TO: MTR Distribution

FROM: Multics Systems Assurance Group,
          Roger Roach, Recorder

DATE   June 1, 1976

SUBJECT: SMAG Status Report

I. Online Installations

During the last month the online installations have been
brought up to date. There were 40 submissions installed
with a total of 115 modules. Among these was a new
answering service which was installed with no problems and a
new message facility that allowed users to send messages
utilizing the ring 1 message segment facility. The new
message facility had numerous startup problems, but most of
these have been fixed. (The most recent fix actually caused
a major problem with users looping in ring 1 and had to be
deinstalled about 5 minutes after it was installed. A fixed
version of this was installed the next day without
problems.)

II. Hardcore Installations

In the last month we installed a series of fixes for the
problems introduced in the systems 28.3 and 28.4 (systems
24.8a thru 28.4g). We also installed system 28.5 (28.5a and
28.5b) which included the ability to dismount logical
volumes and miscellaneous fixes in the AIM auditing,
salvager and shutdown areas.

III. Crash Analysis

This period started out with a rash of software problems
which were due to bugs that have been fixed in the various
systems installed. More significant are the hardware
problems. There have been two major problems that have
resulted in both a large number of crashes and a large
amount of down time. The first of these was a problem with
the disk MPC (DSKB) which caused only two crashes, but about
twenty and one half hours of down time. The other major
problem has been with CPU A. This problem shows itself as
either internal parity errors or trouble/connect faults.
Although the FE's feel this problem is associated with the

memory in the processor, nothing definite has been found.

Crashes from 05/01/76 to 05/28/76
(ERF's 145 to 184)

	05/01 05/07	05/08 05/14	05/15 05/21	05/22 05/28	Total
Hardware	6	5	9	8	28
Hardware ?	0	2	0	1	3
Software	5	1	0	0	6
Software ?	1	0	0	0	1
Operator ?	1	0	0	0	1
Other (H/O)	0	0	0	1	1
Unanalyzed	0	0	0	0	0
TOTAL	13	8	9	10	40

IV. Other Tasks

We have completed the consistency check for the Hardcore
library. Other than the two imp programs which we knew
about before the check started, no source was found missing.
We did find about 60 obsolete source segments and they have
been deleted. We reconciled about another 50 segments whose
source and object seemed to be installed at different times.
These problems turned out to be: 1) programs that were
recompiled with a new compiler leaving source unchanged, 2)
problems in the library map resulting from the way the
hardcore systems are put together and the fact that archive
does not store the time zone of the date/time updated in the
archive, and 3) a few human errors where the object was
accidently left out of a system and included in the next
system. We also have identified about 100 listings that
were out of date or incomplete in some way. Most of these
are being replaced in a system being submitted by CISL that
is mainly recompilations. We plan to include the rest
either in this system or another one in the near future. To
help prevent such errors in the future, we plan to start
auditing the hardcore updating process (Online changes are
audited by the requestor, but the MIB for the hardcore
system is not quite suitable and is distributed much too
late to solve this problem.) and and the filing of listings
will be cross checked against a list being generated by the
updating process.

We have started the process of installing the new set of
info files prepared by CISL. We have reviewed the 236 info
files being submitted and has a result have formulated some
new policies concerning the use of info files:

1. As the new format for these info files is much more terse than most present info files, we will have to provide some more detailed information for the user who is not already familiar with the command or Multics. To accomplish this, we plan to re-establish the online MPM and inform users how to extract sections and print them.

2. Info files which pertain to tools will be put into a new directory (>doc>tools) which will not be in the normal search path for help and cis.

3. Many subroutine help files will be removed (placed in >doc>subroutines for safe keeping) until the new CISL versions are available. Exceptions will be made for those info files that contain changes that are not reflected in the current MPM.

4. "bugs" and "changes" will become a separate component of the name instead of being separated from the routine name by a underscore. (i.e. pll_bugs.info will become pll.bugs.info)

5. Special products that we do not (yet) have at MIT (e.g. tss_basic) will have their info files placed in >doc>tools.

We hope to be done with the first round of these changes by June 6. After that we plan to review the installation maintained info files.

Work on the installation of the library tools has slipped a bit due to effort being diverted to help with system problems. We are currently planning to complete this task on June 4.

We have received a draft of MOSN-A003 which explains the operational procedures for the items listed in our last report.

V. New Tasks

We have added one new task (at low priority) to our list. This is to change the online updating procedures to give the installer access to the libraries at the beginning of the installation and to remove it at the end. This would help to further protect the libraries against accidents (such as using archive or delete_force while in the library instead of a user directory). This would not only be useful for us, but in fact has been requested from other users of the tools.

TASK DESCRIPTION	PERSONNEL	START	FINISH	P-w	CHANGES-STATUS
Online Library Installations	Ackerman-Lewis	Continuing Task		50%	~10 changes per week is our performance goal
Hardcore and BOS Library Installations	Kelley	Continuing Task		40%	1 system per week is our performance goal
Audit Hardcore Installations	Dixon	Continuing Task		3%	New Task to insure Hardcore Library consistency
System Performance Monitoring	Ackerman-Lewis	Continuing Task		5%	1 or 2 tests per week
Provide Input to System Design Process	ALL	Continuing Task		5%	continue reading MTBs, attending Design Reviews
Monitor Documentation Status	ALL	Continuing Task		1%	auditing/installing ~240 new info segments now
Maintain System Libraries	ALL	Continuing Task		1%	Rush effort underway to insure consistency of Hardcore Libraries
Maintain System Listings	Pitts	Continuing Task		25%	100 listings per week is our performance goal
Do Monthly, Weekly Maintenance - xrefs, maps, etc	Ackerman-Lewis	Continuing Task		1%	
Consulting	ALL	Continuing Task		1%	Serving as online_consultant

TASK DESCRIPTION	PERSONNEL	START	FINISH	P-W̄	CHANGES-STATUS
Crash Analysis	Kelley	As	Needed	20%	~10 crashes per week is maximum we can handle
Problem Investigation and Correction	ALL	As	Needed	5%	10 to 20 problems occur per week
Provide Support for Operations	ALL	As	Needed	2%	
Monitor Configuration Requirements	ALL	As	Needed	1%	monitoring phone line and disk usage
Supervise Test Sessions on MIT Multics	ALL	As	Needed	<1%	protect MIT hierarchy during test session
Maintain I/O Daemon	Kelley	As	Needed	<1%	Little maintenance required now
Maintain Ring 1, Accounting Data Bases	ALL	As	Needed	1%	Little maintenance required now
Enforce and Publicize Submission Standards	ALL	As	Needed	<1%	Check with submitters about errors on installation forms

GROUP _____ MULTICS SUPPORT GROUP _____   DATE ___ 06/01/76 ___   PAGE __1__ / __1__

PROJECT _____ Systems Assurance Subgroup _____   AREA ___ Improvements ___

TASK DESCRIPTION	PERSONNEL	START	FINISH	P-W	CHANGES-STATUS
Improve Facilities and Strategies for Testing Software					no work underway due to lack of personpower
Install library_map and friends	Dixon		05/31/76 06/04/76	2 3	Coming into the final stretch
Maintain, Improve Library Submission Tests					Nothing underway due to lack of personpower
Change format of news.info to support new help features	Kelley			.2 .2	deferred until time available
Upgrade Installation exec_coms, install and document					deferred
Honeywell PLM - AN80: Library Maintenance Manual	ALL				deferred
Investigate compare source_statement program to replace compare_ascii					Compare PL/I source statements, ignoring differences in comments, formatting
Modify updater to give access to libraries before installation and remove afterwards					Low priority