

UNIVERSITY OF MINNESOTA COMPUTER CENTER
Deadstart Systems Newsletter

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NOTICE OF CHANGES TO THE SYSTEM

Kevin Matthews installed the following changes.

- 1) Kevin's enable/disable ERROR IDLE feature was corrected so that when ERROR IDLE is disabled, a device which has error idle status set will be checkpointed.
- 2) The following change requires a short preamble. Long ago, we installed an important security feature which allows a SSJ block to be swapped back to the control point area when SSJ privileges are rescinded with the DISSJ macro (see DSN 3,5 p. 6). A small problem introduced by the feature is that whenever a SSJ= program with SSID (special systems ID) files present rescinds SSJ privileges, the SSID files are not returned. To solve this problem, 1AJ was changed to treat SSID files like UPID files (user privacy ID). That is, if the user private file bit in ECSW is set, then SSID files as well as UPID files are returned. This bit is set by a PROTECT,ON macro call. Now, for the problem at hand. If a program is SSJ= and DMP= and aborts before SSJ privileges have been rescinded, a rollout file is created with SSID. When 1AJ dutifully attempts to return the rollout file, it hangs. This exact situation occurred recently with CALLPRG. Kevin fixed 1AJ so that rollout files are not returned.

Don Mears installed the following:

- 1) Plot and punch queue file processing was corrected so that whenever a file of either type is RERUN, the "routed to" site does not revert to BC.

- 2) A hung port problem resulting from users hitting BREAK key during logout was fixed.
- 3) The purge option was removed from QREC - a safety precaution as the entire print queue was recently purged by mistake.
- 4) The error message produced by TELEX when the file specified on a RUN command is not found was repaired.
- 5) The IMPORT packaged was corrected for a case where a jobname would not always be picked up for all print files.
- 6) Program 1SU was changed so that the SUPPIO message IMPROPER DISCONNECT is placed in the error log and so that SUPPIO does not abort when the PDP-11 sends a buffer which is too big.
- 7) An X carriage control character was added to the SUPPIO banner page.

Marisa Riviere added the much discussed V option to CALLPRG. Callprg index entry maintainers can now begin adding callprg index entries which use the V facility. Marisa also changed CALLPRG to access files with a ACQUIRE function rather than GET or ATTACH depending on what is on the index entries. This change has the benefit that index entries need not be changed when a file changes from indirect to direct.

Brad Blasing installed the following changes.

- 1) A new space-saving mod was added to 1AJ. The changes simply moves some code out of TCS into preset.
- 2) The old mod EXEC from NOS 1.2 was converted. The conversion was only possible because of the above space-saving mod. For those who do not recall, this is a mod to 1AJ, LFM and EXU which improves execute-only file security by setting secure memory and clearing EREXIT, REPRIEVE and DISTC addresses when loading execute-only files. In LFM, execute-only files are not allowed to become the control statement file (via ENCSF).
- 3) Brad installed some PSR code from CDC which changes BLANK to avoid the possibility of label fragments being left on the tape after an attempt to blank label a tape fails.
- 4) Another PSR mod from CDC was installed which corrects a CPUMTR mode exit in certain RSB requests.

Jeff Drummond installed new versions of BLOCK and EXAMINE with improved internal documentation. Additionally a new version of COPYU with the proposed 8 and R options (see DSN 6,2 P. 21) was installed.

Dean Nelson repaired a documentation error in MODVAL. Dean also repaired an unspecified error in LISTVAL.

PROPOSED CHANGES TO THE SYSTEM

PURGE FILES OR USERS? - by John Vogel

I was unable to be at the systems meeting of February 8 when my suggestion for a change in the PURGE command and control statement was considered. (I had told Larry that the consideration should go ahead in my absence.) However, after reading the minutes of that meeting I find that my intent was very misunderstood.

It was my suggestion that PURGE respond with the name of the file it has just removed. It should do this to help avoid disasters resulting from mistyping or from terminal malfunction. I was dismayed with the reasons given for not implementing my suggestion. To suggest that a user check the dayfile or run in full duplex misses the whole point. I was reminded that in the mid-sixties some keypunches in the Soviet Union did not have the capability of printing a graphic at the top of a card. Perhaps that was the result of a deliberate decision -- that the user could always look at the holes to see what had been punched.

Implementation of my suggestion would provide valuable user support in just those instances when the user would not consider checking the dayfile or when full duplex would not help; I want to alert the user that what he has done was not what he intended to do. I am not trying to rescue the user who has gotten confused because he chose to use BRIEF mode, but instead I want to aid the general user.

Although systems take on a "life" of their own, evolving and needing to be nurtured, as a computer center, the primary purpose of this organization is to provide service. Furthermore, this is a University computer center and as such it assumes the additional role of providing an educational service. It follows that the major effort of the staff should be to create an environment which will make it easy, as well as educational, for any user to interact with the system. Our major effort should be directed toward creating user-oriented, stable programs that are well-documented, both technically and educationally.

