

TO: Distribution  
FROM: Gary C. Dixon  
DATE: November 1, 1973  
SUBJECT: Multics Library Maintenance Tools Project Status

### I. Significant Events

- 1) The Hardcore portion of the extended Star Convention has been installed in MSS 21.1. This code seems to work fine. The Online portion of the extended Star Convention, and the extended Equal Convention, have both been submitted for installation. When installed, phase one of the extended Star Convention and the extended Equal Convention will be in effect. Users will then have one month to convert the stars in star name components of the form !\*\*\* or \*\*\* or abc\*def\* to question marks. After one month, phase two of the extended Star Convention will be installed, the stars in these star names will be treated as illegal, and a single star in components of the form abc\*def will be interpreted as "matching any number of characters in the corresponding component and letter position".
- 2) My revision of MPM Reference Guide Section 6.2, "The Multics Condition Mechanism", has been adopted for the next revision of the MPM. This revision describes the condition mechanism using PL/I terminology, and it includes the changes to the condition mechanism outlined in TOS-Q.
- 3) I have completed a simple runoff macro which formats the header information of an MCR. This will be installed in >udd>m>library>e shortly.
- 4) Arlene Scherer's work on update\_include is complete, except for some last minute testing. The new version of update\_include installs include files into >idd>include, using the Online Library Installation protocol.
- 5) Work has finally begun on removing calls to the MSL (Multics Segment List) subsystem from the Hardcore and Salvager Library updater. Dave Jordan has undertaken this project as part of the conversion of the Hardcore/Salvager updater to v2p11. The information in the MSL will be replaced by the

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information stored in the Hardcore and Salvager Library directory entries and archive headers, and by a list of Hardcore and Salvager system ids and system installation dates. New programs to list this information are almost complete.

## II. Task Status

As mentioned above, I am creating tools which map the status of the Multics System (Hardcore, Salvager, & Online) Libraries. I hope to finish work on these tools during November, and to make them available to the Multics Library maintainers for trial use before finalizing the command interfaces. During November, MCR's for these tools will be submitted and command documentation will be written.

Pete Kelley and I are still planning the changes which are needed for the Online Library installation tool, `update_seg`. Enhancements planned for the immediate future include being able to install very large modifications (e.g., a new PL/I compiler) in a single installation, and making some minor bug fixes in the installation documentation programs. We are also designing an enhanced documentation facility to include a brief summary of each change in the installation documentation, including MCR numbers. MCR's for these changes will be submitted shortly.

Pete is also writing an MTB describing our long range plans for the Online Library installation tools. This MTB should be published during November.

Finally, a manual describing all of the library maintenance commands and procedures is being planned, along with SPS documents describing all of the subroutine interfaces of the library maintenance tools. This documentation effort will be described in an MTB to be published shortly.

As mentioned above, Arlene Scherer has rewritten `update_include`, adding cleanup handlers, using new ACL primitives, following Online Library installation standards, etc. She also modified the cleanup command which searches for obsolete library segments and deletes any which are found. The modification cause cleanup to search the `iml_info` and `include` directories for obsolete segments.

III. Work Planned

- 1) continue the planning of future work; write the proposals and MCRs for this work.
  - A) update\_seg. (Kelley, Dixon, Roach, Scherer)
  - B) library descriptor programs. (Dixon, Roach, Scherer, Jordan)
  - C) miscellaneous tools. (Dixon, Roach, Scherer)
  - D) user-accessible library. (Dixon, Roach, VanVleck)
  - E) documenting tools/procedures. (Kelley, Dixon)
- 2) finish the library\_info, library\_map, and library\_print commands, and their subroutines. (Dixon)
- 3) publish an SPS writeup for the update\_seg command. (Kelley)
- 4) begin implementing some of the update\_seg enhancements. (Kelley)

PROJECT \_\_\_ Library Maintenance Tools Project \_\_\_ AREA \_\_\_ Library descriptor tools \_\_\_

TASK DESCRIPTION	PERSONNEL	START	FINISH	M-W	CHANGES-SIAIUS
library_info (ll): code, document command which replaces msl_info	Dixon	10/05/73	10/30/73	1.5	* Preliminary version works now
library_map (lm): code, document command which replaces msl_global format	Dixon	05/25/73	06/25/73	3	* Preliminary version works now
library_print (lpr): code, document command which prints groups of library segments (eg, include segs)	Dixon	03/10/73	04/01/73	1	* Debugging underway
		10/02/73	11/15/73	2	
stop update_include from maintaining backup archives	Scherer	10/02/73	10/30/73	.2	* Done
		10/02/73	10/30/73		
library_get (lgt): rewrite gls to use library descriptor	Dixon			1	
library_cleanup (lcln): clean up the code; use library descriptor	Dixon			1	
library_object_cref (loc): rewrite cross_reference to use library descriptor				2	
library_include_cref (llc): rewrite lcref to use library descriptor & source maps in standard obj segs				1.5	
upd_doc_task: use library descriptor to format description of an installation	Kelley			.5	
lib_descriptor: Implement map, Info, print, & get entry points	Dixon	02/28/73	06/15/73	.5	* Done
		04/07/73	10/30/73		
lib_descriptor: Implement cleanup entry point	Dixon			.3	

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PROJECT Library Maintenance Tools Project \_\_\_\_\_ AREA \_\_\_\_\_ Library descriptor tools \_\_\_\_\_

TASK DESCRIPTION	PERSONNEL	START	FINISH	M-W	CHANGES-SIAIUS
multics_system_libraries: finish	Dixon	10/25/73	11/15/73	.5	* Done
info, map, print, & get entry points		10/25/73	10/30/73		
multics_system_libraries: code cleanup entry point (for library cleanup)	Dixon			.3	

PROJECT \_\_\_\_\_ Library Maintenance Tools Project \_\_\_\_\_ AREA \_\_\_\_\_ Planning and Design \_\_\_\_\_

TASK DESCRIPTION	PERSONNEL	START	FINISH	M-W	CHANGES-SIAIUS
update_seg: plan handling of large installations	Kelley Dixon		11/02/73		* MCR being submitted
update_seg: write MIB describing planned changes to Online updater	Kelley (Dixon)	10/20/73 10/20/73	11/15/73 11/15/73		* Outline complete
update_seg: plan improvements in the automatic documentation of installations	Kelley Dixon Scherer Jordan	10/10/73 10/10/73	11/15/73 11/15/73		* Underway
user_accessible libraries: plan how to do this	Dixon Roach VanVleck				* Awaiting manpower