

TWL

UNIVERSITY OF MINNESOTA COMPUTER CENTER  
Deadstart Systems Newsletter

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Send all comments, criticisms and contributions to the editor: T. W. Lanzatella  
 University Computer Center, 2520 Broadway Drive, Lauderdale, MN 55113  
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NOTICE OF CHANGES TO THE SYSTEM

## NOS Changes

The following changes become effective on Thursday, 13 September.

Tom Lanzatella installed a temporary change to RESEX LABEL processing which prohibits access to 7-track, F or L format tapes where frame count (block size) is greater than 5120 characters (1 PRU). This change works in conjunction with a mod installed by Brad Blasing which retrofits 607 support into R4. This modset was bartered from SANDIA by Steve Nachtsheim. The single limitation imposed by the SANDIA modset is that 607 support was reinstated at the expense of F and L format, long block code conversion. This means that we could actually allow access to F and L format, long block, 7-track, binary tapes. Unfortunately, these tapes cannot be distinguished by the LABEL card, hence the broader disallowance. This modset along with the SANDIA mod will be deleted as soon as the 677's arrive in about one week.

Kevin Matthews repaired an error in multi-mainframe processing which causes the field length of the last control point to get wrecked after a level 3 recovery deadstart. Kevin also fixed ODV so that 3X type SUPIO sites are eligible for divert processing. For a short time after the R4 upgrade, these sites weren't receiving any output.

Don Mears installed the following changes.

- 1) TLX functions were generalized with modset GENTLX.

- 2) NOTICE/NOTIFY support in TELEX was converted to R4.
- 3) Don repaired an unspecified error in the card punch driver.
- 4) Temporary code was added to 1TA which issues all of the customary login account file messages. Eventually the code will be removed and similar code will be added to ACCFAM.
- 5) A dummy entry was added to the time sharing subsystem table. This entry replaces the COBOL subsystem and serves to ensure that table ordinal values remain the same between R3 and R4.
- 6) A check for system origin in TELEX was repaired.
- 7) A space saving change was applied to ASCII processing in 1CD.
- 8) Site 3D was added to the list of legal site ID's in SUPIO.

Tim Hoffmann repaired CATLIST so that the command CATLIST(FN=...) actually works. Tim also repaired several errors in STIMULA and added some symbol definitions to CALLPPU so that it assembles.

Marisa Riviere repaired an error in dayfile archiving code in CALLPRG wherein SSJ privileges were not being turned off, thus allowing WRITEUP to retrieve fast attach files.

Jeff Drummond repaired a PSR mod which he installed and consequently restored the console DATE command. Jeff also repaired DSD so that the P-display works on a 10 PP machine. Additionally, Jeff contributed source for several MPL decks related to tape processing.

#### EXPLIB -

- 1) Dayfile and internal coding was brought up to coding standards.
- 2) Internal documentation was updated.
- 3) EXPLIB was altered to use COMCSBC (single buffer copy) when generating local copies of RESEXES/RESEXIS.

#### TAPES -

- 1) This version has updated internal documentation and internal coding standards were improved.

#### COMSEXF -

- 1) Updated with new documentation.

#### COMCSSA -

- 1) Several minor errors corrected.

BLOCK -

- 1) Updated internal documentation.

EXAMINE -

- 1) Dayfile messages and internal coding was brought up to coding standards.
- 2) The length of each record listed on the examine report is now given in characters. This is 6-bit characters unless LO=AS or LO=EB is specified, in which case the count is 8-bit characters.
- 3) The deck name is converted to display code if LO=AS or LO=EB is specified.
- 4) The correct inter-record gap is now used for 6250 CPI tapes (previously, EXAMINE assumed that all 9-track tapes had inter-record gap of 0.6 inches - 6250 CPI has 0.3 inches).
- 5) The code to process density selection for 9-track tape was fixed.
- 6) EXAMINE now recognizes capsules and PROC-type records.

Brad Blasing installed the following changes.

