To: Distribution

From: M. S. Hodges

Date: September 16, 1974

Subject: Multics Change Requests

Attached are copies of Multics Change Requests which were approved
from September 1 through September 15, 1974.

MULTICS CHANGE REQUEST

TITLE:	A new symbolic debugger - probe	STATUS	DATE
		Written	7-16-74
AUTHOR:	Jeffrey M. Broughton	Approved	9/10/74
		Rejected	
SOURCE: (if external) e.g., "User", "Marketing"		Postponed	H 7/23/7:
		Withdrawn	
		Expires	3/10/75

CLASSIFICATION		JUSTIFICATION		Replaced by proposal MCR _____
	Incompatible Change		Marketing Requirement	Implemented in System _____
X	Extension		Performance to Standard	Objections/Comments:
	Restriction		Increased Consistency	Postponed awaiting experiences with trial version.
	Performance Improvement		Simplification	-----
	Reliability Improvement		Generalization	Do not install until debug is fixed to detect a probe break map.
			Bug Fix	

Use these headings: REASONS, SUMMARY, IMPLICATIONS, DETAILED PROPOSAL (Optional)

REASONS: The current system debugger, debug, is not well suited for use by the unsophisticated user. It is very much machine language oriented and has a confusing and error prone syntax. In addition, it is deficient in its handling of include files, quick blocks, and certain data types. Probe is intended to be more simple to use and to deal with the constructs of the user program in a more straightforward way. Notable differences between it and debug are:

1)   Probe cannot modify or examine code.

2)   Breakpoints are implemented in such a manner that an active invocation of probe need not be on the stack for a break to occur.

3)   The syntax for breaks is potentially far more flexible.

4)   Quick procedures and blocks, as well as normal begin blocks are recognized in a stack trace. Support procedures are excluded (at the user's discretion) from the stack trace.

5) Type checking and conversion is performed in assignments.

6) Arguments are converted to expected type in a call, if entry argument descriptors are present.

7) A wider range of constants, including decimal and complex, is supported.

SUMMARY:

Install probe as a standard service system command.

IMPLICATIONS:

The use of debug and probe are compatible except that the break map is in a different format. Probe will give an error if an attempt is made to use a segment containing a break map it does not know about.

DETAILED PROPOSAL:

See attached documentation.

MULTICS CHANGE PROJECT

TITLE: Fix bug in copy_names_

AUTHOR: Steve Herbst

SOURCE: (if external) e.g., "User", "Marketing"

STATUS	
Written	8-23-74
Approved	9-3-74
Rejected	
Postponed	
Withdrawn	
Expires	3-3-75

CLASSIFICATION		JUSTIFICATION		
	Incompatible Change		Marketing Requirement	Replaced by proposal MCP _____
	Extension		Conformance to Standard	Implemented in System _____
	Restriction		Increased Consistency	Objections/Comments:
X	Performance Improvement		Simplification	
	Reliability Improvement		Generalization	
		X	Bug Fix **Unreported**	

Use these headings: REASONS, SUMMARY, IMPLICATIONS, DETAILED PROPOSAL (Optional)

REASONS: If the user has no access to add a name onto the target, the error is ignored and processing continues (with the next name).

SUMMARY: Have copy_names_ return when adding a name to dir2>en2 produces a non-zero error code other than namedup or segnamedup. If moving names, add the name back on dir1>en1 before returning.

MULTICS CHANGE REQUEST

MCR ___732___
Page __1__ __1__

TITLE: Modify stu_ to interpret ITP pointers

AUTHOR: __Jeff Broughton__

SOURCE: (if external) e.g., "User", "Marketing"

STATUS	
Written	8-23-74
Approved	9-3-74
Rejected	
Postponed	
Withdrawn	
Expires	3-3-75

CLASSIFICATION		JUSTIFICATION		
	Incompatible Change		Marketing Requirement	Replaced by proposal MCR _____
	Extension	X	Conformance to Standard	Implemented in System _____
	Restriction		Increased Consistency	Objections/Comments:
	Performance Improvement		Simplification	
	Reliability Improvement		Generalization	
			Bug Fix	

Use these headings: REASONS, SUMMARY, IMPLICATIONS, DETAILED PROPOSAL (Optional)

REASONS: Under certain circumstances, the latest version of the PL/I
    compiler will generate argument lists containing ITP pointers when
    calling quick procedures. Use of these pointers requires that
    certain values be in specific pointer registers (e.g. the stack
    pointer for the procedure in pr6). When stu_ tries to get an
    argument or descriptor to a quick procedure called with an ITP
    argument list, incorrect results are obtained as the expected values
    are not in the registers.

