Date: November 15, 1975

From: John Gintell

Subject: Contents and Schedule of Multics System Release MR3.1

This MTR documents the current overall plan for the preparation of MR3.1. Described here is the principal contents of this release and the strategy that will be used to prepare it. The plan is complicated by the nearness of MR4.0 to MR3.1; the solution proposed here is different from what we have been doing in the past.

The following are the principal components to be included in Multics Release 3.1 to be made on March 31, 1976:

MCS, second release

FAST command processor and editing subsystem

Fast FORTRAN compiler

HEALS II, second release

Prelinking and new Address Space mechanism

COBOL, second release

This release will also contain system changes to support prelinking and FAST, a new installation of the FORTRAN and PL/I compilers, some miscellaneous enhancements and bug fixes.

Documentation

This release will be accompanied by the publication of Addenda to the Command, Subroutine, and SWG volumes of the MPM and the initial publication of the Reference Guide of the MPM. It is also expected that the PL/I User's Guide will be available at this time. Thus we will have a complete complement of general User Documentation available.

There will be a new FORTRAN manual and a user manual for the FAST Command and Editing Subsystem.

For operational documentation we will publish an Addendum to the newly published MOH. Contained in the SRB will be additional operational documentation to reflect the changes needed for other portions of the system.

Description of Contents

FAST includes a new FORTRAN compiler, modified FORTRAN I/O and BASIC, a run-unit manager, and an integrated command processor/editor/process overseer. The FAST subsystem will be prelinked; no other portions of the system will be prelinked at this time.

This release of MCS contains the ability to run with 2 DN355's, and the newly written table-driven output portion of the ring 0 TTYDIM.

The HEALS II enhancement includes a new ring 0 SysErr logging mechanism that includes the storage of binary data in the SysErr log, the integration of the AIM audit logging mechanism with the SysErr log using a user ring log manager, and enhancements to the current SysErr log printing programs. In addition there will be a new report writer that will produce reports similar in format and content to those produced by the GCOS version of HEALS.

This release of COBOL includes support of packed decimal data, and support of the overpunched sign convention as well as a number of bug fixes.

MR3.1 also includes a replacement for the current list command, a new version of edm with a move request, a new area package, an extension to the Answering Service for prelinked processes, and a new version of vfile_ with enhancements for both FAST and ordinary users.

Installation Strategy

A special problem exists because of the proximity of the MR4.0 release on June 30. MR4.0 contains the new Storage System which requires a cold boot and therefore is difficult to de-install. Further, a great deal of exposure on it is needed before release to the field. It would be too late if we were to follow the standard cycle of MR3.1 installations up to the month before release followed by a frozen system for the last month. This would defer the new Storage System installation in Phoenix until April. This is too close to the release date of June and too far from the MIT installation date of January. Since we cannot change either of the release dates and since parts of MR3.1 will not be complete until close to the final date, we must

adopt a different scheme.

The plan is to make all MR3.1 installations but a final few components such as Fast FORTRAN by the end of the year, and freeze MR3.1 during January for exposure of the system. We will then preserve the storage system contents of >ldd to be used on the System M Development configuration. Then in February we can proceed with the installation of the new Storage System and get sufficient exposure. Once the new Storage System has been installed it will not be possible to go back to the old system via a cold boot since we are not planning to maintain compatibility in that direction. Fast FORTRAN and Prelinking will continue to get exposure on the MR4.0 prototype and changes and bug fixes can get reflected back to the MR3.1 system when necessary.

In March the several final installations will have to be made on the Development configuration after having been developed, tested, and exposed on the Service system. The actual final system will not receive the integrated exposure of System M Service, but we are confident that the nature of the changes being installed on the Development System are such that comprehensive testing of them on the MR4.0 based Service system will be adequate. The Development configuration will be used for final testing and the tapes to be released will be made on it.

Testing Strategy

We will continue to apply the standard testing strategy that we have been using for all releases that includes careful testing by the developer; CISL, MIT, and System M exposure; dedicated time on System M for System testing; regression tests whenever available; and much informal ad-hoc testing by people not directly connected with a particular project. In addition we will make experimental versions of FAST available and encourage as much use as possible. We will also attempt to use for additional the various test libraries of FORTRAN and Basic programs that are available in Phoenix.

Key People Assignments

There are many people involved in the projects described in this MTR. Several key assignments of people are listed here to cover some of the most critical situations. One of the new strategies developed is to have MPSE people more closely integrated with CISL people.

| | CISL | MPSE |
|---|---|---|
| MCS | Grady | Mengel |
| HEALS | Johnson | Bush |
| FAST | | |
| FORTRAN | Levin | May |
| User commands | Barr | |
| Basic and run-unit | Weaver | |
| Integration | Stone | |
| Installations | Meer | Martinson |

Key Milestones

In order to allow sufficient time for installation, exposure and bug fixing the following overall schedule is to be used. Exceptions will require advance notice, managment approval, and special handling.

| | |
|---|---|
| Submission of all User Documentation | Dec 1 (FW 49) |
| Final MIT submission of all but FAST components and HEALS report writer | Dec 1 (FW 49) |
| Experimental version of FAST without FORTRAN available | Dec 8 (FW 50) |
| Final Phoenix transmittal of all but FAST components and HEALS | Dec 15 (FW 51) |
| System frozen in Phoenix | Jan 19 (FW 04) |
| Experimental version of FAST with FORTRAN available | Jan 26 (FW 05) |
| Copy of system made for Development configuration | Feb 6 (FW 06) |
| System unfrozen in Phoenix for MR4.0 update | Feb 9 (FW 07) |
| Final submission in Phoenix of FAST components, HEALS II report writer, and critical bug fixes | Mar 15 (FW 12) |
| Final freeze of MR3.1 system to perform final testing and make tapes | Mar 18 (FW 12) |

# MR3.1 Installation Plan