To: Distribution
From: Betsy Kerr
Date: November 25, 1974
Subject: Multics Change Requests

Enclosed are copies of Multics Change Requests which were approved from November 1 - 15, 1974.
TITLE: Install send_mail subroutine

AUTHOR: Steve Herbst

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

CLASIFICATION

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

REASONS: Secure mail makes it feasible for privileged users such as SysDaemon to send mail. A mail sending subroutine is useful in this context.

SUMMARY: Install subroutine called send_mail, described on the attached sheet. send_mail sends to ring 1 mailboxes and is compatible with the to-be-installed new mail command. See details in MTB 122. mail_table will not be installed yet.
MULTICS CHANGE REQUEST

TITLE: New error_table_codes for tape_ansi
10 Module

AUTHOR: Ross F. Klinger

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

MCR - PDO

CLASSIFICATION | JUSTIFICATION | Replaced by proposal MCR
--- | --- | ---
Incompatible Change | Incompatible | Implemented in System
Extensive | Marketing Requirement | Marketing
Restriction | Conformance to Standard | Objections/Comments:
Performance Improvement | Increased Consistency | For consistency review.
Reliability Improvement | Simplification | There were changes made on the final approved form.

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

REASONS: The tape_ansi_10 Module requires new error_table_codes.

SUMMARY: Install 15 new error_table_codes.

IMPLICATIONS: None

DETAILED PROPOSAL: See attached list of new codes.
duplicate_file_id:
file_aborted:
insufficient_open:
invalid_block_length:
invalid_cseg:
invalid_record_desc:
 incompatible_encoding_mode:
invalid_record_length:
invalid_file_set_format:
nine_mode_parity:
non_next_volume:
not_ascii_subset:
unexpired_file:
incompatible_file_attribute:
end;
dupfid, File identifier already appears in file.
fileabort, Defective file deleted from file set.
insufopn, Insufficient information to open.
invblk, Invalid physical block length.
invcseg, Internal inconsistency in control segment.
invdes, Invalid variable-length record descriptor.
incencmd, Invalid character encoding mode.
invibfmt, File set contains invalid labels.
invrec, Invalid logical record length.
invfsfmt, File set structure is invalid.

par9md, Attempt to write invalid data in 9 mode.
nonxvol, Unable to continue processing on next volume.
nascsub, Characters not in 63-character ASCII subset.
unexpfil, Cannot overwrite an unexpired file.
inclatt, specified attribute incompatible with file.
**TITLE:** Add error code checks to change_wdir

**AUTHOR:** J. C. Whitmore

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

---

### CLASSIFICATION

- Incompatible Change
- Extension
- Restriction
- Performance Improvement
- Reliability Improvement
- X

### JUSTIFICATION

- Marketing Requirement
- Conformance to Standard
- Increased Consistency
- Simplification
- Generalization
- Bug Fix

---

**REASONS:** "change_wdir" assumes that errors cannot occur when it calls "hcs_${fs_search_set_wdir}". With the Access Isolation Mechanism, it is now possible for an error to occur. However, "change_wdir" does not check the returned error code as it should.

**Summary:** "change_wdir" to test the error code returned and report error to the user.

**Implications:** none. Upward compatible
### Title: Fix bug in msg_index

**Author:** Steve Herbst

**Status:** Written

**Date:** 10/28

**Status:** Approved

**Date:** 11/5

**Status:** Rejected

**Date:** 11/5

**Status:** Postponed

**Date:** 5/5/75

**Status:** Withdrawn

**Date:** 5/5/75

**Status:** Expires

**Date:** 5/5/75

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

**Reasons:**

When msg_index is called to close a message segment, it terminates the segment and invalidates the index. This is bad if several programs are using and closing the same message segment.