SUMMARY: Modify the procedures, find_runtime_address and decode_runtime_value,
    to detect and interpret ITP pointers in argument lists.

IMPLICATIONS: None

MULTICS CHANGE REQUEST		MCR 733
		Page 1 of 1

TITLE: Probe	STATUS	DATE
	Written	8-26-74
AUTHOR: Jeff Broughton	Approved	9-10-7?
	Rejected	
SOURCE: (if external) e.g., "User", "Marketing"	Postponed	9-3-74
	Withdrawn	
	Expires	3-10-7?

CLASSIFICATION		JUSTIFICATION		Replaced by proposal MCR _____
	Incompatible Change		Marketing Requirement	Implemented in System _____
	Extension		Conformance to Standard	Objections/Comments:
	Restriction		Increased Consistency	
	Performance Improvement		Simplification	Investigate possibility of break mechanism common with debug.
	Reliability Improvement		Generalization	
X	New feature		Bug Fix	Do not install until debug is fixed to detect a probe break map.

Use these headings: REASONS, SUMMARY, IMPLICATIONS, DETAILED PROPOSAL (Optional)

REASONS: Provide an additional tool to Multics users. See MCR-665.

SUMMARY: Install probe as a standard command.

IMPLICATIONS: See MCR-665. Appropriate documentation.

DETAILED PROPOSAL: See MTB-106. Since that document was issued, the following
          changes have been made as the result of suggestions received:

1) A quit command which causes a return to the previous command
    level was implemented.

2) A "." request which prints "probe" was implemented.

3) The default action for the status command was changed from
    listing the last break which occurred to listing all breaks
    in the current program.

4) The stack command was changed to give level numbers in a top
    down order as opposed to the bottom up order in which the trace
    is given.

5) Several other changes were made to improve the aesthetics of
    the output of certain commands.

6) A substr builtin and pseudo-variable was added to access portions
    of long strings.

MULTICS CHANGE REQUEST	MCR 734
	Page 1 of 1

TITLE: Install tools print_translator_search_rules and set_translator_search_rules	STATUS	DATE
	Written	8-26-74
	Approved	9-3-74
AUTHOR: Steve Webber	Rejected	
SOURCE: (if external) e.g., "User", "Marketing"	Postponed	
	Withdrawn	
	Expires	3-3-75

CLASSIFICATION		JUSTIFICATION		Replaced by proposal MCR _____
	Incompatible Change		Marketing Requirement	Implemented in System _____
X	Extension		Performance to Standard	Objections/Comments:
	Restriction	X	Increased Consistency	
	Performance Improvement		Simplification	
	Reliability Improvement	X	Generalization	
			Bug Fix	

Use these headings: REASONS, SUMMARY, IMPLICATIONS, DETAILED PROPOSAL (Optional)

REASONS: Two useful commands which manipulate translator search rules should be
     installed as tools.

MULTICS CHANGE REQUEST	MCR __735___

TITLE: Documentation for the new unbundled library.	STATUS	DATE
	_Written___	08/22/74
AUTHOR: P. Kelley	_Approve___	9-3-74
	_Relected__	
SOURCE: (if external; e.g., "User", "Marketing") local	_Postponec_	
	Withcrawn	
	_Expires___	3-3-75

CLASSIFICATION	JUSTIFICATION	
		_Replaced_by_proposal_MCP_____
Incompatible Change	Marketing Requirement	_Implemented_in_System_____
	☒ Conformance	
Extension	to Standard	Objections/Comments:
	Increased	
Restriction	Consistency	
Performance		
Improvement	Simplification	
Reliability		
Improvement	Generalization	
	Bug Fix	

Use these headings: REASONS, SUMMARY, IMPLICATIONS, and optionally
DETAILED PROPOSAL

Subject:
    Provide for automatic documentation of online library
changes made to the new "unbundled" library.