- 1) PFILE code in CONTROL was repaired to properly check for protected permanent file.
- 2) RESEX was corrected so that parameters requiring literal processing like ID=\$.BEB.\$ actually work. This was a TWL conversion error.
- 3) Brad contributed a new version of CCL which has keywords DATE and DW (day of week).
- 4) Program USERS/DSD was corrected to properly validate users.

#### PROPOSED CHANGES TO THE SYSTEM

UN=TEXT - by J. Larsen

In the past all of the programs, binarys, writeups, and text files that did not go on the system were dumped on UN=LIBRARY. With the advent of CALLPRG and WRITEUP the problem was alleviated somewhat. There is still a problem with text file that does not fit in either CALLPRG or WRITEUP. These files such as demos, data files, source files for COMPASS, etc. are still being dumped on the library.

I propose that we create a new user number (UN=TEXT) for all text and data files that do not compile and run when the user types the RUN command. This user number could contain all of the files that do not have a real home. If the use of this user number were documented fully the user would know that any files contained on this number were only text files and would not expect them to run without some driver program or a COMPASS assembly. I am sure that with more though UN=TEXT would have more and more use. It also has the advantage of collecting all of these homeless files in one place.

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#### Access to Sign-On User number - by M. Tarbet

I would like to suggest that a macro ("TLXUN"?) be provided to return the Telex (i.e., sign-on) user number, analogous to the USERNUM macro now available to return the job UN.

(I'm told that MECC has already written the code, so our only task would be installation.)

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#### Communication with Terak - by E. Schleske

The UCC has developed a program, called COM, for the Terak computer that allows the Terak to be used as an intelligent terminal. Documentation will be available at the systems meeting. COM can also be used for exchanging files between the Terak and MERITSS. When COM is getting a file from MERITSS, it requires that a program called TRKXFER be running on MERITSS. TRKXFER sends data in blocks with a check-sum. If COM doesn't agree with the check-sum, TRKXFER will re-send the block. I would like to have TRKXFER added to the CALLPRG index so COM could be used with the CYBER 74 and CYBER 172 also. The control statement call is TRKXFER,PFN. where PFN is the permanent file name of the file being sent.

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#### Assorted Proposals - by T. J. Hoffmann

##### UQM

This proposal mainly affects systems time, but also can affect user hours, too. I would like to modify the "DELAY" DSD/SET directive so that UQM's recall time could be changed. Currently, UQM comes up every 60D (74B) seconds. During systems time, it would be nice if it came up more often. Possibly this might be a good idea for user hours, but that is a different topic. The syntax would be the same as for the other "DELAY" commands: "DELAY,UQxxx."

##### A Zero Mod

Based on a mod from AARU in Denmark, I am proposing a check in CPUMTR so that at each DPPM request, words 0 and ZERL are checked for zero, and word MSCL for non-zero. If an error is detected, the message is displayed:

"0/ZERL/MSCL VALUE ERROR."

at the system control point. CPUMTR would then hang with A5 pointing to the output register of the PP making the DPPM. Hopefully, this might be the PP which clobbered CM.

##### Delay Input Queue

The following briefly discusses how delay input queue is being implemented. There are now 2 \*P\* options on the job statement, P0 (low rate charging) and P1 (large CM jobs with a special rate). As these jobs enter the input queue, OVJ sets their priority to a value ( MNPS (to keep the scheduler from processing them). Then, UQM calls QREC to dequeue these files to the IQFT tracks. Once low rate time starts, or operations enters "ENABLE, LARGE JOB EXECUTION.", UQM will call

QREC to requeue these jobs back into the input queue where UQM will reset their priority back to normal (MNPS). However, the jobs will only re-enter the system at a certain rate. The NJ (number of jobs) field in the Service Limits block will be looked at by UQM to determine how many jobs to requeue back into the system. It counts the number of INFT, TEFT, and ROFT files to determine how many jobs of each type are in the system. Job identification is done via a pseudo job class which is kept in the EFNT entry of the file (this job class is also where the NJ service limits come from).