**Summary:** Keep a reference count for each message segment opened and invalidate the index only when ref_count(index)=0.
**Title:** Fix bug in compare

**Author:** Steve Herbst

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

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

**Reasons:** Bad error message

"compare: Entry not found. path|offset is foo"

will be changed to

"compare: Entry not found. foo"

**Summary:** Fix message.
**MCR 848**

**Fix bug in answer command**

**AUTHOR:** Steve Herbst

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

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

**REASONS:**
The command line given to answer has a maximum of 132 characters. A line longer than this writes over answer's automatic storage and causes a bad error.

**SUMMARY:** Fix answer command to take any length command line.
**TITLE:** Add symbolic tag designations to ALM

**AUTHOR:** B. Greenberg

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

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

**REASONS:** The current (slated for installation) ALM accepts expressions of the form

\[
\text{tsx foo,bar}
\]

to mean \( \text{tsx3 bar where foo is booled or equated to 3. It does not, however, accept} \)

\[
\text{tsx2 bar,foo}
\]

to mean \( \text{tsx2 bar,3} \)

This apparent oversight negates the entire reason for using the first form of symbolic designations, i.e., mnemonic designations for register usage, and crossreferencing of register usage.

Several large ALM coding tasks, including a new page control and a major revision to BOS, lie ahead of us. This feature DOES NOT increase the power or utility or attraction of the ALM language, but only increases its consistency and makes ALM programs more debuggable.

**SUMMARY:**

A two-line change to the program mode1.pl implementation fully implements this downward-compatible change.

**IMPLICATIONS:** Greater comprehensibility of ALM code, greater ease in finding register usage bugs and reassigning register usages.
**SUMMARY:**

A bug was introduced in the latest version of acl which caused the incorrect deletion of an entire ACL. This bug has the property of causing a loop if the ACL is an Initial ACL, if the directory has not been salvaged for some time and if many deletions of ACLs take place within a directory.
TITLE: Remove extend option on $open

AUTHOR: M. D. MacLaren

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

CLASSIFICATION

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REASONS: The current specifications for the I/O system allow file extension to be specified at attach time or at open time. The option to say extend at open time turns out to be a pointless duplication of function. Fortunately, it appears that no one yet uses this facility, so we can safely remove it.

SUMMARY: Change the MPM documentation. As existing I/O modules are worked on, have them return error_table $_no_operation if the third argument of open is "$b".
**Multics Change Request**

**MCR 852**

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<table>
<thead>
<tr>
<th>TITLE:</th>
<th>Upgrade peruse_text to Version 2 PL/I.</th>
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<tr>
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<td>C. T. Clingen</td>
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**Objections/Comments:**

None (Reason) No interface changes

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

**SUMMARY:** Make minor changes to peruse text, make peruse text, build peruse_text_, string_to_label_ to convert them from version 1 to version 2 PL/I.

**REASONS:** Reduce system dependency on version 1 PL/I. Improve performance (bound object code size is reduced by 1%).
TITLE: Add PRU1200/1600 printer support to BOS

AUTHOR: Noel L. Min

- Coded in: [ ] PL/I [X] AIM [ ] other
- Planned for System MR 2.0
- Experts Bug Number(s)
- Documented in MTB
- User/Operations-visible
- Interface change? [ ] yes [X] no
- Incompatible change? [ ] yes [X] no
- Performance: [ ] Better [X] Same
- Replaces MCR

Category (Check One)
- Lib. Maint. Tools
- Sys. Anal. Tools
- Sys. Prog. Tools

Document
- Salvager
- Ring Zero
- Ring One
- SysDaemon/Admin.
- Runtime
- User Cmd/Subr.

Specify One or More
- MPM (Vol. Sect.)
- PLMS (AN #)
- MOSN (Sect.) 8.2.1
- MSAM (Sect.)