Detailed Proposal:
    Modify the procedure upd_doc_task_ to recognize the
"unbundled" library as standard online execution library.

Implications: None.

MULTICS CHANGE REQUEST		MCR __736__	
TITLE: Cleanup ACL on phcs_		STATUS	DATE
AUTHOR: Roger A. Roach		Written	09/26/74
		Approved	9 -3 -74
		Rejected	
SOURCE: (if external; e.g., "User", "Marketing") MIT PDO		Postponed	
		Withdrawn	
		Expires	3 -3 -75

CLASSIFICATION	JUSTIFICATION	
|_|Incompatible |_|Change	|_|Marketing |_|Requirement	Replaced by proposal MCR _____
|_|Extension	|☒|Conformance |_|to Standard	Implemented in System _____
|☒|_____ |_|Restriction		|Increased |_|Consistency	Objections/Comments:
	|Performance |_|Improvement	|☒|_____ |_|Simplification| - Requires linker fix to handle linkage sectio of gate properly.
	|Reliability |_|Improvement		|_____ |_|Generalization|
	|_____ |_|_____		|_____ |_|Bug Fix	- NB: Has enternal site implications.

Use these headings: REASONS, SUMMARY, IMPLICATIONS, and optionally
                      DETAILED PROPOSAL

REASONS: To complete the conversion of the metering tools as described in MCR 303. (This MCR is an elaboration of step 5 of that MCR.) The object is to provide access to metering data without having access on phcs_. Now that the tools have been installed, the extra ACL's on phcs_ can be removed.

SUMMARY: Remove all ACL's on phcs_ except for the "Sys" projects (SysAdmin, SysDaemon, SysMaint and SysLib) which require phcs_ access for normal functions. All other access will be granted by means of a call to setacl$hpsetacl in the system_start_up.ec. The ACL on phcs_.link will be set to "rw 0,0,0 *.*.*" to reduce the number of calls needed to be added to system_start_up.ec to add a person to the ACL of phcs_.

IMPLICATIONS: Certain programmers not on the list to be added to the ACL of phcs_ (see attach memo) will not be able to use entries in phcs_ (such as ring_0_message).

TO: Multics Administrative Distribution

FROM: Roger A. Roach

DATE: September 3, 1974

SUBJECT: List of programmers having access on phcs_

The following is a list of programmers who are now granted access to phcs_ thru commands issued in the system startup exec_com. Also, members of the "Sys" projects (SysAdmin, SysDaemon, SysLib and SysMaint) are given access from the ACL existing on the system tape.

programmer	reason
Grady.Multics	ring_0_peek: TTY DIM development & debugging
Greenberg.Multics	ring_0_peek: page control debugging & development
Kobziar.Multics	ring_0_peek: salvager debugging (dumping dirs)
Morris.Multics	ioi and tape entries: T&D's, tapes, ioi
Mullen.Multics	ring_0_peek: backup/dir control changes
Meer.Multics	ring_0_message, grab_tape_drive: listings
Silver.Multics	ring_0_message: tape DIM/DCM development
	ring_0_peek: syserr logging debugging
Stone.Multics	ring_0_peek: dir control debugging
VanVleck.Multics	ring_0_peek: new storage system development
Vinograd.Multics	ring_0_peek: hardcore debugging
Webber.Multics	ring_0_peek: hardcore debugging/development

