

To: Distribution
From: David M. Jordan
Date: May 19, 1975
Subject: System Maintenance Status, April 19 - May 16

1. Significant Events

The past month has been very interesting for the group. We have been working quite hard to improve the group itself, and have developed, through some trying times, new goals and internal workings. Unfortunately, this reexamination of the group process has resulted in some backlogs in our normal responsibilities, which we hope to correct shortly.

The new Multics Communications System (MCS) software has been submitted, with pieces in the BOS, Hardcore, and Online areas. We expect to begin work on these changes after we have worked on the backlog, as numerous rather hurried changes were submitted to meet the Honeywell MR 2.2 release date.

A. Online System Installations

During this reporting period approximately 16 installations were performed in the Online libraries. Most notable was the long awaited installation of estimate_bill. Also installed were many minor changes and fixes, and a minor change to qedx which marked the first of the MCS submissions. At this point a large backlog of online changes exists, including a new PL/1 compiler, the I/O spooling facility, a new graphics package, more changes for AIM, and TOLTS, a large online T&D package. At this time Pattie has begun to take over a significant portion of the regular processing load, while Peter has been concentrating on necessary changes, fixes, and cleanups to the tools and on the more complex submissions.

B. Other Installations

This month has seen no changes to the Hardcore, BOS, or Salvager systems. We had hoped to get the new ioi_ system installed, but problems assembling the hardcore and online portions of the change have delayed the installation slightly. The current backlog of hardcore changes is rather

Multics Project internal working documentation. Not to be reproduced or distributed outside the Multics Project.

small, in spite of no installations. Included among the changes awaiting processing are a new reloader, the MCS changes, and a fix for a security problem in the handling of machine condition data.

C. Crash Analysis

Once again our system reliability has remained at a very reasonable level with a total of only 15 crashes in 28 days. As this level of reliability appears fairly stable, it seems appropriate to point out that many people including Operators, FEs and Programmers deserve much credit for bringing the level of failures down from almost 3 crashes/day a couple of years ago to about 1 crash in 2 days. Thank you!

Unfortunately, every silver lining must have a cloud, and this is no exception. With this kind of reliability, it is difficult to view a wide variety of failures in different areas, and consequently, it is difficult to learn the art of crash analysis. In addition, the areas where one can follow an analysis to completion become fewer and farther between as the problems involved become more and more obscure. In spite of these problems, however, Grace has been working quite hard at learning the techniques of Multics analysis and is making significant, if necessarily difficult, progress.

	Apr 19-25	Apr May 26-2	May 3-9	May 10-16	Total
Hardware	2	0	0	0	2
Hardware Suspected	1	1	1	1	4
Software	1	0	0	0	1
Software Suspected	0	3	0	0	3
Not Yet Analyzed	1	0	2	1	4
Not Analyzable	0	0	0	0	0
Other	0	1	0	0	1
-----	---	---	---	---	-----
Total	5	5	3	2	15

2. Problem Areas

As mentioned above, we have developed a rather extensive backlog of changes, particularly in the Online area. Several factors lead us to hope that this backlog will be handled relatively quickly, especially that both Peter and Pattie will be working on these changes. Also, a slight drop in submissions is expected as the MR 2.2 cutoff date has passed.

Having two people processing online changes is, unfortunately, a bit of a problem in and of itself. We have been doing several things to try to increase the

communication between every one in the group to try to minimize problems of this sort.

One technical problem which continues to bother the system is the problem of adding a CPU. For reasons which are still not completely understood, the addition of a processor seems to result in a crash quite often and, more often, results in failure. Hopefully, this problem will be looked at more closely in the near future.

3. Task Status

During the past month Grace has been spending most of her time on crash analysis. In addition to learning the analysis, she has also taken over responsibility for maintaining the various report files and for producing the now biweekly Forum report. Also, she has been working on the library_descriptor command for the library tools project. However, several other tasks have not received as much attention as she would like and are waiting for a quieter period.

Peter has been concentrating on the various tools used in the online installation process, on teaching online installation procedures to Pattie and on processing the more complex online changes. Unfortunately, this has left little time for his work on the library tools and on the tools PLM. Hopefully, such time will become available when we begin to get caught up on online changes.