DOCUMENTATION CHANGES

Objections/Comments:

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

SUMMARY:
Modify the BOS utility procedure "getprt" to initialize and load the train image and VFC image for the PRU1200 and PRU1600 printers. No other BOS modifications are needed.
TITLE: Modify Multics printer DIM to use I/O

AUTHOR: Interfacer

SUMMARY: A user-ring DIM for operating printers through the I/O Interfacer will be provided. A new ALM-coded printer code conversion package will also be provided. The entire package will provide the capability of running any ASCII printer modal from PRT202 through PRU1600.

Installation procedure:
1. The entire package can be bound into a single segment, bound_prtdim. This segment can be installed as an online installation. The old printer DIM in bound_iodd can be removed at this time. The old printer DCM will remain in the hardcore, but will not be used by the new software.

2. The printer DCM can be removed from the hardcore. Those portions of the new printer software (i.e., printer initialization and code conversion) which may also be used by the salvager print package and the trace package will be installed as a new segment in collection 1. This segment will be accessible in rings 0 through 5. The trace package and salvager print package will be modified at this time to take advantage of the new software.

3. Those portions of the new printer software which have been installed in the hardcore can be removed from bound_prtdim.
SUMMARY: Two changes are needed to the I/O Daemon to support the new printer software:

1. Since the I/O Interfacer does not set the interaction switch, a means is needed to keep the printer running on a heavily loaded system. I/O Daemon driver initialization will be modified to call hphcs_$pxss_set_timax if the process in which the daemon is running has hphcs_access. This change will be removed or modified when a new priority scheduler is implemented.

2. The write entry of the new printer DIM will sometimes return to its caller with printer I/O still in progress. Under certain conditions, the last few lines of a print request may not be output until the next request is started. (This is identical to the operation of the punch DIM.) An order call is provided in the printer DIM to "runout" the unprinted output. The I/O Daemon driver will be modified to make a "runout" order call for printed output as well as punched.

Implications:
The setting of a low timax in a process which is I/O bound cannot result in any significant reduction of system performance since such a process is blocked most of the time. If we assume that the printer runs at 1200 lpm (it is actually slower than that) and that conversion and queuing of a print line takes approx. 1 millisecond, the printer driver process can get no more than 2% of the machine.
## Multics Change Request

**MCR 856**  
**Page 1 of 1**

<table>
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<tr>
<th>Title: Modify nonstandard tape DIM for 1600 bpi</th>
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<tr>
<td><strong>Author</strong>: N. I. Morris</td>
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<td>Performance:</td>
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### Status

- **Written**: 11/2/74
- **Status**: A
- **Expires**: 2/19/75

### Objections/Comments:

- None

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

### SUMMARY:

It is desirable to be able to read and write nonstandard tapes at any density that the tape handlers are capable of accommodating. Four new order codes will be provided in the DIM. These are summarized below:

- **order**
  - d200
  - d556
  - d800
  - d1600

- **set density to**
  - 200 bpi
  - 556 bpi
  - 800 bpi
  - 1600 bpi

The default density will remain at 800 bpi. The existing order codes of "high" and "low" will continue to set the tape handler to 800 bpi and 556 bpi respectively.
TITLE: Printing of access classes by ldr/ldr

AUTHOR: Jerry Stern

SUMMARY: Change the commands list abs requests and list daemon requests to print the access class of each request when the "-long" option is specified. The access class of requests will be printed if not equal to the current authorization of the process. If the access class string would be null under this situation, the message "null access class" will be printed instead. Upward compatible and invisible at MIT.

Reasons: Once the Access Isolation Mechanism is available, it will be of interest to users to know the access classes of requests in the absentee and I/O queues.

Implications: For compatibility with sites not wishing to use the Access Isolation controls, the access class line will be entirely omitted when the character string associated with the access class is null. However, even in this case, there will still be a slight additional cost incurred to convert the binary access class to a character string.
### SUMMARY:
The declaration for the tag field of an intermediate form of an ACL is declared char (1) aligned in some procedures and char (1) unaligned in others. The program `acc_list_` should be changed so that this item is declared char (1) aligned to be consistent with declarations of this datum in other programs.