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-------------------------------------------------------------------------
|                                                    |                    |
|              MULTICS CHANGE REQUEST                | MCR __737___       |
|----------------------------------------------------|--------------------|
| TITLE:  Fix bug in printer initialization.         | STATUS  |  DATE    |
|                                                    |_____|_____|
|                                                    |_Written___|08/28/74|
| AUTHOR: VanVleck                                   |_Approved__ 9-3-74  |
|----------------------------------------------------|_Rejected__|_____|
| SOURCE: (if external; e.g., "User", "Marketing")   |_Postponed_|_____|
|                                                    |_Withdrawn_|        |
|----------------------------------------------------|_Expires___|3-3-75  |
| CLASSIFICATION  | JUSTIFICATION   |                                      |
|_____|_____|_Replaced_by_proposal_MCR_____|
| |Incompatible   | |Marketing     |                                      |
|_|Change_____  |_|Requirement___|_Implemented_in_System_____|
| |              | |Conformance   |                                      |
|_|Extension_____ |_|to_Standard___| Objections/Comments:                 |
| |              | |Increased     |                                      |
|_|Restriction___ |_|Consistency___|                                      |
| |Performance    | |              |                                      |
|_|Improvement____|_|Simplification|                                      |
|X|Reliability    | |              |                                      |
|_|Improvement____|_|Generalization|                                      |
| |               |X|(Unreported)  |                                      |
|_|_____|_|Bug_Fix_____|                                      |
| |               | |              |                                      |
|_|_____|_|_____|_____|
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use these headings: REASONS, SUMMARY, IMPLICATIONS, and optionally
                     DETAILED PROPOSAL

REASONS:

If an installation sets up its configuration deck so that it has a printer
named PRTB but no PRTA, the system will refuse to allow any printers to be
attached.

SUMMARY:

Fix the bug.

IMPLICATIONS:

None.