With all this in mind, and because my proposal is economically feasible (if a message is to go to the dayfile, is its last line not echoed at the terminal?), I resubmit my proposal (DSN 6,2 P. 20).

//////////
TXTPLOT - by D. Germann

I would like to install a text formatting postprocessor program, TXTPLOT, as a control statement callable entry in the CALLPRG index. TXTPLOT converts a file that contains control information and "8in12" ASCII data, which is produced by a text formatting program from Purdue (TXTFORM), into a PLOTS file. This file can be plotted, and the result used as a proof for a document.

//////////
PLOT FILE VALIDATION - By T. W. Lanzatella

Unauthorized use of the Statos plotter by student account numbers has become an expensive problem for several departments. I have been asked to make plot file use a validated privilege based on a bit in the access word.

//////////
TIME LIMIT PROCESSING - by K. C. Matthews

In the fall of 1976, we changed the CDC formula used for calculating time limits.

As you may recall, CDC gives formulas for many user limits; the formulas calculate a limit given a 3 or 6 bit index value. When UCC converted from NOS 1.2 to NOS 1.3, the local mod was dropped since we thought it was no longer needed. At that time it seemed as if the SRU limit would be the one which really limits a job. The time limit was changed by CDC at NOS 1.3 to limit the time for each job step, not for the entire job. I wish to propose that we re-install the UCC NOS 1.2 time limit mod. It allows a larger range of time limit values to be assigned. This change has been requested by the MERITSS staff.

The time limit index in the VALIDUZ file is a 6 bit index. The stock CDC formula is:

$$\text{TIME LIMIT} = \text{INDEX} * 1000\text{B} + 100\text{B}.$$

An index of 77B gives unlimited time.

Our formula divided the 6 bit field into a 4 bit exponent and a 2 bit mantissa:

$$\text{INDEX} = 4/\text{M}, 2/\text{E}.$$

Then we had:

$$\text{TIME LIMIT} = (2\text{M}+1) * 2^{**\text{E}}.$$

This gives a variety of small time limits, which also generating some higher limits near the top of the range. The index of 77B is still defined to give unlimited time.

This change involves:

- 1) Changing the CDC formula in common decks
COMPCVI and COMCCVI.
- 2) Changing documentation in MODVAL.
- 3) Removing a shift instruction in CPM and OVJ where
the CDC formula is assumed to give a result in units
of 10B.
- 4) Perhaps updating the VALIDUZ files on the Cyber 74 and Cyber 172 to insure
that all research users have large enough time limits.

//////////

THE R= PARAMETER FOR PERMANENT FILES - by K. C. Matthews

The R= parameter is NOS 1.3 is supposed to specify the device residence on auxillary permanent file requests. For example:

ATTACH,SAM/PN=XYZ,R=D11.

tells the system to attach file SAM from a pack named XYZ. XYZ must be a D11 pack (a single DI). The request:

ATTACH,SAM/PN=XYZ,R=DL2.

would mean that SAM resides on a DL2 equipment - 2 DL packs in tandem. The name of that equipment would again be XYZ.

This is not how it actually works in the real system. For a non-removable named pack (like SHA or SPL) the R= parameter is ignored. You can attach a file from SHA with the statement:

ATTACH,SAM/PN=SHA,R=DQ5.

if you want. The R= parameter is checked (and is needed) for removable packs.

The R= parameter is not needed for a removable pack if it is the system default pack type (D11). Thus, it is not necessary for most of the removable packs here. But if we make a removable DJ device, the DJ parameter will always be needed. Thus, if UCC were removable, to attach file SAM the statement:

ATTACH,SAM/PN=UCC,R=DJ1.

would be required. Even if a PACKNAM card is used, the R= parameter is needed on each permanent file control statement:

PACKNAM,UCC.
ATTACH,SAM/R=DJ1.

I propose to make the R= parameter for removable packs work like R= for non-removable auxiliary devices. I propose to ignore it if present, and not require it on any removable request. This will allow us to make UCC a removable DJ device without requiring staff members to enter R=DJ1 on each UCC request.

The only important side effect of this mod is that we cannot then have different type removable devices with the same name. That is, we cannot have a DJ1 and a D11 both named SAM. For then, if a removable request came along, it would be unclear which pack should really be used. I don't think this is a serious drawback.

If this proposal is approved, we should then create a removable DJ device and mount pack UCC on it. This will make it easier to mount and unmount UCC when system or hardware problems occur. It will also allow us to use the removable DJ device to reformat double density packs on line with the standard CDC FORMAT utility.

SYSTEM MAINTENANCE: People and Procedures

LAST WEEKS SYSTEMS GROUP MEETING - by T. W. Lanzatella

The round table discussion was the major agenda item. Each of us briefly listed topics of concern and current and future projects.

