

DATE: April 17, 1974
TO: Distribution
FROM: M. S. Hodges
SUBJECT: Multics Change Requests

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

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MULTICS CHANGE REQUEST		MCR <u>430</u> Page <u>1</u> of <u>1</u> Pages
TITLE: <u>file_status - status command for PL/1 files.</u>	STATUS	DATE
AUTHOR: <u>Peter Belmont</u>	Written	<u>3/25/74</u>
SOURCE: (if external) e.g., "User", "Marketing"	Approved <u>H</u>	<u>4/2/74</u>
	Rejected	
	Postponed	
	Withdrawn	
	Expires	<u>10/2/74</u>

CLASSIFICATION	JUSTIFICATION	REASON
<input type="checkbox"/> Incompatible Change	Marketing Requirement	Replaced by proposal MCR _____
<input checked="" type="checkbox"/> Extension	Conformance to Standard	Implemented in System _____
<input type="checkbox"/> Restriction	Increased Consistency	Objections/Comments:
<input type="checkbox"/> Performance Improvement	Simplification	
<input type="checkbox"/> Reliability Improvement	Generalization	
<input type="checkbox"/>	Bug Fix	
<input type="checkbox"/>	<input checked="" type="checkbox"/> useful debugging tool	

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

REASONS: The command file status (pfs) prints information on PL/1 files on-line. The files may be named or the "-all" option may be used to specify all files. The information is given for open files only unless the "-closed" option is used in which case information on closed files will also be given.

The per file information printed includes PL/1 attributes, line size and page size if appropriate, and attaching information.

MULTICS CHANGE REQUEST

MCR 431
Page 1 of 1 Pages

TITLE: New ttydim/355 software

STATUS	DATE
Written	3/25/74
Approved H	4/2/74
Rejected	

AUTHOR: R.B. Snyder

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

Postponed	
Withdrawn	
Expires	10/2/74

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

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

REASONS: The current ttydim/355 software is inefficient, slow, difficult to extend, and often impossible for a user to "tune" to his own needs. It is proposed (See MTB-049) to replace this software.

SUMMARY: MTB-049 proposes that the 355 software be written to include device control (now done in 6180) and that the 6180 ttydim be moved out of ring-0. In addition several improvements and additions are suggested.

IMPLICATIONS: To the user, none other than new features. All current facilities will still exist. To Honeywell, however, there is the "NPS issue". Briefly, the issue is one of deciding when to use the GCOS front-end software as a Multics Front-end. Not enough information exist currently to resolve this issue. Hence, it is proposed that the project be implemented in two phases. Phase 1 consists of the 355 software minus any extensions to the user interface. This phase can be done in about seven months. At this point, the NPS issue can be re-examined. If it is decided to use NPS solely, no users will be affected since all changes in Phase 1 will be of performance improvement type other than of an extension to the user interface type. If on the other hand, it is decided to use NPS and our work or only our work, Phase 2 (the rest of the work mentioned in MTB-049) can be completed using the work done in Phase 1. Note that at the end of Phase 1 there will exist a useful product which can be installed and used while work proceeds on Phase 2.

DETAILED PROPOSAL: Refer to MTB-049

MULTICS CHANGE REQUEST		MCR <u>432</u> Page <u>1</u> of <u>1</u> Pages
TITLE: Rewrite list, listnames, and listtotals commands	STATUS	DATE
	Written	3/26/74
	Approved H	4/2/74
AUTHOR: <u>T. Casey</u>		Rejected
		Postponed
		Withdrawn
SOURCE: (if external) e.g., "User", "Marketing"		Expires 10/2/74

CLASSIFICATION	JUSTIFICATION	Replaced by proposal MCR _____
<input type="checkbox"/> Incompatible Change	<input type="checkbox"/> Marketing Requirement	Implemented in System _____
<input checked="" type="checkbox"/> Extension	<input type="checkbox"/> Conformance to Standard	Objections/Comments: Replace "-linkshort" with "-short" Don't report number of names with -primary control argument.
<input type="checkbox"/> Restriction	<input checked="" type="checkbox"/> Increased Consistency	
<input checked="" type="checkbox"/> Performance Improvement	<input type="checkbox"/> Simplification	
<input type="checkbox"/> Reliability Improvement	<input checked="" type="checkbox"/> Generalization	
<input type="checkbox"/>	<input checked="" type="checkbox"/> Bug Fix unreported	

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

REASONS: These commands have several inconvenient features; there are a number of people who use their own, or others', private versions of these commands instead of the installed ones.

