/O buffers during
periods of high memory contention, especially when running
with minimum physical memory configurations. If you encounter
this panic, you are encouraged to run these memory intensive
I/O applications with smaller buffers or when the system is
not in severe contention.

19) NVT — Break Restriction

NVT clients do not currently support Breaks. The effect of
this is that CHAR/BREAK=DCOB will have no effect, and it is
not possible to break out of binary mode on an NCON.

20) NVT — Using a VT100 Emulator

If a VT100 terminal emulator is being used on the client NVT,
the CHAR/XLT characteristic should be set.

21) Model 6823 MRC SCSI-2 — DJ Sizer Restriction

Running DJ Sizer on configurations with Model 6823 MRC SCSI-2
controllers may produce incorrect results when sizing indivi-
dual units on these controllers if you do not have revision
6.00 (or later) of BCDOS. If you need to run VSGEN using the
sizer file produced by DJ as input, be sure to check that
units are listed properly as they are sized. If they are not,
you will need to use VSGEN to edit your configuration and make
corrections.

22) Model 6823 MRC SCSI-2 — Maximum Configuration

Model 6823 MRC SCSI-2 controllers should be configured with a
maximum of 40 units (both disk and tape). These controllers
only support 40 units and will return a "unit offline" condi-
tion if more than 40 units are used. These large configura-
tions will only exist if more than one CLARiiON or HADA/MV is
configured using the same controller; other configurations
will not encounter this restriction.

23) System Initialization of :PER Directory

Since AOS/VS II 3.00, the :PER directory only gets rebuilt
during system initialization if the system file has changed,
or if you override default specs, and answer the "Rebuild :PER
directory? [Y]" question positively. If the system file has
not changed, but some :PER entries were previously deleted,
you should force a :PER rebuild.

24) Changing from ITC/128 to ITC/128-A

If you replace an old ITC/128 with a new ITC/128-A (using the
same device code), you do not have to change your system file.
BUT you must be sure to rebuild the :PER directory to ensure
the console numbers are correct in relation to the port
numbers on the board. If you rebuild or patch your system
file, the :PER directory will be re-built automatically when
the system is re-booted. If you do not change your system
file during the transition from ITC/128 to ITC/128-A, then you
need to over-ride default specs during system initialization
so you can specify :PER rebuild.

25) FSCOPY use of /RETAIN=n switch

The /RETAIN switch may be used during FSCOPY backup to specify
the number of days that a labeled tape is retained; the
default is 90 days. If you specify /RETAIN=0, this means the
tape can be overwritten immediately. If your backup requires
multiple tape volumes and you have specified /RETAIN=0, FSCOPY
may overwrite one of the volumes that is part of the backup,
making the backup invalid. Normally, you should specify a
non-zero value with the /RETAIN switch.

26) FSCOPY with multiple tape volumes

If you only specified one tape volume for your FSCOPY backup,
but the backup requires an additional volume, FSCOPY rewinds
the tape and then displays the warning message "Warning:
labeled tape restriction on tapedrive". After this warning,
FSCOPY prompts you to mount the next volume.

In this instance, the warning message should not occur; FSCOPY
will be fixed in a future revision so this warning message
does not occur in this instance. For now, just ignore the
message, and proceed to mount the next volume.

5.3 Controller Ring Buffer Space

Intelligent asynchronous controllers such as IAC-8, IAC-16, IAC-24, ITC-128, etc., allocate a portion of their memory for input and output buffers, also called ring buffers. The amount of memory available varies from revision to revision. If you have taken the VSGEN default answers for Input buffer byte length and Output buffer byte length, you will not have a problem. But if you specified larger-than-default answers or if you select Asian language or ANSI terminal support on some controllers, your system may use more space than actually exists. Your system will come up, but the controller will not function properly. During system initialization the system will print the message "IAC DEVICE CODE xxx IAC memory oversubscribed." You will have to generate a new system with smaller sizes for input and output buffers.

The following table shows the total and average amounts of memory available for ring-buffer allocation (for average space, we round down odd numbers to the next even number), using actual patch space for files, which may be pre-patched, as shipped. If you apply additional patches, the ring buffer space may change. All values are decimal bytes.

Note that this table should be used as a guideline. Some variance on your system is possible.