MJF - Status plots - contrast/stepping occasionally out of adjustment
- linear equation solving.

MR - Division of WRITEUP/CALLPRG.

ABM - Present list of requirements for more user-friendly systems
- MODULA.

JS - Operator documentation
- job status and job purging utility for users
- card punch acquisition
- page printer
- 669/679 compatibility problems.

SAR - Run DMS 170 at control point
- wants to remove CDCIO - depends on LAL/EJM changing MNF.

RM - MIX/ENCOMPASS
- CSci communication.

RAW - Micro area
- alternatives to phone company equipment
- PDP-11 reliability on MERITSS
- common accounting
- documentation for operators
- disk space shortage on MERITSS.

BEB - Future CDC product set.

JJD - Consolidate - work on outstanding projects
- more self reliant users.

JOL - Lower transportation costs
- investigate microfiche
- pickup/delivery service.

AGN - RJE usage stats are up, SUPIO could saturate
- more 4800 baud requests
- fire fighting with the new RJE package.

TWL - Cost of system diagnostics
- undergraduate training
- mod scheme for update products
- future CDC systems
- new RFM/UPWRITE link.

EJM - Fix bugs in code and documentation
- new MANTRAP project
- John Vogel M77 document.

LAL - Budget
- new equipment
- communications.

And finally, we agreed to change our name for the P1 job class from large job to nofrills.

//////////

Callprg and Library Tape News - by M. Riviere

The following Callprg index and Library Tape modifications will be taking place on March 4:

The PROCPAC routines on the libraries FORTRAN and FCL460 on the library tape will be updated with a new version provided by Kevin Fjelsted.

Also in the Library Tape, the COPYCH utility will be replaced with a new version provided by Jeff Drummond.

I will modify the CALLPFM section of FORTRAN to fix a small Record Manager communication problem that shows on level 485 for mass storage files.

Steve Reisman will install a new version of SORT/MERGE on the 720. This version uses the CMU feature.

In addition, Steve will make modifications to the Callprg indices. These modifications are mainly for the purpose of updating the messages associated with some of his packages and a fix in S2K and S2KIA parameter processing.

Kevin McMahon will be modifying the Cybers 74/172 Callprg index in order to transfer the entries of several packages to his section. These packages were previously maintained by Michael Frisch and Dan Germann.

The next set of scheduled Callprg index and Library Tape modifications will take place on March 18. Modifications for that date should be submitted before noon March 6.

Before March 18, however, I will make additional index modifications in order to adapt the indices to the Callprg program modifications that are included on the February 28 tape (insertion of the V parameter) and for the ones that will be implemented on the March 13 tape (abort on PAST and FUTURE packages not found) (see article on February 12 DSN, Vol 6, No. 3). I will make these modifications upon request.

//////////

Cyber 74/172 Deadstart Dump Analysis from Friday, 15 February - Sunday, 24 February - by K. C. Matthews

Tuesday, 12 February

23:55 (DD2006)

Cyber 74

1AJ hung when advancing to an EXIT card at the EXPORT control point. The problem is the same as that detected during an SSJ= abort a month ago. The problem was due to a KCM mod in 1AJ affecting the automatic return of UPID and SSID files. Brad Blasing found the problem, and it has been corrected.

Thursday, 14 February

10:25 (DD2007/DD2010)

Cyber 172

The Cyber 172 stopped with a hung copy of CIO. It hung again, on the same job, after level 3 and level 0 deadstarts. The problem was due to a CIO error correction having been left off the new deadstart tape installed on 14 February. This problem has been corrected.

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Cyber 170-720 Deadstart Dump Analysis (2/11-2/24) - by R. A. Williams

Date	Description	Tape
800221	The system was taken down at 0930 after it was discovered that about 1/6 of the ports were missing as a result of the operator incorrectly making CMR keyboard entries at deadstart time.	N.A.
800222	The system was up over four hours late due to hardware problems. The CE's are not entirely	N.A.

sure of the cause yet but the deadstart panel
is at least part of it.

The MERITSS conversion to NOS is essentially
complete. All participants deserve praise as
the conversion went quite smoothly and few bugs
remain. Bill Sackett, for his coordination,
documentation, and mod conversion work deserves
special praise as does Don Mears for his extensive
effort which uncovered and corrected a number
of problems in TELEX. Thanks again to all.

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TELEX and TELEX PDP-11 Crash Analysis (2/10-2/24) - by D. W. Mears

- 2/14 There were several hung ports on the Cyber 74 caused by
a conflict between the MULTI and ROTARY mods. MULTI
was removed the next day.
- 2/11 13:17 The link on the 172 failed to return a full when a mode
1 read was requested. The problem went away when TELEX
retried the operation.