SUMMARY: Rewrite the list, listnames and listtotals commands as described in MTB 042. Take advantage of the ioa_/formline changes (MCR 350) to decrease the number of separate ioa_ calls (and thus the size of the procedure). Make any other size/performance improvements that suggest themselves. Fix bugs noted in MTB 042.

IMPLICATIONS: The response to the "entry not found" situation will change (to be more consistent).

DETAILED PROPOSAL: See MTB 042.

MULTICS CHANGE REQUEST		MCR 433 Page 1 of 1 Pages
TITLE: secure mail command	STATUS	DATE
AUTHOR: Steve Herbst	Written	3/27/74
	Approved H	4/2/74
	Rejected	
SOURCE: (if external) e.g., "User", "Marketing"	Postponed	
	Withdrawn	
	Expires	10/2/74

CLASSIFICATION	JUSTIFICATION	Replaced by proposal MCR _____
<input checked="" type="checkbox"/> Incompatible Change	Marketing Requirement	Implemented in System _____
<input type="checkbox"/> Extension	<input checked="" type="checkbox"/> Conformance to Standard	Objections/Comments: Use correct bit_count to determine that there is no mail.
<input type="checkbox"/> Restriction	Increased Consistency	
<input type="checkbox"/> Performance Improvement	Simplification	
<input type="checkbox"/> Reliability Improvement	Generalization	
<input type="checkbox"/>	Bug Fix	
<input type="checkbox"/>	<input checked="" type="checkbox"/> Increased security	

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

REASONS: To write a mail command that uses the primitive facility for ring 1 message segments. (See MTB-038).

SUMMARY: This first version of mail will operate the same as the old one, with the following exceptions:

1. mailbox names end in "mbx" and the default working directory mailbox is named user_name.mbx.
3. There is no manual unlocking of a mailbox. All salvaging is done automatically by the message segment facility.
4. mail command creates mailbox when owner issues command first time. Default mailbox extended access: "adros" to owner
"a" only to *.*.*
5. Any work with old-style mailboxes will be directed to "old_mail" which is the current mail command with some new entries.

MULTICS CHANGE REQUEST		MCR <u>434</u> Page <u>1</u> of <u>1</u> Pages	
TITLE: Modifications to the ARPA Network Host Table		STATUS	DATE
AUTHOR: <u>Kenneth T. Pogran</u>		Written	3/2/74
SOURCE: (if external) e.g., "User", "Marketing"		Approved <u>H</u>	<u>4/2/74</u>
		Rejected	
		Postponed	
		Withdrawn	
		Expires	<u>10/2/74</u>

CLASSIFICATION	JUSTIFICATION	
<input type="checkbox"/> Incompatible Change	Marketing Requirement	Replaced by proposal MCR _____
<input checked="" type="checkbox"/> Extension	Conformance to Standard	Implemented in System _____
<input type="checkbox"/> Restriction	Increased Consistency	Objections/Comments:
<input type="checkbox"/> Performance Improvement	Simplification	
<input type="checkbox"/> Reliability Improvement	Generalization	
<input type="checkbox"/>	Bug Fix	
<input type="checkbox"/>		

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

REASONS: 1). A new, "official" ARPA Network host list has been issued which contains several host names not presently contained in the installed host table.

2). The Network Information Center has moved from SRI-ARC to OFFICE-1 and has asked all Network sites to modify their host tables to have the abbreviation "NIC" refer to the latter instead of the former.

SUMMARY: A number of changes are made to the segment toolshost_table

MULTICS CHANGE REQUEST

MCR 435
Page 1 of 1 Pages

TITLE: Table Size CONFIG Card.

STATUS	DATE
Written	3/28/74
Approved <i>H</i>	<i>4/2/74</i>
Rejected	
Postponed	
Withdrawn	
Expires	<i>10/2/74</i>

AUTHOR: Bernard S. Greenberg

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

CLASSIFICATION	JUSTIFICATION	Replaced by proposal MCR _____
<input type="checkbox"/> Incompatible Change	<input type="checkbox"/> Marketing Requirement	Implemented in System _____
<input checked="" type="checkbox"/> Extension	<input checked="" type="checkbox"/> Conformance to Standard	Objections/Comments:
<input type="checkbox"/> Restriction	<input type="checkbox"/> Increased Consistency	
<input checked="" type="checkbox"/> Performance Improvement	<input type="checkbox"/> Simplification	
<input checked="" type="checkbox"/> Reliability Improvement	<input checked="" type="checkbox"/> Generalization	
<input type="checkbox"/>	<input checked="" type="checkbox"/> Unreported Bug Fix	

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

REASONS: Phoenix has had difficulty with overflow of fixed-size tables which are created in Collection 2 of initialization. Specifically, the IOAT and str_seg (segment trailer segment) have overflowed. The size of these tables can only be changed currently by recompilation of programs and regeneration of system tapes.