Ring buffer space for	Total RB Space	RB Space Per Line
CPI/24:		
no options	9676	402
ansi	4572	190
ikis	6608	274
ansi&ikis	1504	62
IAC-8:		
no options	8968	560
ansi	4834	302
ikis	6680	416
ansi&ikis	2546	158

IAC-16:
```
    no options                          4396            136
    ansi       - 10 lines               3694            184
               - 11 lines               2834            128
               - 12 lines               1974             82
               - 13 lines               1114             42
               - 14 lines                254              8
               - 15 lines              Insufficient memory
               - 16 lines              Insufficient memory
    ikis       - 10 lines               5940            296
               - 11 lines               5268            238
               - 12 lines               4596            190
               - 13 lines               3924            150
               - 14 lines               3252            116
               - 15 lines               2580             86
               - 16 lines               1908             58
    ansi&ikis - 10 lines                1374             68
               - 11 lines                468             22
               - 12 -> 16 lines        Insufficient memory
```

IAC-L/RMSC:
```
    no options                          3634            112
    ansi       - 10 lines               2932            146
               - 11 lines               2072             94
               - 12 lines               1212             50
               - 13 lines                352             12
               - 14 -> 16 lines        Insufficient Memory
    ikis       - 10 lines               5154            256
               - 11 lines               4482            202
               - 12 lines               3810            158
               - 13 lines               3138            120
               - 14 lines               2466             88
               - 15 lines               1794             58
               - 16 lines               1122             34
    ansi&ikis - 10 lines                 588             28
               - 11 -> 16 lines        Insufficient Memory
```

IAC-12:
```
    no options                         16906            704
    ansi                               11802            492
    ikis                               13866            576
    ansi&ikis                           8762            364
```

IMC:
```
    no options                         20330           1270
    ansi                               16090           1004
    ikis                               17434           1088
    ansi&ikis                          13194            824
```

```
MCP1:
      no options                      20668            1292
      ansi                            16428            1026
      ikis                            17772            1110
      ansi&ikis                       13532             844


ITC128 and LTC64:
      no options                      81396            1270
      ikis ii - 100 lines             33350             666

ITC128A:
      no options                    2879168           11246
      ikis ii - 100 lines           2565048           10018

IAC8-3:
      no options                      45984            2874
      ikis_ii -                       13186             824

IAC24:
      no options                     275424           11476
      ikis ii                        199800            8324

LAC16, LAC32, and FCM32:
      no options                     244716            7646
      ikis ii                        160868            5026

Integrated LAC16:
      no options                     178924            5590
      ikis ii                         95076            2970

LMC8:
      no options                     307872           19242
      ikis ii                        240472           15028

Integrated LMC8:
      no options                     242080           15130
      ikis ii                        174680           10916
```

5.4 ROLM Mil-Spec Information

This section provides additional information about use of AOS/VS II with the L/RMSC products.

1) Hardware and Microcode

   a) To run AOS/VS II L/RMSC recommends that 8 Mbytes be used as a minimum for reliable operation.

   b) AOS/VS II supports the HAWK/32 Model 1900.   The minimum microcode revision for running AOS/VS II on the HAWK/32 is 10.03.

2) Features

   a) AOS/VS II supports the HAWK/32 model 1900. It is identified to VSGEN as a HAWK/32.

   b) AOS/VS II supports the following L/RMSC disks as DPF class disks. These are identified to VSGEN as DPF type disks.   AOS/VS II will correctly identify which disk is attached from among the possible L/RMSC and Data General DPF class disks.

      1) L/RMSC Magnum disk subsystem model 4200

      2) L/RMSC Magnum disk subsystem model 4205

      3) L/RMSC Miltope disk subsystem model 4380

      4) L/RMSC Miltope disk subsystem model 4020

      5) L/RMSC Miltope disk subsystem model 4022/4023

   c) AOS/VS II supports the L/RMSC IAC Models 3580 and 3580A. These are identified to VSGEN as IAC type L/RMSC. AOS/VS II will properly distinguish between the two models.

3) L/RMSC Miltope 3600 Printer Support

   a) The CLI command "HELP *TP3600" will display the helpfile which explains how to set up this printer under AOS/VS II EXEC, with the appropriate EXEC commands for starting the printer during the UP.CLI macro.

   b) With past releases of ROLM Mil-Spec AOS/VS and AOS/VS II support, a 3600_STARTUP.CLI macro was included, which contained the EXEC commands for starting the printer. These EXEC commands are listed in the TP3600 helpfile.