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:-------------------------------------------------------------:------------------------:
:                                                             :                        :
:              MULTICS CHANGE REQUEST                         :  MCR __738___          :
:                                                             :                        :
:-------------------------------------------------------------:------------------------:
: TITLE:  Add hardcore support for PRT303 printer.            :  STATUS   :   DATE     :
:                                                             :-----------:------------:
:                                                             :_Written__ :_08/18/74_  :
: AUTHOR: VanVleck                                            :_Approves__: 9-3-74     :
:                                                             :_Rejected__:            :
:-------------------------------------------------------------:-----------:------------:
: SOURCE: (if external; e.g., "User", "Marketing")            :_Postponed_:            :
:                                                             :_Withdrawn_:            :
:                                                             :_Expires___: 3-3-75     :
:-------------------------------------------------------------:------------------------:
: CLASSIFICATION  : JUSTIFICATION   :                         :
:-----------------:-----------------:_Replaced_by_proposal_MCR_____:
: :Incompatible   : :Marketing      :                         :
:_:Change_____:_:Requirement____:_Implemented_in_System_____:
:X:               : :Conformance    :                         :
:_:Extension_____:_:to_Standard____: Objections/Comments:     :
: :               : :Increased      :                         :
:_:Restriction____:_:Consistency____:                         :
: :Performance    : :               :                         :
:_:Improvement____:_:Simplification :                         :
: :Reliability    :X:               :                         :
:_:Improvement____:_:Generalization :                         :
: :               : :               :                         :
: :               : :               :                         :
:_:_____:_:Bug_Fix_____:                         :
: :               : :               :                         :
: :               : :               :                         :
:_:_____:_:_____:_____:
Use these headings:  REASONS, SUMMARY, IMPLICATIONS, and optionally
                      DETAILED PROPOSAL
```

REASONS:

The PRT303 printer looks very much like a PRT301, but is run by an MPC.
The current hardcore printer DCM does not support the PRT303, and at least
one site (CISL) has such a printer.

SUMMARY:

Modify the hardcore printer DCM to support PRT303. This requires the use
of different operation codes in the instruction DCW's to the printer, and
some minor changes to status handling in the hardcore and ring-4 printer
support.

IMPLICATIONS:

The error messages printed by the ring-4 printer DIM will be changed to be
somewhat more informative.

The model number on the PRPH card will no longer be ignored; it must be
one of the following:

    202.
    300.
    301.
    303.

MULTICS CHANGE REQUEST

MCR 739

Page 1 of 1

TITLE: Submit correct version of tcm include file

AUTHOR: Steve Webber

SOURCE: (if external) e.g., "User", "Marketing"

STATUS	
Written	8-29-74
Approved	9-3-74
Rejected	
Postponed	
Withdrawn	
Expires	3-3-75

CLASSIFICATION		JUSTIFICATION	
Incompatible Change		Marketing Requirement	
Extension		Performance to Standard	
Restriction		Increased Consistency	X
Performance Improvement		Simplification	
Reliability Improvement		Generalization	
		Bug Fix	X

Replaced by proposal MCR ____

Implemented in System ____

Objections/Comments:

Use these headings: REASONS, SUMMARY, IMPLICATIONS, DETAILED PROPOSAL (Optional)

REASONS: Several months ago a version of tcm.incl.pl1 was not submitted/installed when it should have been. This causes spg_util_ to work incorrectly.

SUMMARY: Submit the include file and a recompiled version of spg_util_.

MULTICS CHANGE REQUEST		MCR _743___	
TITLE: Fix bug in abs bump operator command.		STATUS	DATE
		Written	08/29/74
AUTHOR: VanVleck		Approved	9-10-74
		Rejected	
SOURCE: (if external; e.g., "User", "Marketing")		Postponed	
		Withdrawn	
		Expires	3-10-75

CLASSIFICATION	JUSTIFICATION	
		Replaced by proposal MCR
_ Incompatible Change	_ Marketing Requirement	Implemented in System
_ Extension	Conformance to Standard	Objections/Comments:
_ Restriction	Increased Consistency	
Performance _ Improvement		
∎ Reliability _ Improvement	_ Simplification	
	_ Generalization	
	∎ (Bug No. ans00(SP)	
_	_ Bug Fix	

Use these headings: REASONS, SUMMARY, IMPLICATIONS, and optionally
DETAILED PROPOSAL

REASONS:

