

Programming Development Office Staff Note
Multics Task Report

MTR - 011

TO: Distribution
FROM: Roger A. Roach
DATE: October 29, 1973
SUBJECT: Misc. Multics/PDD Task Report

This status report is meant to encompass those tasks being undertaken by the MIT Programming Development Office which are not included in other task reports. There may be, however, tasks reported here which are on other reports due to possible overlap of responsibility or change of status. Since this is the first such report, I will merely outline and briefly describe the tasks currently underway or being planned.

1. sort_file enhancements

This task was undertaken in response to a request by MIT User Services to provide a more flexible sort command. The changes underway will allow:

- a. user specification of delimiters (usually NL)
- b. ability to sort groups of "lines" (blocks)
- c. ability to sort in decreasing sequence
- d. ability to sort on "fields"

Also desired but not included in first set of changes is the ability to sort multi-segment files. This change is awaiting final determination of which primitives will be provided to handle MSF's. Ross Klinger is undertaking these changes as a partial means of becoming acquainted with Multics. Much of the coding has been completed, a MTB is being published and a MCR is pending.

2. Process Execution Metering

At times the initializer has been observed to be using as much as 5% to 10% of a processor. This task was undertaken to help determine where this time is going and thus possibly lead to improvements which could make more CPU time available to users. The basic idea is to set a CPU timer to go off at regular intervals (say 1 second) and to record from where the process was interrupted. Programs to process raw data and to create summaries are also being written.

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Poss Klinter is doing the work on this task with help from Tom VanVleck.

3. Dartmouth System Usage Monitor

At the request of IPC, the Dartmouth environment is being modified slightly to record the number of times it is invoked and also to record per user information for the first 200 users to invoke it. This task is being done by Frank Smith and will probably be temporary if a generalized method is installed.

4. Incorporate new basic into SBS

Frank Smith will be working on changing the Student Basic System (SBS) to use Barry Wolman's new basic.

5. Generalized Command Name Monitor

At the request of IPC, a project is being undertaken to determine usage of various commands. It is being done to allow IPC to determine if a particular command (e.g. global) is still being used. It planned that a check be placed in `find_command_` utilizing a control file so that the checking can easily be turned on and off without changing the command as is necessary with `record_command_usage_` or the above implementation. Dave Kayden is doing some of the preliminary work and a MTB should be prepared soon.

6. Acceptance Test Enhancements

The acceptance test programs, which are now used to measure the performance of new systems, are being modified to provide more information (i.e. total cpu time and total page faults). Also some of the information is being presented in a different format to ease the problem of summarizing the data.

7. `tty_lines` Enhancements

The command `tty_lines` is being changed to always print the dialup counts for lines. (Previous version printed the console id in place of dialup count if the line was attached.) The console id (if line is attached) will be printed after the users name and project.

8. Copyright Program Enhancements

Although no one has yet been assigned, it is planned to change the copyright programs to be a little more flexible. We wish to recognize and insert copyrights for years other

than 1972 and to be able to check for copyrights even though they are not by both MIT and Honeywell. More thought is necessary before a MTB or MCR can be submitted.

9. Printer Enhancements

Due to, in part, a request from IPC, a set of enhancements is being done by Tom VanVleck. Among changes planned is the ability to print over perforations (for printing graphs of more than one page and marking the perforations between files for ease in separation) and other features that are possible once the dim is counting lines. See the approved MCR 031 for more details.

10. Fix bug in start_dump

There is currently a minor bug in start_dump that prevents it from printing the dump maps for complete dumps. A fix has been coded and tested and a MCR will be submitted soon.

11. Punch Dim Enhancements

Some changes in the punch dim have been requested by IPC User Services and are being reviewed by PDD. They include using bigger letters on the flip cards (and reducing the information on flip cards to the destination and user id only). Also desired is changing the flip cards separating decks to have lines of punches instead of X's to make them easier to spot.

12. Create a tape archive command

Once tapes are available to the average user, it is felt that a "tape_archive" command will be useful to aid the user in keep files offline. Design of the interface is proceeding at relatively low priority.

13. Enhance locall for tapes

In order to ease the checkout of new tape dims and other tape code, it is felt that certain changes would be useful to have in locall. Among those desired are "backspace record, skip file, rewind, etc.

14. Create Editor for Black and White Chart

The current chart being prepared as part of the daily "crank" can give erroneous results if provided incomplete or bad data. It is proposed to write a program to allow the editing of the data base thus allowing manual correction of the chart. This is still in the planning stages.

15. Install comp_dir_Info

Tom VanVleck has a set of programs to save, compare and list contents of directories. They turn out to be very useful in checking for possible results of hardware or software mishaps and should therefore probably be installed in one form or another.

16. Install a new Dartmouth library

PDO has been requested to obtain and install a new set of library programs from Dartmouth. We are expecting help from SIPB to do this.

17. Document MPRF Procedures

Plans are to write a document outlining the current MPRF handling procedures and to provide a form of this to the users to let them know what to expect when they file a problem report. This should also be useful for the programmers so they will know what they are expected to do when they receive a trouble report that has been assigned to them for analysis/fixing.

18. Document Backup Procedures

This memo will give the current methods and policies concerning backup and retrievals.

19. Document Error Recovery Procedures

This memo would explain current crash recovery procedures, how to analyze the salvager output and what to do with errors on any of the daemons.

PROJECT Misc. Tasks AREA Development Support

TASK DESCRIPTION	PERSONNEL	START	FINISH	M-W	CHANGES-STATUS
sort_file enhancements	Klinger	09/24/73 09/24/73	11/05/73 11/19/73	4.0	MTB Submitted, MCR Pending, coded except for sorting MSF's
process Execution Metering (for the Initializer)	Klinger, VanVleck	10/09/73 10/09/73	10/31/73 10/31/73	3.0	Coded and mostly debugged. No MCR or MTB submitted yet.
Dartmouth System Usage Monitor	Smith	10/02/73 10/09/73	10/29/73 10/26/73	2.0 2.0	Submitted (IML)
Incorporate new basic into SBS	Smith	10/22/73 10/25/73	12/03/73 12/03/73	4.0	Preliminary work begun
Generalized Command Name Monitoring	Kayden	10/15/73 10/15/73	11/19/73 11/26/73	4.0	Preliminary work begun, MCR Pending, MTB to be prepared
Acceptance Test Enhancements	Roach	09/01/73 09/01/73	10/01/73 10/29/73	1.0 0.8	MCR Approved, ready for submittal
ftv_lines Enhancements	Roach	09/01/73 09/01/73	10/01/73 10/29/73	0.5 0.2	MCR Approved, ready for submittal
Copyright Program Enhancements				3.0	Requirements being determined
Printer Enhancements	VanVleck	09/25/73 09/25/73			MCR 031 Approved. Work begun.
Fix start_dump bug (not printing maps for complete dumps)	Roach	10/25/73 10/27/73	10/31/73 10/29/73	0.5 0.2	Coded and debugged. In use by Dumper. MCR to be submitted.
Punch Dim Enhancements				4.0	Requested by JRS, awaiting manpower
Create a tape_archive command					Design necessary
Enhance local for tapes					Design necessary

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TASK DESCRIPTION	PERSONNEL	START	FINISH	M-M	CHANGES-SIAIUS
Create editor for Black/White Chart					Design necessary, awaiting manpower
Install comp_dir_info	VanVleck				Low Priority Task
Install new Dartmouth library	Roach				
Document MPRF procedures	Roach			0.5	
Document Backup procedures	Roach			1.0	
Document Error Recovery Procedures	Roach			2.0	Will work with SIPB people