With the current packaging of this software for AOS/VS II, the 3600_STARTUP.CLI macro is not included. But if you have an old copy of 3600_STARTUP.CLI, you can continue to use it, instead of explicitly issuing the EXEC commands from the UP.CLI macro.

c) File :UTIL:TP3600_SUPPORT.DOC includes detailed information describing how to use this printer.

4) Warnings

a) The MRC bus is not supported with the HAWK/32.

b) As stated in "Installing,Starting, and Stopping AOS/VS II" chapter 2, the system LDU must be one piece. This means that the system LDU must be located entirely on one physical disk, and can not be spread over several disks in order to provide additional system LDU space.

c) When using the L/RMSC Miltope disk subsystem model 4022/4023 as a system disk, the space available after installing AOS/VS II will be about 6 Mbytes. L/RMSC recommends configuring the HDA that is not being used as a system disk, to be a :SWAP and :PAGE disk. This process is described on in chapter 7 of "Installing,Starting, and Stopping AOS/VS II". Moving non-essential files from the system disk will also provide more disk space.

d) When DJ is run, it checks for the file :SIZER.CFG. If this file is not present it will issue the message "WARNING: System configuration file not found - recommend you run sizer". It is not required to size the system, DJ will format the disk and install AOS/VS II correctly without sizing.

A bug exists within the sizing routine, that will leave the L/RMSC disks off line, and result in the message "WARNING - Physical Unit off-line". If this occurs, you should run BITE on the disk to reset the controller. You may proceed with DJ once BITE has been run.

e) PREPARING A 4022/4023 DISK

The design of the HDA used by the 4022 and 4023 disk systems differs from other L/RMSC disk HDA's. As a result the method of preparing this HDA for use by AOS/VS is also different. The following paragraphs will describe the difference, explain the method to prepare a disk, and provide an interpretation of the bad block label on the 4022/4023 HDA.

The difference lies in the way that the HDA marks bad blocks on the disk. In all other L/RMSC disks each block on the HDA can be individually marked as a bad block. The 4022/4023 HDA cannot mark individual blocks as bad. The entire track on which the bad block resides must be marked as bad. Once a track is marked bad, any attempt to access any block on the track will result in a "BAD SECTOR" error.

AOS/VS II keeps track of bad blocks on an individual block basis. There is a limit of 126 bad blocks that can be accepted on a single HDA. In addition AOS/VS II requires that physical blocks [0..7] be error free as these are used to store information required by the system. It is generally desired that a new HDA have no more than 20 bad blocks.

1) Run MHDFZ, MOVING HEAD DISK FORMATTER ZEBRA , and mark all bad blocks. This diagnostic will analyze the HDA, noting all bad blocks, and will mark each track affected as bad. Be sure to keep track of all bad blocks found as the HDA will be reformatted in a later step. MHDFZ is an IDMS (Model 9812) diagnostic.

2) Run MHDDZ, MOVING HEAD DISK DIAGNOSTIC ZEBRA, as customary starting address 60. This should run with no errors. If any errors that could be the result of media defect are found, the bad blocks should be noted. MHDFZ may not have found all the bad blocks. MHDDZ is an IDMS (Model 9812) diagnostic.

3) Run MHDRZ, MOVING HEAD DISK RELIABILITY ZEBRA, as customary with starting address 60 or 505. This should run with no errors. If any errors that could be the result of media defect are found, the bad blocks should be noted. MHDFZ and MHDDZ may not have found all the bad blocks. MHDRZ is an IDMS (Model 9812) diagnostic.

4) Run MOVING HEAD DISK RELIABILITY ZEBRA again, this time with starting address 504. This will reformat the HDA but will not mark any bad blocks. Any blocks reported as bad should be noted.

The following table shows how to convert the BIT FROM INDEX information from the BAD BLOCK LABEL attached to the HDA into a logical bad sector. Note that the logical sectors are interleaved.

BFIND (BIT FROM INDEX)		Logical Sector in Octal	Physical Sector in Octal
FROM	TO		
0001 —	0616	0	0
0617 —	1187	11	1
1188 —	1758	1	2
1759 —	2329	12	3
2330 —	2900	2	4
2901 —	3471	13	5
3472 —	4042	3	6
4043 —	4613	14	7
4614 —	5184	4	10
5185 —	5755	15	11
5756 —	6326	5	12
6327 —	6897	16	13
6898 —	7468	6	14
7469 —	8039	17	15
8040 —	8610	7	16
8611 —	9181	20	17
9182 —	9752	10	20
9753 —10323		21	21

Convert the head/cylinder/sector bad block address to logical disk address using the following format (all values octal)

Note: The 4022/4023 has 5 heads, 22 sectors/track, 2000 cylinders.