SUMMARY: A new configuration card (TBLS) is supplied at bootload time. This card (possibly more than one, if needed) supplies, as a sequence of pairs, (e.g., TBLS IOAT 4 STR 6) the size of system tables. Defaults are supplied by the cur_length attribute in the hardcore header.

IMPLICATIONS: System administrators at remote sites will have more flexibility in tailoring their installation to their needs.
Any future addition of a potentially variable-size table to Collection 2 must be made with this card in mind.

DETAILED PROPOSAL: An include file pairing TBLS card field names with segment names will be created. make_sdw will scan the array created by this file's contents for each segment for which an AST entry is created. cur_length and the AST entry size will be adjusted and selected accordingly. Collection 1 tables (tc_data, SST, tty_buf, etc.) will be handled as presently. Programs which initialize these tables (init_str_seg, for example) will make more use of cur_length in the SLT entry of the table being initialized than currently.

MULTICS CHANGE REQUEST		MCR <u>436</u> Page <u>1</u> of <u>1</u> Pages
TITLE: <u>Install print_paging_histogram (revised)</u>	STATUS	DATE
	Written	<u>3/28/74</u>
	Approved <u>H</u>	<u>4/2/74</u>
AUTHOR: <u>Bernard S. Greenberg</u>	Rejected	
SOURCE: (if external) e.g., "User", "Marketing"	Postponed	
	Withdrawn	
	Expires	<u>10/2/74</u>

CLASSIFICATION	JUSTIFICATION	Replaced by proposal MCR _____
<input type="checkbox"/> Incompatible Change	Marketing Requirement	Implemented in System _____
<input checked="" type="checkbox"/> Extension	Conformance to Standard	Objections/Comments:
<input type="checkbox"/> Restriction	<input checked="" type="checkbox"/> Increased Consistency	
<input type="checkbox"/> Performance Improvement	Simplification	
<input type="checkbox"/> Reliability Improvement	Generalization	
<input type="checkbox"/>	Bug Fix	

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

REASONS: There is no tool to point out the metering information accumulated by page control in page_fault_histogram. This data describes the real-time distribution of page-fault interarrival intervals.

SUMMARY: This tool prints it out, as a graph with labelled axes.

IMPLICATIONS: Useful performance analysis tool.

COMMENTS: print_paging_histogram (pph) is written in the same style as other Multics metering commands, accepting the "-reset" ("-rs") and "-report_reset" ("-rr") options, allowing data accumulated since either the last reset or system-up-time to be displayed. Saved data is kept in internal: static.

 MPLM (Metering) writeup provided.

MULTICS CHANGE REQUEST

MCR 437
Page 1 of 1 Pages

TITLE: Minor enhancement and bug fix to
proj_usage_report

STATUS	DATE
Written	3/28/74
Approved <i>H</i>	<i>4/2/74</i>
Rejected	
Postponed	
Withdrawn	
Expires	<i>10/2/74</i>

AUTHOR: J. Gintell

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

CLASSIFICATION	JUSTIFICATION	Replaced by proposal MCR _____
<input type="checkbox"/> Incompatible Change	Marketing Requirement	Implemented in System _____
<input checked="" type="checkbox"/> Extension	Conformance to Standard	Objections/Comments:
<input type="checkbox"/> Restriction	Increased Consistency	
<input type="checkbox"/> Performance Improvement	Simplification	
<input checked="" type="checkbox"/> Reliability Improvement	<input checked="" type="checkbox"/> Generalization	
	<input checked="" type="checkbox"/> Unreported	
	<input checked="" type="checkbox"/> Bug Fix	

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

REASONS: Extensive use of project administration tools revealed some bugs and led to some minor extensions.

SUMMARY:

1. Fix bug which causes pathname in error diagnostics to be printed incorrectly.
2. Fix sorting so that "remainder of funds" sorting interacts properly with "open" limits.
3. Allow the specification of a pathname via the -pathname (-pn) control argument for the location of a pdt to be some place other than in >system_control_1>pdt.
4. Allow the sorting to be in reverse order with the use of the -reverse (-rev) control argument.

