TO: Distribution

FROM: David M. Jordan

DATE: October 1, 1973

SUBJECT: System Maintenance Status, August 25 - September 28

## 1. <u>Significant</u> Events

We have continued to be plagued with system failures during this reporting period. However, the number of failures has been decreasing from week to week and all indications are that we are entering a new phase of system reliability. Hopefully we will be able to maintain this reliability in both the software and hardware areas more or less indefinately.

We essentially shut off hardcore changes during this period in order to work on the reliability and thus we haven't much else to report on as significant events. We now feel that all major software problems have been found and most have been fixed.

Although they were not directly perpetrated by us, a number of changes to the administrative scheme of things have been made. Among the changes made was a reorganization of internal documentation along somewhat more reasonable lines. In addition, the Multics Change Request was invented and should be a good first step toward more effective management of system changes. We hope that other changes with the same goal will be made as quickly as possible to help prevent some of the reliability and interface problems we've had in the past.

### A. Online System Installations

During this reporting period we managed to get completely caught up with online installations. Included among the over 300 changes made to the online libraries were new versions of runoff, BCPL, teco, and PL/1. Also installed were most of the pieces that make up the GCOS simulation package.

#### B. Other Installations

During this reporting period hardcore systems MSS 20.11b through MSS 20.11l were installed. These systems have all been aimed at improving software reliability,

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either by installing fixes or by setting traps for unanalyzed bugs. Our major fix, MSS 20.111, repaired the so called resued address problem, but had to be pulled due to a bug in the fix. That should be fixed soon so that we can again install real changes as well as fixes. We expect to install MSS 21.0 in the not-too-distant future. This system continues the implementation of the new directory control and makes the changes required for more online disk space. In addition to the hardcore systems, we also installed BOS 1.26 with several 355 fixes.

### C. Crash Analysis

This 121 system failures. reporting period had Although the hardware failures outnumbered the software problems during this period, the software problems continue while the hardware appears to have stabilized. however, been working away at the software problems, and solutions to all of the major ones are either installed or ready to be installed. (Our fix for our most major problem, the reused addresses, was installed but had to be pulled due in the fix.) It now appears that the reliability should continue to improve over the next few Hopefully this improvment in reliability will be reflected in better system performance and in more user confidence.

	Aug 25-31	Sep 1 <b>-7</b>	Sep 8-14	Sep 15-21	Sep 22-28	Total
Hardware	20	19	14	4	2	49
Hardware Suspected Software	1 4	6	6	14	9	39
Software Suspected	0	0	1	0	1	2
Not Yet Analyzed Not Analyzable	0 1	0 1	0	0 2	2	0 6
Other	4	1	2	2	2	11
Total	30	28	23	24	16	121

### 2. Problem Areas

I would say something about micro-reproductions, but someone once said if you can't say something good don't say anything at all.

We are entering a difficult time in the system change department. Honeywell marketing has apparently made a number of commitments to perspective customers that could result in a variety of problems for the MIT site. In addition, CISL is attempting to arrive at a more or less fixed appearence for the system before their initial system release which is due in early 1974. This will result in a number of changes to the user interface over the next few

months which we will have to be extermely careful in handling.

## 3. Task Status

In spite of poor system reliability a number of tasks have made progress. In particular, work on the hardcore tools has progress somewhat, work on the Multics Installation System documentation project has resulted in several documentation outlines, and work on the hardcore updater is being planned. In addition, we have begun a system performance evaluation and several changes for update\_seg are being planned.

# 4. Work Planned for the Coming Month

During the next few weeks we hope to catch up on some of our backlogged system installations. In particular, we hope to install the next phase of the new directory control, MSS 21.0.

In addition, we expect work on system performance tuning, the hardcore tools, and various phases of the Multics installation System to continue.

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CHANGES/STATUS PAGE October 1, 1973 FINISH tagk continuing continuing continuing continuing continuing DATE START PROJECT Multics System Maintenance and Assurance PERSONNEL Scherer (Kelley) (Kelley) Scherer Kelley Maintenance (Online Libraries) Roach Roach Mong Maintain cross reference lists Maintain info file archives Maintain source lists Online installations Maintain listings TASK DESCRIPTION TASK AREA

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TASK AREA Maintenance (Hardcore and Hardware)

CHANGES/STATUS							•
FINISH	tæsk	task	task	task			
START	continuing	continuing	contipaing	continaing			
PERSONNEL	Rakip (Jordan) Dixon	Rakip (Jordan)	Jordan (Roach)	Jordan Rakip			
TASK DESCRIPTION	Crash Analysis	Hardcore Installations	Operator Interface	Maintain Hardcore Cross References			

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	TASK AREA User Interface				
	TASK DESCRIPTION	PERSONNEL	START	FINISH CHAN	CHANGES/STATUS
	Consulting	A11	continuing	task	
	MPRF Handling	All	continuing	task	
	MMTU Handling	Spall	continuing	task	
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TASK AREA Library Maintenance Programming Support

TASK DESCRIPTION	PERSONNEL	START	FINISH	CHANGES/STATUS
Maintain and improve library submission tests.	Scherer	continuing	task	
Upgrade hardcore maintenance tools to v2, fix bugs, etc.	Rakip	2/15/73	3/19/73	Being worked on as time allows
cross	Scherer	4/15/73		Shelved for lack of time
Upgrade all online installation tool exec coms for the 6180 and install in the libraries and	Scherer	3/26/73		Modifications made for large installations and for more greateful handling of apparent
nerate r grac a tape	Rakip			errors.
Modify the hardcore updater to cease using CACL's and to maintain a seg-system data base				
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TASK AREA Frogramming Support

Compare pll source statements Proposal submitted to Gintell. Hope he has man-power part of sign out log ignoring differences in comments and formatting CHANGES/STATUS project May be FINISH continuing START PERSONNEL Jordan Look into compare source statement as replacement for cpa. Update development reload.ec and Design and implement an online system for registering modules Look into the possibility of module change being worked on, etc. test exec\_coms TASK DESCRIPTION maintaining a history log system

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