Address = (cylinder * #heads * #sectors)
          + (head * #sectors) + (sector)

— OR —

Address = (cylinder * 132) + (head * 22) + (sector)

Run the AOS/VS II Disk Jockey utility as indicated in the manual "Installing, Starting, and Stopping AOS/VS II". Then view the Bad Block Table. Use option 2 to add any bad blocks that were not identified by The Disk Jockey pattern test.

6 Documentation

6.1 Manuals and Templates

Part Number	Name
069-000031-02	Learning to Use Your AOS/VS System
069-000231-01	AOS/VS and AOS/VS II Glossary
069-000294-00	Starting and Updating Preinstalled AOS/VS II
069-000311-01	Using the AOS/VS II System Management Interface (SMI)
093-000197-04	SPEED Text Editor (AOS and AOS/VS) User's Manual
093-000242-02	AOS/VS Macroassembler (MASM) Reference Manual
093-000245-02	AOS/VS Link and Library File Editor (LFE) User's Manual
093-000246-01	AOS/VS Debugger and File Editor User's Manual
093-000249-02	SED Text Editor User's Manual (AOS and AOS/VS)
093-000335-01	AOS/VS System Concepts
093-000361-03	SED Text Editor template (new color - grey)
093-000396-01	AOS/VS Debug/FED template (new color - grey)
093-000539-04	Installing, Starting, and Stopping AOS/VS II
093-000540-03	AOS/VS II Error and Status Messages
093-000541-03	Managing AOS/VS and AOS/VS II, with supplement 093-000855-00
093-000542-02	AOS/VS, AOS/VS II, and AOS/RT32 System Call Dictionary, ?A Through ?Q, with addendum 086-000195-00

093-000543-02	AOS/VS, AOS/VS II, and AOS/RT32 System Call Dictionary, ?R Through ?Z, with addendum 086-000196-00
093-000646-01	Using the CLI (AOS/VS and AOS/VS II), with addendum 086-000200-00
093-000650-01	AOS/VS and AOS/VS II Menu-Driven Utilities template

6.2 Documentation-Changes Files

Print the documentation-changes files listed below after installing
your software. (The files are located in directory :UTIL.) Follow
the instructions on the first page of each file. The documentation
is incomplete without them.   Asterisks (*) mark files that were
revised for AOS/VS II Revision 3.10.

	Filename	For Manual
*	069_000031_02	Learning to Use Your AOS/VS System
	069_000294_00	Starting and Updating Preinstalled AOS/VS II
	069_000480_03	Starting and Updating Preinstalled AOS/VS II on ECLIPSE MV/3000 DC and ECLIPSE MV/5000 DC Series Systems
*	093_000242_02	AOS/VS Macroassembler (MASM) Reference Manual
	093_000245_02	AOS/VS Link and Library File Editor (LFE) User's Manual
	093_000246_01	AOS/VS Debugger and File Editor User's Manual
	093_000335_01	AOS/VS System Concepts
*	093_000539_04	Installing, Starting, and Stopping AOS/VS II
*	093_000540_03	AOS/VS II Error and Status Messages
*	093_000541_03	Managing AOS/VS and AOS/VS II
*	093_000542_02	AOS/VS, AOS/VS II, and AOS/RT32 System Call Dictionary, ?A Through ?Q
	093_000543_02	AOS/VS, AOS/VS II, and AOS/RT32 System Call Dictionary, ?R Through ?Z
*	093_000646_01	Using the CLI (AOS/VS and AOS/VS II)

7 Software

7.1 Media

Model Number	Part Number	Description
31585A	079-000151-04	150-Mbyte cartridge tape
31585B	061-000483-07	21-Mbyte cartridge tape (TAPE 1 OF 2)
	061-000484-07	21-Mbyte cartridge tape (TAPE 2 OF 2)
31585H	071-001472-07	1600-bpi magnetic tape (TAPE 1 OF 2)
	071-001473-07	1600-bpi magnetic tape (TAPE 2 OF 2)
31585J	070-000448-07	130-Mbyte cartridge tape

7.2 Organization

File organization on reel-to-reel magnetic tape and cartridge tape:

File	Contents	Description
0	TBOOT1	Tape bootstrap
1	DJ or TBOOTERROR	Disk Jockey or TBOOT Error Message
2	Dump File	AOS/VS II 3.10 software

For all models, the tape media is organized as three files. File 0 contains TBOOT1, which automatically boots file 1. For models 31585A and 31585J, file 1 contains DJ. For models 31585B and 31585H, file 1 contains DJ on the first tape, and file 1 contains TBOOTERROR on the second tape. For models 31585A and 31585J, the dumpfile fits on one tape; for models 31585B and 31585H, the dumpfile is split between the two tapes as follows:

Tape 1:
    Files in the root (:) directory
    Files in the :UPDATE directory and its subdirectories
    Files in the :SYSGEN directory, except +.LB files

Tape 2:
    Files in the :UTIL directory and its subdirectories
    Files in the :HELP directory
    Files in the :SYSGEN directory which match the +.LB template

7.3 Files

The files comprising AOS/VS II are listed in a separate text file, pathname :UTIL:3.10_AOSVSII_FILES. For a description of these files, see Appendix B in the manual "Installing, Starting, and Stopping AOS/VS II."

8 Installation Instructions

AOS/VS II includes manuals which assist you with the installation
and upgrade of AOS/VS II. The manuals you use depend on your
machine configuration, and whether you are a new user or upgrading
from an earlier revision of AOS/VS II or AOS/VS. This section will
help you determine which manual is best for your particular
installation.

8.1 For New Users

1) If your system is a new ECLIPSE MV/32000 DC, MV/3500 DC,
   MV/3600 DC, MV/5500 DC or MV/5600 DC computer, it comes with
   AOS/VS II Revision 3.10 preinstalled and ready to use. No
   installation procedure is necessary. To begin using your
   computer, follow the directions in Chapter 2 in the manual
   "Starting and Updating Preinstalled AOS/VS II on ECLIPSE
   MV/3000 DC and MV/5000 DC Series Systems" (069-000480).

2) If your new system is not listed above, you need to install
   Regular AOS/VS II. Follow the installation procedure described
   in Chapters 1 through 7 in the manual "Installing, Starting,
   and Stopping AOS/VS II" (093-000539).

8.2 For Current Users

1) If you are upgrading Regular AOS/VS II, see Chapter 8 in the
   manual "Installing, Starting, and Stopping AOS/VS II."

2) If you are upgrading Preinstalled AOS/VS II, the appropriate
   manual to assist you with the upgrade is dependent on the
   machine type. For MV/3000 DC or MV/5000 DC series machines,
   Chapter 5 in the manual "Starting and Updating Preinstalled
   AOS/VS II on ECLIPSE MV/3500 DC and MV/5000 DC Series Systems"
   (069-000480) should be used. For all other ECLIPSE machines,
   Chapter 8 in the manual "Starting and Updating Preinstalled
   AOS/VS II" (069-000294) should be used. Before proceeding
   with the upgrade, however, make sure that you print and insert
   the documentation-changes file pages for this manual as
   indicated in section 6.2 of this release notice.

3) If you are upgrading from Regular or Preinstalled AOS/VS, see
   section 8.3 of this release notice.

4) After the installation has been completed, you may be able to reclaim some disk space. Previous revisions of AOS/VS II include files that the current revision of AOS/VS II no longer uses. Also, AOS/VS II does not use a number of files used by AOS/VS, but upgrading from AOS/VS to AOS/VS II moved these files onto your AOS/VS II disks. Finally, AOS/VS II includes files that are useful only for certain hardware configurations. To free up disk space easily, you can delete both obsolete files and configuration-specific files by typing the following commands:

```
) SUPERUSER ON <NL>
Su) DIR :UPDATE:3.10 <NL>
Su) DELETE/V [OBSOLETE_AOSVS_FILES] <NL>
```

... (system displays names of files it deletes) ...

To delete no-longer-useful AOS/VS II files, type the following commands:

```
Su) DELETE/V [OBSOLETE_AOSVSII_FILES] <NL>
```

... (system displays names of files it deletes) ...

To display the pathnames of the files that will be deleted in either of these two cases type the command:

```
Su) PATHNAME ([!FILESTATUS [OBSOLETE_AOSVS_FILES]])
      or
Su) PATHNAME ([!FILESTATUS [OBSOLETE_AOSVSII_FILES]])
```

If your system uses an ECLIPSE I/O bus, then you can delete files useful only on systems that use an LBUS or XBUS (ECLIPSE MV/1000 DC, MV/1400 DC, MV/2000 DC, MV/2500 DC, MV/3200 DC, MV/3500 DC, MV/3600 DC, MV/5000 DC, MV/5600 DC, and DS/7500 systems) by typing the following commands:

```
Su) DELETE/V [LBUS_SPECIFIC_FILES] <NL>
```

... (system displays names of files it deletes) ...

