

UNIVERSITY OF MINNESOTA COMPUTER CENTER  
Deadstart Systems Newsletter

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NOTICE OF CHANGES TO THE SYSTEM

The following changes will be installed on Tuesday, 25 November.

Greg Jensen contributed changes to PROFILE which permit master users of charge numbers access to SR, CM and SP limit registers; rename certain directives to give them more meaning and to lower some limit index base values.

Kevin Matthews (along with Paul Thompson and Dean Nelson) installed changes to UFM and to multi-mainframe support code which permit two new MID's, CR for CRAY via CQDUMP and SP for St. Paul via TIELINE. Jobs bound for either of these sites will now sit in the input queue until an appropriate utility (CQDUMP or TIELINE) is executed. Before the jobs depart, an entry is added to a new fast attach file named MERCURY. The entry is an image of a print file system sector and serves to identify the destination of output when it returns.

Jeff Drummond reinstalled several modsets and MPL common decks with better documentation and closer adherence to coding specifications.

Bill Sackett installed two modsets to PFDUMP/PFLOAD gleaned from the PSR's. The code corrects a timing problem with catalog image record processing and an intermittently erroneous file length error. Bill also corrected a problem with RESEQ wherein a line number without a blank followed by a comment caused RESEQ to become confused.

Steve Collins submitted the XEDIT package for inclusion on WPL.

Dean Nelson changed CQLOAD to send a message to the account file for each CRAY job processed on the dump tape. The message will indicate the number of CP seconds used by the job on the CRAY. This change is proposed in this DSN.

#### PROPOSED CHANGES TO THE SYSTEM

Accounting for CRAY Jobs - by T. W. Lanzatella

We are planning to announce soon that UCC can provide services on a remotely located CRAY-1. Initially, the service will be handled by simply dumping CRAY-bound jobs in the input queue and physically carrying the tape to the CRAY site. After the jobs are run, the output is dumped to tape and carried back to UCC. Since the service is not free, some indication must be placed in the account file of CRAY-job costs. I suggest the following account file message;

MCCP,jobname,usernum,xxxxxxxxxxxxxxSECS.

where x...x is the number of CP seconds right justified in a 12 character field.

#### DISCUSSION TOPICS

A CCL Feature - by A. Swanson

I suggest that CCL be modified to permit a TRANSPARENT mode of operation in which keyword substitution can be symbolically inhibited on a block-wise basis within a procedure.

Presently such inhibition is possible only on a piece-wise basis by prefixing a special symbol onto each occurrence of a character string identical with the keyword. This is an error prone scheme which detracts from the readability of the procedure text.

I propose the invention of two new CCL commands (e.g. .TRANS and .NOTRANS or .NOEDIT and .EDIT) which delimit blocks within a procedure to be exempted from keyword substitution.

The intent of this suggestion is to make CCL easier to use and more robust against unintended modes of operation. Note that the SUBMIT utility possesses a similar feature which symbolically protects the submitted file from unintended editing operations otherwise automatically performed prior to execution.

SYSTEM MAINTENANCE: People and Procedures

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

Since no proposals were presented, Larry took the floor for the entire meeting and described three areas where large changes may occur.

- 1) Since the MERITSS machine is starting to run out of power, we are considering replacing the Cyber 720 with the 172 and 132K of its 198K of central memory. This change would increase MERITSS power by a factor of 1.3.
- 2) Because multi-mainframe is proving cumbersome and difficult to manage, we are considering upgrading the Cyber 720 to a 740, getting rid of the Cyber 74 and ECS and again running a unified batch/time-sharing machine. The advantages being that we could expunge 20-30% of local code to the system, gain higher reliability and free 90 Amps of 400 cycle power.
- 3) To facilitate development and service support in the Graphics and Word Processing areas, we are planning on purchasing a VAX 11-780.

The majority of the meeting was spent discussing the timing and logistics of these changes.

The next systems group meeting will be held on Tuesday, 25 November because of the Thanksgiving holiday.

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Callprg and Library Tape News - by M. Riviere

On November 14, Kevin McMahon modified the Cyber 74/172 Callprg index entries for the COLOR library. The package was not being retrieved correctly.

On November 18, S. Yen modified the Cyber 74/172 Callprg index to add past versions of SIR and BMDP70. Yen also added a past version of SIR on the Cyber 720 index.