IMPLICATIONS: None.

MULTICS CHANGE REQUEST		MCR <u>438</u> Page <u>1</u> of <u>1</u> Pages
TITLE: HSLA software bug		STATUS
		DATE
AUTHOR: <u>R. Snyder</u>		Written <u>3/28</u>
		Approved <u>H 9/2/74</u>
SOURCE: (if external) e.g., "User", "Marketing" local		Rejected
		Postponed
		Withdrawn
		Expires <u>10/2/74</u>

CLASSIFICATION	JUSTIFICATION	Replaced by proposal MCR _____
<input type="checkbox"/> Incompatible Change	<input type="checkbox"/> Marketing Requirement	Implemented in System _____
<input type="checkbox"/> Extension	<input type="checkbox"/> Conformance to Standard	Objections/Comments:
<input type="checkbox"/> Restriction	<input type="checkbox"/> Increased Consistency	
<input type="checkbox"/> Performance Improvement	<input type="checkbox"/> Simplification	
<input checked="" type="checkbox"/> Reliability Improvement	<input type="checkbox"/> Generalization	
<input type="checkbox"/>	<input checked="" type="checkbox"/> Bug Fix #267	

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

REASONS: A timing window exists in the HSLA software such that a line can be locked up and will never respond again.

SUMMARY: The window will be removed.

IMPLICATIONS: Reliability improvement.

MULTICS CHANGE REQUEST

MCR 439
Page 1 of 1 Pages

TITLE: Add cleanup handler to nstd.

STATUS DATE

Written 4/1/74

Approved **H** 4/9/74

Rejected

AUTHOR: Susan Barr

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

Postponed

Withdrawn

Expires 10/9/74

CLASSIFICATION	JUSTIFICATION	
Incompatible Change	Marketing Requirement	Replaced by proposal MCR _____
Extension	Conformance to Standard	Implemented in System _____
Restriction	Increased Consistency	Objections/Comments: Assumes no compatibility problems.
Performance Improvement	Simplification	
x Reliability Improvement	Generalization	
	Bug Fix	

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

- REASONS: 1. Add a cleanup handler to nstd_ to release the tape drive in case the user attempts an attachment, gets a tape drive but quits before the operator mounts the tape.
2. The current version of nstd_ returns no data when an irrecoverable error occurs during a tape read. Nstd_ should be changed to return the good portion of the buffer as well as the error status code.

MULTICS CHANGE REQUEST		MCR <u>441</u> Page <u>1</u> of <u>1</u> Pages	
TITLE: Fix bug in print_sample_refs cleanup procedure AUTHOR: Ross E. Klinger		STATUS	DATE
		Written	03/28/74
		Approved H	4/9/74
		Rejected	
SOURCE: (if external) e.g., "User", "Marketing" MIT - DD0		Postponed	
		Withdrawn	
		Expires	10/9/74

CLASSIFICATION	JUSTIFICATION	Replaced by proposal MCR _____
<input type="checkbox"/> Incompatible Change	<input type="checkbox"/> Marketing Requirement	Implemented in System _____
<input type="checkbox"/> Extension	<input type="checkbox"/> Conformance to Standard	Objections/Comments:
<input type="checkbox"/> Restriction	<input type="checkbox"/> Increased Consistency	
<input type="checkbox"/> Performance Improvement	<input type="checkbox"/> Simplification	
<input checked="" type="checkbox"/> Reliability Improvement	<input type="checkbox"/> Generalization	
<input type="checkbox"/>	<input checked="" type="checkbox"/> Unreported Bug Fix	
<input type="checkbox"/>	<input type="checkbox"/>	

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

REASONS: invocation of print_sample_refs\$cleaner may cause out_of_bounds fault on user's stack. The stack cannot be released past that frame.

SUMMARY: Minor change to the cleanup procedure.

