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

Bill Sackett changed the performance measurement mechanism so that measuring TELEX response time in 1RI is optional rather than mandatory. PMS bit 6 now controls this function.

Jeff Drummond made small changes to COMPCHI, COMPCHL and COMPCMA in preparation for the installation of CTI, the R5 deadstart from disk facility. Jeff also updated internal DDF documentation and changed macros installed for DDF so their use would be cross-referenced on the Compass listing.

Brad Blasing installed some PSR code which corrects an error in TELEX where a user can get rolled-in after he is logged-off causing 1RI to hang. A small timing window existed between the time when a user is logged-off by a master user and the issuance of a command when 1RI could miss the log-off. This problem is responsible for at least one 720 crash.

Paul Thompson changed 1MB so that explanatory messages are placed in the error log when SCR (Status Control Register) errors occur. Paul also changed 0VJ to ensure that the user account block is placed into the system sector.

PROPOSED CHANGES TO THE SYSTEM

Hollerith Cards: When You Care Enough to Punch the Very Best - by J. J. Drummond

Users who punch cards are occasionally surprised by blank cards in their punched decks. This is caused by lines of text with trailing blanks extending beyond column 80. Typically, this involves an 80-character line with two trailing blanks (in columns 81 and 82). In the past, we have attempted to solve this problem by correcting those processors which generate text output so that they suppress these non-standard trailing blanks. This solution is somewhat piecemeal as we continue to discover processors that add trailing blanks.

Therefore, to eliminate this problem once and for all, I propose to install a modification to 1CD (the program that drives the card punch) that will essentially suppress these trailing blanks. 1CD will be modified to discard one or two trailing blanks in columns 81 and 82, respectively. This would essentially eliminate the problem described above since most cases of this problem involve one or two trailing blanks. Lines which are longer than 80 characters and with more than two trailing blanks would continue to generate a blank punch card.

DISCUSSION TOPICS

WRITEUP Library Upkeep - by J. Jaynes

As we are all well aware, WRITEUPs provide an invaluable source of readily available information for users. There is nothing handier than machine-retrievable documentation for helping a user out of a tight spot. Unfortunately, the large number of WRITEUPs which have accumulated over the months and years has created something of an accountability problem, which I would like to discuss here.

I see one major "administrative" problem with the present WRITEUP system: no one person is responsible for seeing that the library is kept accurate and up-to-date. Marisa is responsible for the maintenance and operation of the utility, and individual staff members are usually responsible for the texts. This is fine in principle, but certain gaps have occurred in practice. People leave UCC while their WRITEUPs remain. Who's responsible for maintaining them now, if no provision for their care and feeding was made in advance? Users report minor errors (like a reference to something available in FUTURE,PASCAL now being a feature of CURRENT). Who wants to take time out from an already impossible schedule to make the change? And so on.

I propose that one person (yours truly) be placed in charge of seeing that things are kept current, and one person (Marisa) be in charge of utility maintenance and improvement. As I see it, my function would involve:

1. Reviewing the contents of each WRITEUP with the WRITEUP's owner at least once a year to check for accuracy. If no owner exists for a particular text, I would see that someone takes responsibility for it and verifies its accuracy.
2. Making minor corrections to texts with the owner's explicit approval. This would save everyone's time and temper.
3. Removing out-of-date WRITEUPs, again with the explicit approval of the owner (or owner's supervisor if the owner is no longer at UCC). I suggest that purged texts be archived on tape for one year just in case they should be required later, as we currently do with unaccessed files. Furthermore, candidates for archiving would be announced in YUCCS for 2 weeks prior to the dump to give everyone a chance to defend them.
4. Monitoring overall WRITEUP usage to see where this service might be improved.

I want to stress that I would take no action towards modification or removal of any WRITEUP without its owner's approval. I also do not foresee this causing any disruption to anyone's First Amendment guarantees of freedom of speech; anything that's technically accurate is OK with me. I just want to try to winnow out the material that is incorrect, or out-of-date, or whatever.

These are my ideas. All suggestions are welcome.

SYSTEM MAINTENANCE: People and Procedures

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

Dick Rubenstein's proposal to change ASM11 from Fetch-type to control-statement-callable was approved (see DSN 7,3 p. 9).

Mike Frisch's suggestion to provide typewriter quality terminal service was thoroughly discussed. Several points were brought up.

1. The Qume should probably not be connected to the Cybers at all but to the VAX since this is an ASCII machine.
2. Larry felt that the Qume was simply not durable enough to be used as a production machine. If people need high quality output, they should purchase a Qume like they would any other terminal.
3. Sara Graffunder was concerned that this policy would leave leanly budgeted departments (like the English department) in the lurch. How are we to serve the small user?
4. Larry suggested we buy a couple Qume's and lend them out on an as-needed basis. John Sell reminded us that Xerox 9700 service is forthcoming and this would be a cost effective way to serve the small user. John felt that a big effort to distribute or provide QUME service would detract from our substantial effort to introduce Xerox 9700 service.
5. In conclusion, we assured Mike that some form of high quality output service was important to UCC but whatever we provide must be cost-effective at an adaquate scale and the Qume seems to be neither.