### REASONS:
This mis-declaration in the module `acc_name` resulted in a bug that was most difficult to identify. While this experience is in recent memory, I would like to preclude any repetition.

The problem results from the fact that when storing into this item the PL1 compiler does not pad with zeros if declared unaligned, but does assume a zero pad when comparing it.
TITLE: Delete get_entry_name and get_defname

AUTHOR: Andrew Mason (MAC)

-Coded in XPL/I □ ALM □ other - explain in DETAIL PROPOSAL
-Planned for System MR
-Fixes Bug Number(s)
-Documented in MTB
-User/Operations-visible Interface change? □ yes □ no
-Incompatible change? □ yes □ no
-Performance: □ Better □ Worse □ Same
-Replaces MCR


- DOCUMENTATION CHANGES

- Expires

-流れ

Objections/Comments:

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

SUMMARY: Remove the entry hcs$_get_entry_name and delete get_entry_name and get_defname from bound_file_system.

REASONS: I wish to delete the hardcore programs get_entry_name and get_defname. Both are unused and obsolete, since their functions are provided by get_entry_name and get_defname. According to cross-reference listings, no other system program refers to either of these entries; and according to metering done on hcs, the entry hcs$_get_entry_name is not called by users.

IMPLICATIONS: None. Removes obsolete and unused programs from hardcore.
TITLE: Cross check for salvage not preceded by a shutdown.

AUTHOR: D. Vinograd

- Category (Check One)
  - Lib. Maint. Tools
  - Sys. Anal. Tools
  - Sys. Prog. Tools

- Document
  - Specify One or More
  - Document
  - MPM (Vol. Sect.)
  - PLMS (AN #)
  - MOSN (Sect.)
  - MPAM (Sect.)
  - MSAM (Sect.)

- User/Operations-visible
  - BOS
  - Other (Name)
  - None (Reason)

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

SUMMARY: Prior to running the Salvager, a shutdown operation should be done to update the paging device and secondary storage. A change to BOS is proposed which checks that this sequence of operations has been done and if not, asks the operator if he wants to proceed.

REASONS: If the shutdown operation is not done prior to a salvage, information in core will be lost. This may cause the salvager to delete valuable portions of the hierarchy.

IMPLICATIONS: If a save of an inconsistent hierarchy is restored and then salvaged the questioning of the operator may occur when it should not.
TITLE: Fix bug in syserr_log size computation

AUTHOR: L. Scheffler

SUMMARY: Make syserr_log_init compute the size of syserr_log from the SLT bounds field instead of the AST size.

REASONS: Currently, in a non-foolproof attempt to make the system idiot-resistant, syserr_log_init computes the size of the syserr_log (stored in the syserr_log header) as the minimum of the size on the PART LOG card and the size of the AST used. This can result in a bounds fault in syserr_logger in ring 0 if the PART LOG card specifies a 256K log (as it does now), and the header specifies a max_length not equal to an AST size. (It should be 255 to keep the log from wrapping around often. It is now 64.)

IMPLICATIONS: One less crash in the future.

DETAILED PROPOSAL:
1. Change header max_length for syserr_log to 255.
2. Change syserr_log_init to use the SLT bounds field for syserr_log in its log size computation.
**Multics Change Request**

**TITLE:** Installation of user command, trace

**AUTHOR:** Susan Barr

**Status**

|----------------------|-------------------|------------------|------------------|

**CODED IN:** FL/I □ AIM □ Other-

**EXPLAIN IN:** DETAIL PROPOSAL

**PLANNED FOR** System MR NA

**DOCUMENTATION CHANGES**

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**Objections/Comments:** trace_operators_ should be

on the system tape; preferably in the same segment as pls_operators_

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

**Summary:**

Barry Wolman's trace as described in MTB 12 should be installed in system_library_standard with a few modifications. The major change enables trace to use a set of pll_operators_ that do tracing so that the hardcore pll_operators_ won't have the tracing overhead.

