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NOTICE OF CHANGES TO THE SYSTEM

John Larsen contributed a new common deck COMSFET. The new common deck defines symbols for each word in the FET (see DSN 2, 9 p. 2).

Tom Lanzatella repaired a problem in CATLIST where permitted user numbers with less than seven characters were colon-filled on the CATLIST report.

Tim Hoffmann repaired two problems in his new version of UNPAGE. The UNPAGE utility now processes data to EOI rather than to EOF and should not eject a page before printing.

Bob Zalusky repaired a disastrous problem in MODVAL which stemmed from the recent installation of SETVAL. The faulty mod caused MODVAL to bash the VALIDUZ index file VALINDZ which resulted in about 20 user numbers (about 160 on MERITSS) with the same user index. Bob also changed the MODVAL error message which results when attempting to account to a user number with CAC2 to be more misleading. The old error message indicated that the user number existed.

Don Mears installed a change in the PDP-11 driver portion of LTD which should help speed up processing of data from the PDP-11 and ensure complete data transfer to the 1200 baud terminals. Don also contributed a source for the Mickey Mouse console display.

Jeff Drummond installed his proposed changes to the HELP command (see DSN 3, 10 p. 2). This portion of the installation does not yet require that the CMDFILE be reconstructed. Jeff also changed several more instances where word zero was assumed to have the value zero. Additionally, site 4E was added to the legal XMIT sites.

Brian Hanson installed the following changes.

1. The NODROP utility was reinstalled in FILES rather than CONTROL. The DROP command was deleted. All NODROPPed files are now locked.

2. The Cyber loader and the LINK loader were both altered to treat MFL= and RFL= entry points in local file loads. This change is strictly upward compatible and was part of the field length study recommendations.
3. Brian reinstalled the LDR load by name option. The incompatibilities with COBOL have been removed.
4. LDR is now checking the LWA parameter in the LDR call block. If the load LWA is greater than the LWA specified, a diagnostic is issued to the account dayfile prefixed with ZLSY. The LWA parameter is not currently being processed by LDR. Brian has proposed in the past that LDR observe the LWA, but we are interested in how often the actual LWA is greater than the LWA specified.

H. Byun installed his long-awaited MAINTENANCE subsystem along with a new common deck COMPCPA which is used to set up a control point area.

Bill Sackett installed a change in COMPUSS which makes disposed output treated like diverted output in regard to queue priority.

PROPOSED CHANGES TO THE SYSTEM

A Tale of Two Machines - by J.J. Drummond

Yet another episode in the continuing series of XMIT/SEND proposals.

This proposal is designed with several objectives in mind:

1. The intermachine transfer mechanism should be generalized and should appear identical to users of both machines.
2. Validations should be enforced on the "destination" machine. That is, copies of VALIDUZ for alternate machines should NOT be maintained. This is for several reasons:
 - a. Sending VALIDUZ files around presents several potential security problems.
 - b. The amount of intermachine traffic required to keep both VALIDUZ files up to date would be a significant portion of the total traffic.
3. The software for intermachine communication should be the same on both machines to facilitate maintenance and to ensure No. 1 above.
4. Users should be able to obtain the status of jobs running on either machine.

PART I - SUBMIT

A. Function.

SUBMIT would incorporate all the present functions of SUBMIT and those of XMIT involving sending jobs to the Cyber 74. The SUBMIT directives would be processed, an input job built and placed in the input queue of the specified machine.

B. Control Statement.

A MI parameter will be added to SUBMIT with the following options:

MI=AA Submit job to the Cyber 74.

MI=AB Submit job to the 6400.

 Default is the machine you're on.

C. Advantages.

1. 6400 users will enjoy the reformatting capabilities of SUBMIT when sending jobs to the Cyber 74.
2. Validated Cyber 74 users will be able to submit jobs to the 6400.
3. SUBMITting jobs to the Cyber 74 from the 6400 will be greatly simplified.

D. Disadvantages.

1. It is not immediately obvious how a DAYFILE will be returned (if at all) since the current SUBMIT does not support this. A DAYFILE should probably be returned in the case of a job card error, but once this is implemented then always returning a DAYFILE would be fairly trivial. (See Note B.)