Brad Blasing and Don Mears gave reports on their recent trip to the UNIX users conference. Some salient points are:

1. After a hefty infusion of development money from ARPA and NSF, about $2.1 million in total, UNIX is much more stable than before.
2. DEC now recognizes UNIX and even has a group which writes drivers for UNIX.
3. Fortran is very slow on UNIX.
4. The VMS file system is more secure than the UNIX file system.
5. The SRI UNIX emulation package can accomodate almost all UNIX products.
6. Berkley is now the distributor for VAX UNIX.

Kevin Matthews and Tom Jacobson gave a lengthy talk on the current plans for a computer network at UCC. Kevin began the talk by noting that every computer-to-computer communication problem has always been solved by inventing a new path and a new utility to serve that path. This is the problem we want to solve. He then turned the floor over to Tom.

Tom is a proponent of X.25. Current literature suggests that the entire world, including IBM and DEC, will soon adopt the X.25 standard as their communication protocol. After an overview of this trend, Tom drew a diagram of what a X.25 Network at UCC might look like. His discussion, although very general, addressed the following areas.

1. The network will provide any user with access to any host computer which UCC provides while minimizing the number of phone lines necessary to provide this service. Even computers which are not UCC computers (like Chemistry) could be part of the network.
2. The user will gain access to the network by dialing into, or being hardwired to a PAD (packet assembly disassembly interface). A PAD is a concentrator which takes information from, say, 16 ports and sends the information in the form of packets out on a single telephone line. The terminal side of PAD is governed by the X.3 and X.29 standard. The network side is X.25.
3. All PAD's in the field will be connected to a centrally located device called a Packet Switch. This is a special purpose computer whose only function is to receive packets from various sources and route them to their proper destination. Tom's plan calls for a couple of these for redundancy.
4. All of our host computers would be connected to the Packet Switch. For VAXs running either UNIX or VMS, this is possible with standard hardware and software. This is also true for IBM, although we may have to send to Europe for the software. For Cybers, the problem is not simple. The existing facility which allows Cybers to talk to a X.25 network is NAM/CCP- a notorious resource hog. Three alternatives to running NAM/CCP were mentioned.
   a. Using the current PDP/11- link setup, write a X.25 driver for the PDP-11.
   b. Use existing X.25 driver for VAX and use NSC adaptors and inhouse software to talk to 1TD.
   c. Build (and have CDC maintain) a Z8000 based device which talks X.25 on one side and emulates a 6676 on the other.

5. RJE service would be accomplished by writing a UNIX based program (in C) which runs on a PDP-11/34, designated the Network Interface Machine (or NIM), and whose function is to do what SUPIO now does. The NIM would connect with various hosts and transmit files. The files would be processed by a new Cyber utility called the File Transfer Facility (FTF). Files from the NIM as well as other host computers would be handled by FTF. If the files are jobs, they would be executed and the output returned to the originating site. Appart from the treatment of jobs, the specification for FTF are not yet complete.
6. Except for FTF, NIM and possibly a Z8000 program, the entire plan to build a X.25 network can be done with off-the-shelf equipment. The network can be built slowly without a major monitary committment at the beginning.

Larry Liddiard mentioned a NSC adaptor protocol course to be held at MECC on 17 and 18 February. Larry also announced that the 730 is due on 10 April but we're trying to move this ahead.

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Cyber 74/172 Deadstart Dump Analysis from Friday, 6 February to Thursday, 19 February - by J. J. Drummond

Sunday, 8 February	Cyber 74/172
17:00	N.A.

The Cyber 172 system came up late due to a CE FCO installation overrun. The Cyber 74 system was up for an hour without ECS. Then a level zero deadstart was performed to bring up the system with ECS. No dumps were taken.

Thursday, 12 February	Cyber 172
14:13	N.A.

The system was taken down and a level zero deadstart was performed to initialize and reload a new disk pack. The pack had apparently been damaged on another drive that was down for service. No dump was taken.

Saturday, 14 February	Cyber 74
13:39	DD2001

A bad (Valentine's Day) card caused a solid error on the Cyber 74. The CE's were called and a level zero deadstart was performed. The system was up again at 15:39.

Tuesday, 17 February	Cyber 74/172
02:13	N.A.

A power failure took both systems down. The CE's were called in to bring the systems back up. Level zero deadstarts were performed on both systems - up again at 04:33.

Cyber 720 Deadstart Dump Analysis 2/8 - 2/19 - by B. E. Blasing

Thur., 2/12, 09:30 No Dump
The on-line maintenance routines indicated a CPU failure and the system hung. The CE's discovered that the system would run at +5% voltage margins. Subsequent deadstart failed because of a wrecked catalog track probably caused by the CPU failure. The next morning, the marginal card was replaced.

Wed., 2/18, 02:13 No Dump
A power failure after end-of-ops but during full dumps caused no down-time.