When the operator issues an "abs bump" or "abs cancel" command and
specifies the project ID of the user to be bumped, the system treats
matches on project ID as mismatches, and vice versa.

SUMMARY:

In line 1172 of admin.pl1, change the equal to a not-equal.

IMPLICATIONS:

None.

MULTICS CHANGE REQUEST

MCR   744
Page 1 1

TITLE: Fix bug on gl15_ DIM printer conversion routine.

AUTHOR: M.J. Grady

SOURCE: (if external) e.g., "User", "Marketing"

STATUS	
Written	9/1/74
Approved	9-10-7.
Rejected	
Postponed	
Withdrawn	
Expires	3-10-7.

CLASSIFICATION		JUSTIFICATION	
Incompatible Change		Marketing Requirement	
Extension		Conformance to Standard	
Restriction		Increased Consistency	
Performance Improvement		Simplification	
Reliability Improvement		Generalization	
	X	Bug Fix **Unreported**	

Replaced by proposal MCP _____

Implemented in System _____

Objections/Comments: .

Use these headings: REASONS, SUMMARY, IMPLICATIONS, DETAILED PROPOSAL (Optional)

REASONS: A bug exists in the gl15 dim which causes character compression to
fail in certain cases.

SUMMARY: Fix the bug.

IMPLICATIONS: None

MULTICS CHANGE REQUEST

MCR	745
Page 1 of 1	

TITLE:	Add a storage system primitive to set the entry point bound of a segment	STATUS	
		Written	9-1-74
AUTHOR: E. Stone		Approved	9-10-74
		Rejected	
SOURCE: (if external) e.g., "User", "Marketing"		Postponed	
		Withdrawn	
		Expires	3-10-75

CLASSIFICATION		JUSTIFICATION		Replaced by proposal MCR _____
	Incompatible Change		Marketing Requirement	Implemented in System _____
X	Extension		Conformance to Standard	Objections/Comments: .
	Restriction	X	Increased Consistency	
	Performance Improvement		Simplification	
X	Reliability Improvement		Generalization	
			Bug Fix	

Use these headings: REASONS, SUMMARY, IMPLICATIONS, DETAILED PROPOSAL (Optional)

REASONS: The immediate reason is to allow the setting of call limiters on gates into ring 1. The lack of such a mechanism has been characterized as a vulnerability.

DETAILED PROPOSAL:

Three other tasks are necessary to solve the problem:

1) Backup and reload this attribute.

2) Install a command and subroutine which calculates the correct entry point bound and calls the proposed primitive.

3) Change the installation procedures to set the call limiter on gates.

These tasks have been set in motion.

The storage system should be changed as follows:

Two entries will be added to the module sct. One will change the entry point bound given the pathname of a segment and the other will change this attribute given the pointer.

The value of 0 as an entry point bound will mean that the call limiter mechanism will be disabled for this segment; the entry point bound switch will be reset.

A value >0 and <16384 will mean that the call limiter mechanism will be enabled for this segment.

Two entries will be added to hcs_ to call the new entries in sct.

Name: hcs_$set_entry_bound

        This subroutine sets the entry point bound of a segment,
given a directory name and an entryname.

        The entry point bound attribute provides a way of limiting
which locations of a segment may be targets of a call.   This
subroutine allows the caller to enable or disable a hardware
check of calls to a given segment from other segments.   If the
mechanism is enabled, all calls to the segment must be made to an
entry point whose offset is less than the entry point bound.

        In practice, this attribute is most effective when all of
the entry points are located at the base of the segment.   In this
case the entry point bound is the number of callable words.

Usage

        declare hcs_$set_entry_bound entry (char(*), char(*),
                fixed bin(14), fixed bin(35));

        call hcs_$set_entry_bound (dirname, ename, entry_bound, code);

1. dirname   is the directory name of the segment whose entry
                point bound is to be changed.   (Input)

2. ename   is the entryname of the segment whose entry point
                bound is to be changed.   (Input)

3. entry_bound is the new value in words for the entry point
                bound of the segment.   If entry_bound = 0, then
                the mechanism is disabled. (Input)

4. code   is a standard storage system status code.   (See
                Notes below.)   (Output)

Notes

        A directory can not have its entry point bound changed.

Modify permission with respect to the directory containing the segment is required.

If an attempt is made to set the entry point bound of a segment greater than 16383, the maximum value allowed, code will be set to error_table_$argerr.

The subroutine hcs_$set_entry_bound_seg can be used when a pointer to the segment is given, rather than a pathname.

Name: hcs_$set_entry_bound_seg

        This subroutine sets the entry point bound of a segment,
given a pointer to the segment.

        The   entry   point bound attribute provides a way of limiting