**Proposal:**

Install the current trace with the following modifications:

1. The option "-stream" for stream name should be changed to "-io_switch" ("-is") to be compatible with the iox_ naming conventions.

2. The options "-halt" and "-stop" are confusing and should be renamed. The function should be changed to make the options more general.

   **a. Current stop options:**

   - **-halt** requests trace to call debug before the procedure being traced has been entered (before its stack frame has been created.)

   - **-stop** requests trace to call debug after the procedure being traced has finished, (when its stack frame is no longer available.)

   **b. Proposed stop options:**

   - **-before** requests trace to call the command processor before the procedure being traced is entered.

   - **-after** requests trace to call the command processor after the procedure being traced is completed.
3. There should be an option to permit programmers to call a procedure (such as debug) instead of the command processor with stop requests.

```
-stop_proc refname@entry
-stop_proc ""
```

This option changes the procedure called on all "-before" and "-after" requests. If a null string is given the command processor will be called. The default, if no stop_proc is specified, is the command processor.

4. There will be two sets of pl1_operators_: the hardcore version, without tracing instructions; and trace version, with tracing. This proposal for two sets of operators will be the subject of another MCR.

a. If the user is not at level 1, trace prints an error message and returns. If trace changed the operators at this point the stack would be inconsistent -- the stack frames already present would use the standard pl1_operators_ and later procedures would use the trace pl1_operators_.

b. The first time trace is called it changes the pl1_operators_ from the standard version to the trace version. If the user is not using the standard, operators no change is made; a message is printed; and trace assumes the pl1_operators_ in use have the tracing instructions.

c. When the user removes tracing from all procedures, trace also restores the standard pl1_operators_, (if trace had made the change originally).
TITLE: Modify grab_tape_drive to be compatible with system 2.4.1

AUTHOR: Susan Barr

-Coded in XPL/I
-Planned for System MR NA
-Fixes Bug Number(s) unreported

LIB. MAINT. TOOLS

AUTHOR: system

WRITTEN 11/19/74

STATUS DATE

EXPIRES 5/10/75

AUTHOR: system

GRAB TAPES

INTERFACE change? no
-INCOMPATIBLE change? no
-PERFORMANCE: Better

-REPLACES MCR

OBJECTIONS/COMMENTS:

DOCUMENTATION CHANGES

C) MPM (Vol, Sect.)

C) PLMS (AN #)

C) MOSN (Sect.)

C) MSAM (Sect.)

SUMMARY: grab_tape_drive looks at a ring 0 data base to see how many tape drives are in use. It calls phcs$ring_0_peek which no longer exists.

PROPOSAL: The procedure should call ring_zero_peek to get the database instead.
**TITLE:** Fix bug in get_quota

**AUTHOR:** S. Herbst

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<td>Sys. Prog. Tools</td>
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**DOCUMENTATION CHANGES**

**SUMMARY:** Fix get_quota to work correctly when given the starname ">**".

**REASONS:**

After the star convention is applied to ">**", pathnames are formed by putting a ">" between the directory name and each entry name. When the directory name is ">", the result is ">entry_name".
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<td>Salvager</td>
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SUMMARY: Fix change_tuning_parameters to work with the answer command.
### Multics Change Request

**TITLE:** Fix bug in mexp  
**AUTHOR:** S. Webber  

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**DATE:**  
**Written:** 11/11/74  
**Expires:** 1/10/75

**DOCUMENTATION CHANGES**
- BOS  
- Salvager  
- Ring Zero  
- Ring One  
- SysDaemon/Admin.  
- Runtime  
- User Cmmd/Subr.  
- MFM (Vol, Sect.)  
- PIMS (AN #) Tools AN51  
- MOSH (Sect.)  
- MPAM (Sect.)  
- MSAM (Sect.)