Pattie has been busy learning the online installation process and has been taking more and more of the work out of Peter's way. She now has most of the normal case process in hand, but needs more experience in the handling of problems and in understanding more about the changes themselves.

4. Work Planned for the Coming Month

During the next few weeks our primary goal is to get caught up on submission processing again. Also, we would like to have time to work on the library tools and the tools PLM, and on various other lower priority tasks.



PROJECT System and User Support AREA

TASK DESCRIPTION	PERSONNEL	SIARI	FINISH	P-W	CHANGES-SIARIUS
Online Installations	Kelley Dratel	Continuing Task			
Maintain source lists	Roach	Continuing Task			
Maintain cross reference lists	Kelley (Dratel)	Continuing Task			
Maintain listings	Dratel	Continuing Task			Listings now up to date. We hope to get a complete check under way soon.
Crash Analysis	Ackerman-- Lewis (Jordan)	Continuing Task			
Hardcore Installations	Ackerman-- Lewis (Kelley)	Continuing Task			
Operator Interface	Jordan (All)	Continuing Task			
Maintain Hardcore Cross Reference	Jordan	Continuing Task			New lists should be generated.
Consulting	All	Continuing Task			IPC will provide consulting 9-12 every day.
MPRF Handling	All	Continuing Task			IPC handling the administration

PROJECT Programming Support AREA

TASK DESCRIPTION	PERSONNEL	SIARI	FINISH	P-M	CHANGES-STATUS
Maintain and improve library submission tests	Kelley	Continuing Task			
Convert cross reference to v2		4/15/73			
Upgrade all online installation tool exec_coms for the 6180 and install in the libraries and document them.	Kelley	3/26/73			Work beginning with study of current ec's
Look into compare_source_statement as replacement for cpa					Compare pl/1 source statements ignoring differences in comments and formatting
Design and implement an online system for registering modules being worked on. etc.					
Create a system for processing backup error files to allow notification to users of errors encountered	Ackerman-- Lewis	5/1/74 5/1/74	6/15/74 2/15/75		Installed. Work now being done to make it operational.

PROJECT _____ Library Maintenance Tools Project _____ AREA _____ Installation tool enhancements _____

TASK DESCRIPTION	PERSONNEL	START	FINISH	P-W	CHANGES-STATUS
Honeywell PLM - AN80: Library Maintenance Manual	Kelley				continuing
library_cleanup: to replace cleanup using the library descriptor	Kelley	11/04/74 11/04/74	11/18/74		no progress
upd_log_task: fix bug in locking strategy	Kelley				MCR approved - coding, testing done
object_test: fix bug which deletes some ALM segments	Kelley				not begun

TASK DESCRIPTION	PERSONNEL	START	FINISH	P-W	CHANGES-STATUS
primitives: get and output ACLs, Initial ACLs, access class	Dixon	12/15/73	12/30/73	1.0	DONE
primitives: get and output miscellaneous status information	Dixon	05/16/75	05/23/75	.4	
not returned by hcs \$status long library_fetch (lf): meet MCR Board's requirements	Dixon	04/30/75	05/09/75	.4	A New Task
library_info (il): add control arguments for new information;	Dixon	05/23/75	05/27/75	.1	
meet MCR Board's requirements library_map (lm): add control arguments for new information;	Dixon	05/23/75	05/27/75	.1	
meet MCR Board's requirements library_print (lpr): add control arguments for new information;	Dixon	05/23/75	05/27/75	.1	
meet MCR Board's requirements library_descriptor (lds): code command	Ackerman-- Lewis	11/04/74	12/20/74	1 5	2 PW work remains; unable to estimate real time required
library_cleanup (lcln): clean up the code; use library descriptor	Kelley	11/04/74	12/30/74	1.5 3	1 PW work remains; unable to estimate real time required
library_object_cref (loc): rewrite cross_reference to use library descriptor				2.5	
library_include_cref (ilc): rewrite lcref to use library descriptor & source maps in standard obj segs				2	
library_check (lck): write program to check on consistency of libcards	Ackerman-- Lewis			3	
lm/lpr: gather and output statistics on Library segments				1.5	