which locations of a segment may be targets of a call.   This
subroutine   allows   the   caller   to   enable or disable a hardware
check of calls to a given segment from other   segments.   If   the
mechanism is enabled, all calls to the segment must be made to an
entry point whose offset is less than the entry point bound.

        In   practice,   this   attribute is most effective when all of
the entry points are located at the base of the segment. In this
case the entry point bound is the number of callable words.

Usage

        declare hcs_$set_entry_bound_seg entry (ptr, fixed bin(14),
            fixed bin(35));

        call hcs_$set_entry_bound_seg (segptr, entry_bound, code);

1. segptr   is a pointer to the segment whose entry point
                     bound is to be changed. (Input)

2. entry_bound   is the new value in words for the entry point
                     bound of the segment. If entry_bound = 0,
                     then the mechanism is disabled. (Input)

3. code   is a standard storage system status code.
                     (See Notes below.) (Output)

Notes

        A directory can not have its entry point bound changed.

        Modify   permission   with respect to the directory containing
the segment is required.

If an attempt is made to set the entry point bound of a segment to greater than the system maximum, 16383, code will be set to error_table_$argerr.

The subroutine hcs_$set_entry_bound can be used when a pathname of the segment is given, rather than a pointer.

MULTICS CHANGE REQUEST

MCP _____746_____

Page __1__ of __1__

TITLE:	Remove multiple references to parameters in status_	STATUS	DATE
		Written	9-2-74
AUTHOR: E. Stone		Approved	*9-10-7:*
		Rejected	
SOURCE: (if external) e.g., "User", "Marketing"		Postponed	
		Withdrawn	
		Expires	*3-10-7:*

CLASSIFICATION		JUSTIFICATION		Replaced by proposal MCP _____
	Incompatible Change		Marketing Requirement	Implemented in System _____
	Extension		Conformance to Standard	Objections/Comments:
	Restriction		Increased Consistency	
	Performance Improvement		Simplification	
X	Reliability Improvement		Generalization	
		X	Bug Fix Unreported	

Use these headings: REASONS, SUMMARY, IMPLICATIONS, DETAILED PROPOSAL (Optional)

REASONS: The status_ primitive does not copy its arguments before
      referencing them in all cases. This has been characterized as a
      vulnerability. In one instance, this deficiency could cause a segment
      fault while a directory is locked.

MULTICS CHANGE REQUEST	MCR ___748___

TITLE: New command to dump linkage section.	STATUS	DATE
	Written	09/01/74
AUTHOR: VanVleck	Approved	9-10-74
	Rejected	
SOURCE: (if external; e.g., "User", "Marketing")	Postponed	
	Withdrawn	
	Expires	3-10-75

CLASSIFICATION	JUSTIFICATION	
		Replaced by proposal MCR
|Incompatible |Marketing	
|Change |_|Requirement	Implemented in System
▇	|Conformance	
|Extension |_|to Standard	Objections/Comments:
	|Increased	
|Restriction |_|Consistency	
|Performance		
|Improvement |_|Simplification|
|Reliability |▇|	
|Improvement |_|Generalization|
|_| |_|Bug Fix	
|_| |_|	

Use these headings: REASONS, SUMMARY, IMPLICATIONS, and optionally
DETAILED PROPOSAL

REASONS:

When one is attempting to debug a process it is sometimes necessary to
examine the process's combined linkage section(s) to see the values of
internal static variables and to examine linkage pointers. There is
currently no tool which produces a formatted dump of a linkage section.

SUMMARY:

Write a new program, "dump_linkage_section" ("dls"), which will print a
cump of the linkage section(s) in a process using information from the LOT
to head each linkage block with the name of the owning segment. For bound
segments, examine also the bindmap for the segment and title each separate
component's   internal static withthe component name.
For linkage pointers, show both the octal form and also the interpreted
information describing what the link points to whether or not it has been
snapped.

The program should have a subroutine interface which accepts an output
stream-name as an argument, so that as_dump_ and similar programs can call
this subroutine as well as calling trace_stack_.

The command program should accept optional arguments which specify a
segment name, reference name, or segment number whose linkage is to be
dumped, or a location in the combined linkage section, to specify dumping
of the element which contains that location.

IMPLICATIONS:

The command may prove useful occasionally.

MULTICS CHANGE REQUEST	MCR ___749___

TITLE: Add hardcore support for PRU1200 printer.	STATUS	DATE
AUTHOR: VanVleck	Written	08/31/74
	Approved	9-10-74
	Rejected	
SOURCE: (If external; e.g., "User", "Marketing")	Postponed	
	Withdrawn	
	Expires	3-10-75

CLASSIFICATION	JUSTIFICATION	
		Replaced by proposal MCR _____
Incompatible	Marketing	
Change	_Requirement_	Implemented in System _____
■	Conformance	
