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DEC-15-XSDIA-E-D

and

DEC-15-XSDAA-E-D

SOFTWARE COMMUNICATIONS
Digital Equipment Corporation
Maynard, MA 01754
The Software Dispatch is published monthly by Software Communications, Digital Equipment Corporation, Box F, Maynard, MA 01754.

Purpose: The Software Dispatch serves the DIGITAL software user. It publishes new and revised software announcements, programming notes, software problems and solutions, patches and documentation corrections.

The format allows it to be reassembled by the customer into a customized reference notebook for his special interests. The basic document with procedures for this effort is the Software Dispatch Review issued with the software purchase.

Subscription: The Software Dispatch for the PDP-9/15 is provided to all DIGITAL customers authorized to use the software product for three months after purchase. Thereafter it is available as part of the software maintenance service.

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DOS-15

DOSSAV
Disk Errors Handled Improperly

DOS-15
Reassembly to Support More Than 2G\$ DAT Slots

PIP
Correction for Improper Handling of Protection Codes
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SYSTEM INFORMATION
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Phantom Partition/Global Ownership Interlock

MUPT11SRC
Paper Tape Interrupt Mode

RSX PLUS III

FORTRAN OTS
Reassembly for More Than Four Random Access Files

NOTE: There are no incoming SPRs this month. All problems reported have been resolved.

*Article contains patch
†Replacement article
Disk Errors Handled Improperly

PROBLEM:

DOSSAV is unable to restore a system to a DECdisk that has physically bad blocks and will not process a parity error correctly.

SOLUTION:

The following source edit to DOSSAV 067 corrects the problem. Note that this correction, with the exception of the edit number, is the same for DOSSAV V3A (EDIT 065).

| 065 | EK | 15-JUL-74 | CHANGE SIGNON NUMBER |
| 065 | SK | 15-DEC-74 | SPR115-874 BUG FIX |
| 007 | JMW | 8-JAN-75 | CHANGE SIGNON MESSAGE |
| 008 | JMW | 3-APR-75 | CORRECT DISPATCH TO HF ERROR PROCESSOR |

SOFTWARE PRODUCT

| COMPONENT | DOSSAV |
|-----------------|
| SUBPROGRAM OR ADDITIONAL INFORMATION |

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Disk Errors Handled Improperly

ENTRY

LAC BUF8ZE
DACK NFNC
LAC DUFF
TAG LHI
DACK NBUBF
DSCH
LAC NFTRK
DLAL
LAC FRAT
DLAM
LAC NFIOF
/LOAD FUNCTION REGISTER,
DSCH
/DESC
/DSONS
/DSONS
/FIOF
/CLEAR AND LOAD AND GO.

THE 16-BIT STATUS REGISTER REFLECTS THE STATE
OF THE DEVICE AFTER IT HAS PERFORMED ITS SPECIFIED
OPERATION. ANY TIMING OR PARITY ERRORS THAT HAVE
OccURRED DURING THE OPERATION ARE INDICATED HERE.

/1F15 DISK STATUS REGISTER
/0-ERROR FLAG,*
/1-DISK HARDWARE ERROR (FREEZE),
/2-ADDRESS PARITY ERROR (FREEZE),
/3-MISSED TRANSFER,
/4-WHITE CHECK ERROR,
/5-DATA PARITY ERROR,
/6-WHITE LOCK OUT,
/7-NON-EXISTANT DISK,
/8-DEAD TIMING ERROR (0 NOT SET),
/9-PHONAM ERROR (0 NOT SET),
/1W-TRANSFER COMPLETE,*
* CAUSES API OR PI,

DSSF
JMP -1
/WRIT FOR DISK FLAG,
DSRS
/READ DISK STATUS,
DACK NFSTAT
/PRINTED
JMP NFERRS
/GO TO ERROR FLAG UP,
DSCH
/CLEAR DISK STATUS,
LAC NFIOF
/HAS THIS A WHITE?