Hopefully, the existing QLIST program can be modified so that users can use a statement such as:

```
QUEUE,LIST,LOWRATE  
QUEUE,LIST,LARGE
```

to find jobs that have been dequeued.

#### SDM Processing for Charge

At the request of the CSCI department, I would like to add SDM= processing to the CHARGE control statement. The format of the statement is CHARGE,CHARGENMBR, PROJECTNMBR. The project number is similar to a password and should not appear in the dayfile. CDC apparently removed some of the SDM= code from CHARGE since there is still a hook or two in CHARGE for doing so. The message to be issued to the dayfile is: CHARGE,CHARGENMBR. For time-sharing users, there is a secure entry feature for both charge number and project number already implemented.

#### SYSTEM MAINTENANCE: People and Procedures

##### Last Week's Systems Group Meeting - by T. W. Lanzatella

The following proposals were discussed.

- 1) The first item was Mike Frisch's non-proposal to develop an 8/12 ASCII version of XEDIT. Steve Collins remarked that despite 8/12 ASCII support in the Release 6 system, development of 8/12 XEDIT in the current environment would be difficult at best. Andy Mickel expressed concern that XEDIT performance in an 8/12 environment (as well as most other language processors) would be severely degraded due to the halving of character data transfer rates. Larry Liddiard mentioned that the future of R6 at our site is very "iffy" at this point and he added that any development effort by UCC should benefit the University users first. The general tone of the discussion was that 8/12 ASCII development should not be started at this time.
- 2) Marisa Riviere's proposal for dealing with unused and large CALLPRG files was discussed at length and finally rejected. The major opinions against the proposal were that:
  - a. The feature of automatically dumping and reloading of CALLPRG permanent files should best be dealt with by a general utility which automatically dumps and reloads all permanent files.
  - b. The problem of disk space wasted by many old and large CALLPRG files should be solved by better report generating programs which examine the CALLPRG catalog and by more personal contact with the individuals who own the files.

Jerry Larson mentioned that the conversion of the staff 7-track library to 9-track is running smoothly.

John Sell informed us that the 170-720 installation is on schedule. John also informed us that contrary to popular opinion, there would be no party in the machine room to celebrate the departure of the 6400.

Dick Folden reviewed the DELTAK training course offerings.

Tom Lanzatella announced that barring any unforeseen difficulties, R4 will be installed on 3 September.

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#### CALLPRG and Library Tape News - by M. Riviere

On September 3, the CALLPRG index was modified in order to include two new FETCH type packages, MAILBIN and MAILB. These packages, introduced by J. Larson, are a user communication system that allows users to exchange information by selectively accessing and modifying a direct access file that resides on the WRITEUP account number. Documentation about how to use the products is obtained by using a help command on MAILBIN. This modification took place on the KRONOS and the NOS index.

On September 18, J. Strait will be modifying the CALLPRG index by introducing a future version of ARCHIVE and the control card callable package COPYCH. The future version of ARCHIVE has several changes and additions that will soon be documented on the ARCHIVE WRITEUP. COPYCH is a package to be used for file's conversion within various character sets and formats. COPYCH was previously proposed in the June 12, 1979, issue of the DSN. Documentation about COPYCH can be obtained now from John and it will be available on WRITEUP after September 18.

Also on September 18, I plan to modify the NOS CALLPRG index in order to group the different sets of installation texts into three groups: TEXT85, TEXT60, and TEXTKR. Upon the statement FETCH,TEXTnn all the available installation texts for the corresponding system or level will be retrieved. This grouping will make it easy to obtain the desired text. The entries for individual texts will be removed.

I will also be changing the entry for CPOPL to retrieve the current (485) CALLPRG index. The 460 version of CPOPL will be removed.

The next set of CALLPRG index and Library Tape modifications will be taking place on October 1. Modifications for that date should be submitted on or before noon September 21.

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#### Cyber Deadstart Dump Analysis from Monday, 20 August through Wednesday, 5 September - by K. C. Matthews

Thursday, 23 August

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12:15 (DD-7) Cyber 74  
Channel 1 hung. This is the card reader-printer channel. Printer LQ35 was being worked on at the time. No resolution.