Extension	_to Standard_	Objections/Comments:
	Increased	
Restriction	_Consistency_	
Performance		
Improvement	_Simplification_	
Reliability	■	
Improvement	_Generalization_	
_|_____	_Bug Fix_	
_|_____	_|_	

Use these headings: REASONS, SUMMARY, IMPLICATIONS, and optionally
                     DETAILED PROPOSAL

REASONS:

The PRU1200 printer works much like the PRT303 printer. Both are run by an
MPC; but the PRU1200 has a software VFU format instead of a paper tape
loop.   The current hardcore printer DCM does not support the PRU1200, but
this printer is expected to become a product offering.

SUMMARY:

Modify the hardcore printer DCM to support PRU1200. This requires special
code in printer_attach to load the software VFU tape. A new mode will be
added so that the printer can be run at 6 or 8 lines per inch.

IMPLICATIONS:

PRU1200 and PRU1600 will be usable. At some later date, a new dprint
argument may be provided to allow users to select 8 LPI, or to choose one
of several different VFU formats.

MULTICS CHANGE REQUEST

	MCR 750	
	Page 1 of 1	

TITLE: GCOS Installation Tools

AUTHOR: T. Casey

SOURCE: (if external) e.g., "User", "Marketing"

STATUS	
Written	9-4-74
Approved	9-10-74
Rejected	
Postponed	
Withdrawn	
Expires	3-10-75

CLASSIFICATION		JUSTIFICATION		
	Incompatible Change		Marketing Requirement	
X	Extension	X	Conformance to Standard	
	Restriction		Increased Consistency	
	Performance Improvement		Simplification	
	Reliability Improvement		Generalization	
		X	Bug Fix gcs0067p	

Replaced by proposal MCR _____

Implemented in System _____

Objections/Comments:

Use these headings: REASONS, SUMMARY, IMPLICATIONS, DETAILED PROPOSAL (Optional)

REASONS: The tools used in reading the software and subroutine libraries from a GCOS total system tape and putting them into a format readable by the GCOS simulator should be installed.

SUMMARY: Install bound_gcos_tools_, containing the commands:

        dump_gcos
        gcos_pull_tapefile
        gcos_extract_module
        gcos_build_library
        gcos_library_summary
        gcos_reformat_syslib

    This "fixes" bug gcs0067p, which is a complaint that these tools are not installed.

MULTICS CHANGE PROJECT

MCP _____751_____

Page ___1___ of ___1___

TITLE: Remove obsolete hardcore modules

AUTHOR: _____E. Stone_____

SOURCE: (if external) e.g., "User", "Marketing"

STATUS	
Written	9-2-74
Approved	9-10-74
Rejected	
Postponed	
Withdrawn	
Expires	3-10-75

CLASSIFICATION		JUSTIFICATION	
	Incompatible Change		Marketing Requirement
	Extension		Conformance to Standard
	Restriction		Increased Consistency
	Performance Improvement	X	Simplification
	Reliability Improvement		Generalization
			Bug Fix

Replaced by proposal MCP _____

Implemented in System _____

Objections/Comments: .

Use these headings: REASONS, SUMMARY, IMPLICATIONS, DETAILED PROPOSAL (Optional)

REASONS:

In the course of converting ring-0 modules to version 2, it became apparent that several modules were unnecessary. None of the proposed deletions will affect the user interface.

A. dsu270_ reconfig and 2 entries in hphcs_ which call it.

B. usercode and 3 entries in hphcs_ which call it.

C. absentee_test_ - this gate has never been used for its original purpose of testing the absentee facility. Further its presence has been declared a vulnerability. The module init_hardcore_gates must be changed in order to delete this gate.

D. force_access - this module is not called by any hardcore gate. In addition, the highly privileged acl primitives provide the same function.

MULTICS CHANGE REQUEST	MCR 752
	Page 1 of 1 Pages

TITLE: Addition of error file processing to the backup system.	STATUS	DATE
	Written	9/5/7
	Approved	9-10-74
AUTHOR Grace Ackerman-Lewis	Rejected	
SOURCE: (if external) e.g., "User", "Marketing"	Postponed	
	Withdrawn	
	Expires	3-10-75

CLASSIFICATION		JUSTIFICATION	
	Incompatible Change		Marketing Requirement
x	Extension		Conformance to Standard
	Restriction		Increased Consistency
	Performance Improvement		Simplification
	Reliability Improvement		Generalization
			Bug Fix

Replaced by proposal MCR _____

Implemented in System _____

Objections/Comments:

Use these headings: REASONS, SUMMARY, IMPLICATIONS, DETAILED PROPOSAL (Optional)

REASONS: To tell a user whose entries have not been backed up by the system, which entries were not backed up and why.

SUMMARY: a) Change backup_cleanup and start_dump to make a copy of the error file before dprinting and deleting it.

b) Add programs to scan the copy of error file and notify all users whose entries were unaccessable for backup.

IMPLICATIONS: This will require the addition of a new directory >user_dir_dir>SysDaemon>error_files.

If an installation does not wish to use this feature the directory >user_dir_dir>SysDaemon>error_file should not be created. If the directory is not present, the backup system will operate as it does now.