Also on November 18, Jeff Woolsey introduced an entry for the DAREP library on the Cyber 720 Callprg index.

On December 2, Michael Frisch will be placing a version of the FTN5 I/O Library, FN5IOL, on the Cyber 172/74 Library Tape.

No other modifications were requested for December 2. However, since this article is written before the dead line for those modifications (November 20), I will implement new modifications submitted between today and November 20 as long as the changes do not conflict with established requirements (e.g., new control card callable packages, etc.).

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Cyber 74/172 Deadstart Dump Analysis from Friday, 7 November through Tuesday, 18 November - by J. J. Drummond

Tuesday, 11 November Cyber 172

14:35 DD2005  
The system hung-up when an error was set in the status/control register (SCR). An MAF was generated. Level three deadstart was successful.

Wednesday, 12 November Cyber 172

16:22 DD2006  
Similiar problem to that on 11 November.

Thursday, 13 November Cyber 74

16:25 DD2007  
CPUMTR aborted with a mode 1 error while linking through the free PP list. The input register for one of the free PP's contained a bad pointer and that PP was overwritten with garbage! No resolution of this dump appears likely. A level three recovery was successful.

Monday, 17 November Cyber 74/172

14:15 N.A.  
Maxwell's Demon invaded the machine room and systematically destroyed a label track and a disk controller on the Cyber 172 (the two devices were not connected to each other). A level three deadstart exorcised the Demon.

14:27 DD2010  
PFM hung-up on the Cyber 74 while the Demon was assailing the Cyber 172. A level zero recovery was required.

Tuesday, 18 November Cyber 172

00:32 DD2011  
Similar problem to that on 11 November.

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Cyber 170-720 Deadstart Dump Analysis - (9/22-11/15) - B. E. Blasing

<u>Date &amp; Time</u>	<u>Description</u>	<u>Tape</u>
Thur, 9/25 01:00	Scopes blanked with several CM parity error bits set in the SCR. This happened 3 more times after end of ops during system time. CE's could not duplicate the problem.	DD7

Mon, 10/06 18:50	Scopes blanked. The SCR reported read pyramid parity error. Same problem as 9/25. CE's still could not find the problem.	DD14
Wed, 10/08 07:42	Scopes blanked during deadstart and again at 08:15 with same problem. System was turned over to the CE's. They swapped cards and came up with no definite answers. System back up at 12:15. Problem has not reoccured.	DD15
Sat, 10/18 19:35	IRI hung on a DTKM request. It was attempting to roll-in a person who had already logged off. A software bug in TELEX is suspected but the problem has not been duplicated.	DD3
Tue, 10/28 01:34	ITA hung with a DTKM monitor function. This happened when TELEX was dropped at EOP's. This was caused by a function timeout on a roll-in at 11:15. IRI aborted half-way through a roll-in and left the job in a bad state which confused ITA at end-of-ops.	DD4
Thur, 10/30 19:09	The scopes blanked momentarily possibly due to a disk sluggishness problem that had already been observed. The scopes came back and all appeared to be running again except that DSD would not accept any commands. A level-3 cleared the problem. No resolution of this problem yet.	DD5
Tue, 11/11 00:09	IRI hung on a JACM request. The FNT interlock for the control point was not set. Someone (MUG0111) found a bug in CKP/RESTART which caused this. KCM/PMT is investigating this. Because of the HANGCP mod the system continued to run for 10 minutes but was deadstarted anyway at 00:19. A level-3 cleared the problem.	DD6
Tue, 11/11 15:40	CPUMTR moded out with a mode 40. The hardware problem of 10/08 had returned to haunt us more. CE's were informed and began looking into it on next morning's PM.	DD11

Thur, 11/13 11:20	Same as 11/11, 15:40. SCR showed read pyramid error, SECEDED error; CPUMTR had mode 40.	DD12
Fri, 11/14 08:25	Same as 11/13. SCR also showed CM double read error.	DD1
Sat, 11/15 12:51	Same as 11/14.	DD2
Sat, 11/15 13:42	Same as 11/15. Diagnostic sequencer also failed once but would not fail again. Murray thinks he has the problem fixed now (possible loose wire).	DD10