Sunday, 26 August

19:33 Cyber 74  
A level 0 deadstart was required when it was discovered that the systems time pack was mounted in place of one of the normal permanent file base.

Monday, 27 August

14:10 Both Machines  
A circuit breaker was accidentally tripped, which stopped both the Cyber 74 and the Cyber 172. A level 3 recovery was required on each machine.

Saturday, September 1

11:48 (DD-12) Cyber 74  
The system had been down since 06:00 due to a power failure. In bringing up the system, jobs hung several times. Eventually, things were working. No analysis of the problem.

14:12 (DD-13) Cyber 74  
Disk errors began appearing on equipment 14. PP program 1CK hung checkpointing the device. A level 3 deadstart was required.

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6400 Deadstart Dump Analysis (8/20 - 9/9) - R. A. Williams

<u>Date</u>	<u>Description</u>	<u>Tape</u>
790821	A broken 7054 844 disk controller and a 6676 multiplexer upgrade problem caused the system to come up late.	Equipment still down
790821	TELEX was taken down to test a 6676 multiplexer that had been upgraded.	Fixed
790823	ECS was being disconnected and the system came up late when problems were encountered using the DDP access.	Fixed
790824	A number of PP routines were moved to CM when the DDP would not work. SFP, one of the programs, should not be in CM with our SPLM monitor function code. The system hung because it was in CM.	Fixed
790824	The 7054 844 disk controller on channel 1 hung.	Equipment still down
790828	The 7054 844 disk controller on channel 4 (formerly 1) hung.	Equipment still down
790829	7054 channel 4 hung but channel 3 was removed from the system by mistake so the system went down again later.	Equipment still down
790830	Work on 7054 channel 4 took longer than expected so the system came up late.	Equipment still down
790830	7054 channel 4 hung and was removed from the system.	Equipment still down

Now, from the people who brought you The ECS Connection, The SRU Factor, Level 485, and The KRONOS Conspiracy comes another best selling thriller:

#### The Controller Goes Incognito

This is the story of a 7054 disk controller that, from its safe, secluded base at the end of channel 1, wreaked havoc on the last days of MERITSS' 6400 by refusing to respond to general status requests on an intermittent basis. After the 6400 was replaced, with stunning efficiency by UCC operations, U of M Plant Services, CDC, and MERITSS personnel, the activities of the dastardly disk controller continued to plague system users and staff alike. It changed its base to channel 4, but struck only occasionally making corrective action difficult. MERITSS staff fought back, however, decreeing that no more would this device be allowed in the production system. Tests of the CDC CE's handiwork, aimed at fixing the controller for good, would be run after end of operations. This action should mean an end to daily crashes due to this despicable controller.

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#### TELEX and TELEX PDP11 Crash Analysis (8/20 to 9/9) - by D. W. Mears

- 8/23 8:15 The link on channel 2 on the 172 hung full. The link test showed that the link consistently failed to return an empty during a PPU output operation. The link fixed itself before field engineering could locate the problem.
- 8/23 16:46 Channel 2 on the 172 hung full when TELEX attempted to set the BA register. Everything was O.K. after the operators did a disconnect on the channel. The problem has not occurred since and the link test does not fail on this link.
- 8/28 14:15 The PDP11 went down due to a power fluxuation. Only the PDP11 hardware was affected by power fluxuation.
- 9/6 14:22 TELEX had to be stopped because it would not release the CPU. I have not analyzed the dump yet. I suspect that the problem is related to the numerous DPT and RIN errors TELEX has been getting since we went to 485. These errors indicate serious problems with TELEX (no doubt caused by incorrectly converted local mods). We are lucky to only have had 1 TELEX crash since going to 485.

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#### Plotter PDP11 Crash Analysis (8/20 to 9/9) - by D. W. Mears

There were 9 PDP11 halts during this period. All show that the PDP was idling waiting for a request from the Cyber 74. I have not had time to determine if this is a hardware or software problem.