IMPLICATIONS: None

MULTICS CHANGE REQUEST		MCR <u>442</u>
TITLE: Incorporate the safety switch into the online updating tools.	STATUS	DATE
AUTHOR: P. Kelley	Written	<u>03/29/74</u>
	Approved #	<u>4/9/74</u>
	Rejected	
SOURCE: (if external; e.g., "User", "Marketing") local	Postponed	
	Withdrawn	
	Expires	<u>10/9/74</u>

CLASSIFICATION	JUSTIFICATION	
<input type="checkbox"/> Incompatible	<input type="checkbox"/> Marketing	<u>Replaced by proposal MCR</u>
<input type="checkbox"/> Change	<input type="checkbox"/> Requirement	<u>Implemented in System</u>
<input type="checkbox"/> Extension	<input type="checkbox"/> Conformance	Objections/Comments:
<input type="checkbox"/> Restriction	<input type="checkbox"/> to Standard	
<input type="checkbox"/> Performance	<input checked="" type="checkbox"/> Increased	
<input type="checkbox"/> Improvement	<input type="checkbox"/> Consistency	
<input checked="" type="checkbox"/> Reliability	<input type="checkbox"/> Simplification	
<input type="checkbox"/> Improvement	<input type="checkbox"/> Generalization	
	<input type="checkbox"/> Bug Fix	

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

Subject:
Incorporate the "safety switch" facility into the online library updating tools.

Summary:
Modify the online updating tools to turn the safety switch "on" on segments created within the system libraries, and to turn the switch "off" on library segments eligible for deletion.

MULTICS CHANGE REQUEST		MCR <u>443</u> Page <u>1</u> of <u>1</u> Pages
TITLE: <u>Change patch_ring_zero to use command_query_.</u> AUTHOR: <u>Steve Webber</u>	STATUS	DATE
	Written	<u>4/2/74</u>
	Approved H	4/9/74
	Rejected	
SOURCE: (if external) e.g., "User", "Marketing"	Postponed	
	Withdrawn	
	Expires	10/9/74

CLASSIFICATION	JUSTIFICATION	Replaced by proposal MCR _____
<input type="checkbox"/> Incompatible Change	Marketing Requirement	Implemented in System _____
<input checked="" type="checkbox"/> Extension	Conformance to Standard	Objections/Comments:
<input type="checkbox"/> Restriction	<input checked="" type="checkbox"/> Increased Consistency	
<input type="checkbox"/> Performance Improvement	Simplification	
<input type="checkbox"/> Reliability Improvement	<input checked="" type="checkbox"/> Generalization	
<input type="checkbox"/>	Bug Fix	

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

REASONS: It is sometimes convenient to use patch_ring_zero in conjunction with the "answer" command as would be the case if patching were being done with the "sac" command.

SUMMARY: Change patch_ring_zero to use command_query_ so that all will work normally.

IMPLICATION: None

MULTICS CHANGE REQUEST

MCR 444
Page 1 of 1 Pages

TITLE: Add new metering tool print_tuning_parameters

STATUS	DATE
Written	4/2/74
Approved #	4/9/74
Rejected	
Postponed	
Withdrawn	
Expires	10/9/74

AUTHOR: Steve Webber

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

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

Reliability Improvement

Generalization

New Tool

Bug Fix

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

REASONS: The tool print_tuning_parameters (ptp) is a useful command to find the current system parameters.

SUMMARY: Install the command-no control arguments.

MULTICS CHANGE REQUEST	MCR <u>445</u> Page <u>1</u> of <u>1</u> Pages														
TITLE: <u>Fix file system I/O frequency meters.</u>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width: 70%;">STATUS</th> <th style="width: 30%;">DATE</th> </tr> <tr> <td>Written</td> <td>4/3/74</td> </tr> <tr> <td>Approved #</td> <td>4/9/74</td> </tr> <tr> <td>Rejected</td> <td></td> </tr> <tr> <td>Postponed</td> <td></td> </tr> <tr> <td>Withdrawn</td> <td></td> </tr> <tr> <td>Expires</td> <td>10/9/74</td> </tr> </table>	STATUS	DATE	Written	4/3/74	Approved #	4/9/74	Rejected		Postponed		Withdrawn		Expires	10/9/74
STATUS	DATE														
Written	4/3/74														
Approved #	4/9/74														
Rejected															
Postponed															
Withdrawn															
Expires	10/9/74														
AUTHOR: <u>Steve Webber</u>															
SOURCE: (if external) e.g., "User", "Marketing"															

CLASSIFICATION	JUSTIFICATION	Replaced by proposal MCR _____
Incompatible Change	Marketing Requirement	Implemented in System _____
Extension	Conformance to Standard	Objections/Comments: Only bulk store meters were wrong.
Restriction	<input checked="" type="checkbox"/> Increased Consistency	
Performance Improvement	<input checked="" type="checkbox"/> Simplification	
Reliability Improvement	Generalization	
	<input checked="" type="checkbox"/> unreported Bug Fix	

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

REASONS: The measure of read and write requests per unit time per (file system) device has some bugs.