C

/TTY MESSAGES,

C

TITLE .SIXST 'DOSSAV V3B001'

SOFTWARE PRODUCT

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Reassembly to Support More Than 2Gb DAT Slots

PROBLEM:

The distributed FORTRAN libraries are assembled to support the default number of positive DAT slots: 2Gb. If use of a DAT slot greater than 2Gb is desired, the routines .FLTB, FIOPS, and STOP must be reassembled and the libraries updated.

If more than four random access files are to be simultaneously open, the routine DEFINE must be reassembled and inserted in the libraries.

DISPOSITION:

Refer to the PDP-15 FORTRAN IV Operating Environment Manual (DEC-15-LFEMA-A-D), Appendix F, for the proper assembly parameters.

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NEW REPLACEMENT ARTICLE

X

ORIGINAL DATE

61

11
Correction for Improper Handling of Protection Codes in a Copy Operation

PROBLEM:

PIP V3A@00 will change protection codes occasionally during a COPY (with no switches) operation.

SOLUTION:

The following binary patch, which creates PIP V3A@01, corrects the problem.

```
PATCH V3A@00
>PIP
>LR 5353
>07554/207436C05235>JMP #+1000
>LR 1000
>03201/000000>LAC #+5435
03202/000000>AND #+15203
03203/000000>DAC #+5435
03204/000000>LAC #+5235
03205/000000>JMP #+5354
>LR 1034
03225/006400>106400
>EXIT
```
Large Word Pair Count

PROBLEM:

Lines which are retyped while using the G switch during a transfer operation have a word pair count so large that the Editor is unable to accept them.

SOLUTION:

The following binary patch, which creates PIP V3A@02, corrects the problem:

```
$PATCH

PATCH V3A000
>PIP
>LR 7004
>11205/741100>SZA
>LR 1034
>03235/106400<04177>206400
>EXIT
```
Correction to DOS-15 V3B Update Procedure

PROBLEM:

Due to an error in the distribution of DEC-15 V3A RESTORE DECTAPE #1 for RP02 (DEC-15-ORPRA-A-UC1), the complete error-free installation of DOS-15 V3B is not possible.

The error IOPS 74 is given while attempting to execute the following line found on page 7-7 of the DOS-15 V3B Update Document (DEC-15-ODJBA-A-D):

```
>T DP <BNK> .LOAD BIN + DT.LOAD BNK
```

This command replaces DOS V3A .LOAD with DOS V3B .LOAD

SOLUTION:

There are two possible solutions to the problem.

1. DO NOT execute the above line. Replacement of .LOAD is not really necessary, because differences between DOS V3A .LOAD and V3B .LOAD are insignificant.

2. This solution allows replacement of .LOAD.

PATCH DOS-15 V3A@@@ RP02 restore tape (DEC-15-ORPRA-A-UC1) as follows:

a. Put the DECTape (DEC-15-ORPRA-A-UC1) on drive #9, write enabled.

b. Do the following:

```
DOS-15 V3A@@@
$A DT -14)
$PATCH
PATCH V3A@@@
>B 1977
>L 290
>@@220/@@0000>775
@@021/@@0000>1000
```

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Correction to DOS-15 V3B Update Procedure

00202/000000>1003
00203/000000>1006
00204/000000>1011
00205/000000>1101
> L 376
00376/000000>1011
00377/000000>777777
> EXIT

Now the restore tape has the correct data.


Correction to DOS-15 V3B Update Procedure

3. This solution allows the replacement of .LOAD by PATCHing the disk to correct .LOAD RIB. Solution 3 avoids the necessity to rebuild the system from the restored DECTapes. Patch the DOS-15 V3A000 system on RP02 as follows.

   a. Do the following:

   DOS-15 V3A000
   $MICLOG SYS
   $PATCH
   PATCH V3A000
   >B 1191
   >L 200
   >0200/000000>775
   0201/000000>1000
   0202/000000>1003
   0203/000000>1006
   0204/000000>1011
   0205/000000>1101
   >L 376
   0376/000000>1011
   0377/000000>7777777
   >EXIT

Phantom Partition/Global Ownership Interlock

PROBLEM:

A phantom partition (one whose principal device is unlocked) with global switch ownership waiting to relock its principal device during an emergency close may interlock with a partition owning the principal device and seeking global switch ownership, causing an interminable stalemate.