E. Security.

To submit a job (to another machine) the following would be required:

1. Access to the transfer mechanism by users would have to be enabled (equivalent to ENABLE,XMIT).
2. Desired machine would have to be accepting INPUT jobs (equivalent to ENABLE,INPUT).
3. User would have to have a valid UN/PW for specified machine that was validated for non-TXOT jobs.
4. User would have to be validated for 1 or more deferred Batch jobs in order to do the submit

PART II - DISPOSE

A. Function.

DISPOSE would incorporate all of the present functions of DISPOSE and those of XMIT involving sending output-type files to the Cyber 74. Each MERITSS number validated for DISPOSE would be associated with a Cyber 74 account that would be charged for the output supplies. This eliminates the need for UN/PW parameters on DISPOSE and the ramifications thereof.

B. Control Statement.

A MI parameter will be added to DISPOSE with the following options:

MI=AA Dispose file to the Cyber 74.

MI=AB Dispose file to the 6400 (with the current configuration, this would be illegal but is included for generality).

Default would be the Cyber 74.

C. Advantages.

1. Output would be disposed the same way on both machines, thus users of both machines would not have to be aware of two different mechanisms that, to them, do the same thing.
2. MERITSS users would not have to explicitly give Cyber account numbers and passwords, which should help prevent Cyber account numbers from becoming public knowledge.

D. Disadvantages.

1. MERITSS users could not charge listings to several different Cyber accounts unless done by submitting jobs.

E. Security.

In order to DISPOSE a file (to another machine) the following would be required:

1. Access to the transfer mechanism by users would have to be enabled (equivalent to ENABLE,XMIT).
2. Desired machine would have to be accepting OUTPUT type files (equivalent to ENABLE,OUTPUT).
3. User would have to be validated for 1 or more disposed files.

PART III - SEND

A. Function.

SEND would incorporate all of the present functions of SEND and would work in both directions. It would cause a local file on one machine to become a permanent file on another machine.

B. Control Statement.

SEND(lfnl=pfnl,.../TY=type,UN=usernumber,PW=password,FP=filepw,CT=category, M=mode,PN=packnam,MI=machineid).

PARAMETERS	EXPLANATION
TY	I for indirect access or D for direct access.
UN	Alternate machine user number.
PW	Password for user number.
FP	File password.
CT	File category (same as in PFILES).
M	File mode (same as with PFILES).
PN	Packnam (same as with PFILES).
MI	Machine file is to be sent to (illegal to send to machine you're on).

C. Advantages.

1. Users would have more options than are currently available (alternate packs, sending public files, etc.).
2. Users would be able to send files both ways.
3. The acrobatics of getting a file from the 6400 to the Cyber 74 would be eliminated.

D. Disadvantages.

1. The alternate machine UN/PW would have to be validated on the other machine, thus there would be no immediate check for the correct UN/PW.

E. Security.

To send a file (to another machine) the following would be required:

1. Access to the transfer mechanism by users would have to be enabled (equivalent to ENABLE,XMIT).
2. User would have to have valid UN/PW for specified machine.
3. User number on other machine would have to be validated for type of file (indirect/direct), alternate pack (if specified), etc.
4. An additional level of security (i.e. SEND BIT) may also be desired.

PART IV - ENQUIRE

A. Function.

Both machines would periodically copy FNT tables and other relevant information into ECS enabling users to enquire about the status of jobs executing on another machine.

B. Control Statement.

ENQUIRE(JN) would be altered to include jobs or files on either machine.

C. Advantages.

1. Users would be able to monitor progress of jobs on other machines.
2. An additional level of protection would be added to prevent jobs from just "disappearing."

D. Disadvantages.

1. There would be some additional overhead in maintaining this information in ECS.

E. Security.

All SUBMITTED jobs would have their job names changed to the user hash of the job submitting them. Since a user may only enquire about jobs with the same user hash, the privacy of other jobs is ensured. Note, however, that the 6400 and Cyber 74 have overlapping user hashes.

PART V - IMPLEMENTATION

A. Structure.

The structure of the intermachine transfer mechanism will be somewhat akin to having ECSXFER on both machines. SUBMIT, DISPOSE and SEND will place intermachine traffic in a queue where another program will pick it up and send it to the destination machine. Machines will communicate with each other via the ECS flag register and additional information stored in ECS.