SUMMARY: Fix the metering by isolating all such meters in device_control through which all file system I/O request are channeled.

IMPLICATIONS: Previous meters must be viewed with the realization that they were not quite correct. Comparisons with old and new runs should be made with care.

MULTICS CHANGE REQUEST

MCR 446
Page 1 of 1 Pages

TITLE: Change post purge algorithms.

STATUS	DATE
Written	4/3/74
Approved #	4/9/74
Rejected	
Postponed	
Withdrawn	
Expires	10/9/74

AUTHOR: Steve Webber

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

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

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

REASONS: Most Multics sites do not currently perform post purging. However, there are some features of post purging which are useful and it is proposed to re-establish the default mode as post purge ON. However, the only features of post purging that will be enabled are the following:

1. the working set estimation
2. the moving of process directory pages to the head of the core map list so they appear least recently used.

Options at post purge time that will be available but not initially used are:

1. writing out of modified pages
2. turning off used bits.

SUMMARY: The subroutine post_purge.alm will be modified to reflect the changes. te_init will be changed to enable post purging as the default.

IMPLICATIONS: None that a site can not easily override. The trace of scheduling is done by post purge so that such trace entries will appear only if post purging is enabled.

MULTICS CHANGE REQUEST		MCR <u>447</u>
TITLE: Fix cross_reference to include type-6 (create if not found) links.	STATUS	DATE
AUTHOR: Paul A. Green	Written	04/01/74
SOURCE: (if external; e.g., "User", "Marketing")	Approved #	4/9/74
	Rejected	
	Postponed	
	Withdrawn	
	Expires	10/9/74

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

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

REASONS:

The cross_reference program does not include so-called type-6 links in its cross reference listing. Since the PL/I compiler now produces type-6 links for all external static references (such as error_table_entries), it is mandatory that the cross referencer be fixed.

SUMMARY:

Replace cref_analyze.pl1

IMPLICATIONS:

Unfortunately, the programs are still in version 1 PL/I. Some additional work will be necessary to convert them to version 2. Other than that, there are no implications for users, other than the output will be more accurate.

DETAILED PROPOSAL:

Fix coded & tested, conversion to version 2 underway. Ready for submission in a week or two.

MULTICS CHANGE REQUEST

MCR 448
Page 1 of 1 Pages

TITLE: Fix lost notify bug.

STATUS	DATE
Written	4/3/74
Approved	H 4/9/74
Rejected	
Postponed	
Withdrawn	
Expires	10/9/74

AUTHOR: Steve Webber

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

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	
x Reliability Improvement	Generalization	
	x Bug Fix #198	

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

REASONS: A bug in pxss\$guaranteed eligibility on can cause the ready list to be misthreaded. This can lead to lost notifies and possible system crash.

SUMMARY: Fix the bug.

MULTICS CHANGE REQUEST		MCR 449 Page 1 of 1 Pages
TITLE: Add feature to system to allow partial wiring of bound_sss_wired_ (which contains p11_operators_ and utilities) AUTHOR: S. Webber	STATUS	DATE
	Written	4/4
	Approved H	4/9/74
SOURCE: (if external) e.g., "User", "Marketing"	Rejected	
	Postponed	
	Withdrawn	
	Expires	10/9/74

CLASSIFICATION	JUSTIFICATION	Replaced by proposal MCR _____
<input type="checkbox"/> Incompatible Change	<input type="checkbox"/> Marketing Requirement	Implemented in System _____
<input type="checkbox"/> Extension	<input type="checkbox"/> Conformance to Standard	Objections/Comments:
<input type="checkbox"/> Restriction	<input checked="" type="checkbox"/> Increased Consistency	
<input checked="" type="checkbox"/> Performance Improvement	<input type="checkbox"/> Simplification	
<input type="checkbox"/> Reliability Improvement	<input type="checkbox"/> Generalization	
<input type="checkbox"/>	<input type="checkbox"/> Bug Fix	
<input type="checkbox"/>	<input type="checkbox"/>	

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

REASONS: With the installation of the EIS operators about 5 more pages of core will be wired which needn't be. This is because of the design of the operator segment and its interface to the conversion and math library routines.

SUMMARY: Change update_sst_p11 to wire pages up through p11_operators_ but not the utility routines that follow it in the object segment.

IMPLICATIONS: Performance won't be as bad as it might otherwise be due to less pages being wired.