If your system uses an LBUS or XBUS then you can delete files that are useful only on systems that use an ECLIPSE bus. To do this, type the following commands:

```
Su) DELETE/V [ECLBUS_SPECIFIC_FILES] <NL>
```

... (system displays names of files it deletes) ...

8.3 Upgrading from AOS/VS

AOS/VS II uses a different disk file structure than that used by AOS/VS. If you are running AOS/VS, you must migrate before you can run AOS/VS II.

The file :UTIL:NEWFS_MIGRATION:NEWFS_MIGRATION.DOC describes the migration procedure in detail.

Note: AOS/VS II requires higher revisions of microcode on certain CPU's and devices. Before migrating to AOS/VS II, have your Data General Field Engineering representative apply any necessary ECO/FCO's and microcode upgrades.

To load enhanced versions of DUMP_II/LOAD_II (which can help in the migration), the migration tools and the migration manual NEWFS_MIGRATION.DOC on to your AOS/VS system, be careful to load only the files you need for the migration. If you load other system files, you will end up with a system with incompatible (and unusable) software.

To load only the files you need to migrate, follow these steps:

1) Mount the first AOS/VS II release tape on the tape drive or insert the first cartridge tape (if there are two) in its unit. For Models 31585A and 31585J, there is only one cartridge tape; insert it in its unit.

2) Turn on Superuser privilege by typing

) SUPERUSER ON <NL>

3) Make the root (:) your working directory by typing

   Su) DIR : <NL>

4) For all except Models 31585A (150 Mbyte cartridge tape) and 31585J (130 Mbyte cartridge tape), type the following command line to load from the dump file, tape file 2, the needed files:

   Su) LOAD_II/V/DELETE @MTxn:2 LOAD_II.PR LOAD_II.CLI &
   &Su)DUMP_II.PR DUMP_II.CLI DUMP_LOAD_ERMES <NL>

   ... (loading messages) ...

5) For Models 31585A (150 Mbyte cartridge tape) and 31585J (130 Mbyte cartridge tape), type this command line:

   Su) LOAD_II/V/DELETE @MTxn:2 LOAD_II.PR LOAD_II.CLI &
   &Su)DUMP_II.PR DUMP_II.CLI DUMP_LOAD_ERMES HELP:MOVER.TPC+ &
   &Su)UTIL:NEWFS_MIGRATION:+ UTIL:DJ+ <NL>

   ... (loading messages) ...

6) Rewind the tape by typing

   Su) REWIND @MTxn <NL>

   For Models 31585A and 31585J, you are finished loading the
    needed files.
   Go to step 10.

7) Dismount the first tape and mount or insert the second tape.

8) Load the remaining files from the second tape by typing

   Su) LOAD_II/V/DELETE @MTxn:2 UTIL:NEWFS_MIGRATION:+ &
   &Su)UTIL:DJ+ HELP:MOVER.TPC+ <NL>

    ... (loading messages) ...

9) Rewind the tape by typing

   Su) REWIND @MTxn <NL>

10) Print the document NEWFS_MIGRATION.DOC by typing

   Su) QPRINT :UTIL:NEWFS_MIGRATION:NEWFS_MIGRATION.DOC <NL>

11) Delete old MOVER.+ and SIZER.+ files (which have a different
    name) by typing:

   Su) DELETE/V NEWFS_MOVER.+ <NL>
   Su) DELETE/V NEWFS_SIZER.+ <NL>

12) Read and follow the migration procedures outlined in
    NEWFS_MIGRATION.DOC.

9 Preparing a Software Trouble Report (STR)

Gathering STR Information

If you find an error in AOS/VS II, its utilities or its
documentation, or if you have suggestions to make about the
product, please fill out and return a Data General Software Trouble
Report (STR). (If your contract permits, you may report the
information called for to your Data General representative.) You
should use the newly revised on-line STR form (pathname
:UTIL:STR_FORM_AOSVSII).

See Chapter 12 in "Managing AOS/VS and AOS/VS II" for help in
filling out the STR.

[End of "AOS/VS II Release Notice"]