B. Impact.

On the 6400, the overhead for the transfer mechanism will essentially be what it is now, the major change being the elimination of the "bouncing PP" (XMT) and its 8000+ calls per day. On the Cyber 74, moving the overhead out of SUPIO will involve calling up a program periodically to process intermachine traffic. Based on current traffic, this would occur approximately 200 times per day. These tend to use small amounts of CP time (less than 1 second on the 6400) and no more than 5K of CM. (Statistics for ECSXFER on CPU utilization, MS transfers, etc. are available on request.)

C. Miscellaneous.

Installation of this transfer mechanism will involve several other minor changes to the operating system including (a) Machine Origin for all jobs, (b) possible elimination of XM origin type (and using submit origin), (c) changes in the meaning of the number of deferred jobs and (d) changes in accounting for DISPOSE (I have already talked to Jim Foster about this).

D. Timetable.

I would like to install this before the start of fall quarter. I don't expect the actual implementation to be too difficult, outside of the expected problem of obtaining systems time on both machines simultaneously.

PART VI - NOTES

- A. This implementation will initiate the generalization of ECS by its very nature and open the door for the full potential of ECS to be utilized.
- B. I would like the Systems Group to decide if SUBMIT should return a DAYFILE. I'm sure a case could be made for going either way and I would appreciate a consensus on this.

SYSTEM MAINTENANCE: People and Procedures

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

The following proposals were accepted or rejected.

1. Jeff Drummond's proposal to revamp the HELP utility (DSN 3, 10 p. 2) was approved. This new version of HELP will require that the CMDFILE be reconstructed. User Services has agreed to help Systems in this effort.
2. All of Tim Salo's proposals (from DSN 3, 10 p. 2) were accepted with the majority of the discussion being spent on the QUEUE utility. Two points dominated the discussion:
 - a. Whether QUEUE should display all delay queue files or only those files belonging to the enquirer.
 - b. Whether QUEUE ought to be a stand-alone package or an entry point to QFSP.

We decided that QUEUE should be a stand-alone utility and should display all delay queue files (for a validated user).

3. Kevin Matthews' proposal to add a multiple copy option to COPY and COPYEI (see DSN 2, 11 p. 2) was accepted. We chose the form:

COPY(I,0,V/N=n) where n is the number of copies.

4. S.P. Nachtsheim's proposal for ACCSTAT (see DSN 2, 11 p. 3) was accepted. The ACCSTAT utility will be installed and ready for production by 1 September.
5. Jeff Drummond's proposal to install a NUSERS macro (see DSN 3, 11 p. 3) was rejected.

Larry Liddiard discussed briefly the new administrative structure of UCC in which Steve Nachtsheim and Mike Skow have both become associate directors. Larry is going to England for a month and will return by 13 July.

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Callprg Index and Library Tape News - by M. Riviere

Besides the Callprg Index modifications already announced in the last DSN, the following changes also took place on June 14:

S. Yen introduced a new package, IMP, an interactive mathematical package that will be, in the future, replacing OMNITAB. There is an announcement about IMP in the June UCC Newsletter. Yen also changed the current version of SPSS to version 6.5 and made the up-to-then current version (6.0) available as Past.

C. Schofield changed the index entry for the Fetch type version of MNF to retrieve the level 12 FORTRAN library when this version of the compiler is used. There is some incompatibility with FORTRAN level 13 and the current libraries used by the Fetch type version of MNF.

On June 17, H. Kurs changed the Callprg Index entries for COBOL (Current and Future versions) to remove the retrieval of SRTLIB with the COBOL compiler.

On June 28, S. Yen will be introducing MULTREG, a multiple regression package, as Fetch type. This is the only scheduled modification to take place on that date.

The next Callprg Index and Library Tape modifications will be taking place on July 12. Modifications for that time should be given to me on or before noon, June 30.

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SUPIO Crash Analysis - by E. Edmundson

- 77/06/05 Could not deadstart the Cyber because channel 4 was hung. The master clear circuit in the link was being cleared at the same time it was being set. Therefore, master clear never cleared the link. This problem has been corrected.
- 77/06/06 At 19:15 the operators noticed that calls were not getting into SUPIO. The phone company's lines had all gone dead. The phone company corrected the problem.
- 77/06/10 SUPIO aborted. Restarted OK. Still under investigation.
- 77/06/16 SUPIO failed because the programmable clock interface chips went bad.