SOLUTION:

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. EJECT

MUMPS
VERSION V11

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EDIT 46 3/19/75 JAH

EDIT: (1) 1/6/73/73 = ADD MODIFY COMMAND

(44) 2/20/75 (JAH) CORRECT CUSTOMIZED SW CODE (SPOLQ)
(11-45) 3/4/75 (JAH) ALLOW MORE THAN READ ALL ON ONE COMMAND LINE
(11-46) 3/19/75 (JAH) ELIMINATE INTERLOCK BETWEEN PHANTOMS & USKACT

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</table>
Phantom Partition/Global Ownership Interlock

/TEMP VAR FOR SLPCBK ROUTINE
EMERG 0
/11JAH46 EMERGENCY SWITCH (0) INDICATOR
/11JAH46 0=OFF, 1=ON
DDTSTW 0
/CONSOLE TELEY SWITCH 0=MONITOR, NON=0 DUT

STACH4 IAC
SAD STATY
LAC (STATY)
DAC SCOUNT
LAB
NZH FRMFRG
SAD (4111)
JMP STACH7
LAC SCOUNT
XOR (1)
AND (4577)
SZA ICLL
JMP STACH3
LAC PRTNMB
SZA
JMP *3
LAC SCOUNT
DAC PRTNMB
LAW 17377
INTOFF
AND SCOUNT
SAD SCOUNT
JMP STACH3
DAC SCOUNT
LAC SCOUNT
DAC PRTNMB
JMP EXFC

STACH7 ISZ
LAC DSKART
/11JAH46 GLOBAL DATA
SZA
JMP STACH9
/11JAH46 SPages SWITCH OWNED
LAC SCOUNT
/11JAH46 DU EMERGENCY close NOW
SZA ICLL
JMP STACH2
/YES, PARTITION ACTIVE

YES, RUN IT REGARDLESS OF STATUS

SOFTWARE PRODUCT
MUMPS-15

COMPONI N1

VERSION
VIIA

MUMP16 SRC

SUBPROGRAM OR ADDITIONAL INFORMATION

NEW
REPLACEMENT ARTICLE

ORIGINAL DATE

18
Phantom Partition/Global Ownership Interlock

C → SWPOK LAC EMFRG /*11JAM46* EMERGENCY CLOSE?
      SZA /YES,
      JMP /NO, MAKE OUT PRINT
SWPOK2 LAC SWPIN2 /*11JAM46* (SWITCH D)
      DAC /YES,
      AC /NO, MAKE OUT PRINT
SWPIN1 LAC AC /*11JAM46* (SWITCH D)
Paper Tape Interrupt Mode

PROBLEM:
The paper tape interrupt routine can be entered while in bank or page mode.

SOLUTION:
Since MUPTL1 can be loaded so that it overlaps page boundaries, all code within the module should be executed in bank mode.

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EDIT 9 3/19/75 JAH

EDIT 4 9/4/73
EDIT 5 3/4/74 INSERT API
EDIT 6 5/19/74 ADJUST PITCH AT LEAST AS LONG AS STRING LENGTH
EDIT 7 7/9/74 AND DISCLAIMER & ELIM EXCESS MEM STORAGE
EDIT 8 10/15/74 NFMAY: DMA AT START OF INTERRUPT PROCESSING
***VERSION 11 RELEASED THROUGH SOFTWARE DISTRIBUTION CENTER***
((11-9)) 3/19/75 JAH - INSERT DMA AT START OF INTERRUPT PROCESSING

PIRIN:
  IFNZ API?
  0:
  INTOFF
  EBA

DAC INTPTC
/1111 SINCE AT PRESENT HO, LR, & XR ARE NOT USED DURING INTERRUPT

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Reassembly for More Than Four Random Access Files

If more than four random access files are desired to be simultaneously open, DEFINE must be reassembled. The parameter %TBSIZE should be equal to the maximum number of open random access files required.
Questions, problems, and enhancements to Digital software should be reported on a Software Performance Report (SPR) form and mailed to the SPR Center at one of the following Digital Offices: (SPR forms are available from the SPR Center.)

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