**Objections/Comments:**  
- Info Segs  
- Other (Name)  
- None (Reason)

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

**SUMMARY:** The &An feature does not currently work. The arguments substituted in are incorrect.

**REASONS:**

**IMPLICATIONS:**

**DETAILED PROPOSAL:** The code will be converted to full EIS as part of the fix.
### Multics Change Request

**TITLE:** Change pli_frame and get_entry_name to expect new entry pointer values  
**AUTHOR:** S. Webber

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**STATUS** | **DATE**  
Written | 11/11/74  
Expires | 5/15/75

**SUMMARY:**  
As part of the new call/push/return changeover, these programs should be installed so that either the new entry pointer values or the old (standard) ones are accepted for version II PL/I.

**REASONS:**  
Part of the call/push/return change - a performance improvement.

**IMPLICATIONS:**  
These programs should be installed before the new operators are.
TITLE: Install new PLL_operators_for call/push/return improvements.

AUTHOR: S. Webber

- Coded in: □ PL/I □ ALM □ Other
- Explain in DETAILED PROPOSAL
- Planned for System MR NA
- Fixes Bug Number(s): 355
- Document in MEB
- Document Specified One or More

- User/Operations-visible Interface change? □ yes □ no
- Incompatible change? □ yes □ no
- Performance: □ Worse □ Better □ Same
- Replaces MCR

Objections/Comments:

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

SUMMARY: A new call/push/return sequence (affecting only the version II PL/I programs) is proposed. The faster sequence results from:

1. deleting the trace code in the operators for the normal user,
2. making better use of the larger number of pointer registers on the 6180,
3. changing (for version II PL/I only) the meaning of stack_frame, entry_ptr.

REASONS: Performance improvement (20% for argumentless call).

DETAILED PROPOSAL: The installation plan is as follows:

1. Install pll_frame_and get entry name_and any other necessary online programs to recognize new entry pointer values. (MCR 869)
2. Incorporate the new trace operators into pll_operators_and install in the hardcore.
3. Install trace.

PLL_operators will be converted from alm to mexp to allow the trace code to be conditionally assembled.
**TITLE:** Fix security hole in init\_branches  
**AUTHOR:** Paul A. Green  

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**STATUS**  
**DATE**  
**Written**  741113  
**Status**  A  
**Expires**  B  1976

**User/Operations-visible Interface change?**  yes  
**Incompatible change?**  no  
**Performance:**  Better  
**Replaces MCR**  

**Objections/Comments:**  Info Segs  
**Other (Name)**  
**None (Reason)**  

---

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

**SUMMARY:**  
Change init\_branches to remove acl of "s **.*.*.*" on process\_dir\_dir and initializer's process directory.

**REASONS:**  
Currently the ACL of the above-mentioned directories is set to status for everyone, for historical reasons. This glitch allows any user to create a list of the process\_group\_id to process\_id binding for all processes on the system (since the process\_id is used to create the unique name for the user's process directory, and since status permission on pdd allows both the names (and hence process\_id) and ACLS (and hence, process\_group\_id) to be listed). Thus any user may find out who is really logged-in, even if a user has the "nolist" attribute which keeps him/her out of the whotable.

**IMPLICATIONS:**  
Closes an information path. Does not prevent users from listing their own process directory, nor from obtaining the quota on their own process directory. It will prevent them from listing the ACL on their own process directory (which they would not be able to change, anyway).

**DETAILED PROPOSAL:**  
Above changes have been coded and tested on the CISL development machine. While this module is open, one change will also be made at the request of MIT; the name "s\_ll" will be added to system\_library\_l.
| TITLE: | Automatic page deletion |
| AUTHOR: | B. Greenberg |
| Category (Check One) | Lib. Maint. Tools |
| Category (Check One) | Sys. Anal. Tools |
| Category (Check One) | Sys. Prog. Tools |
| Status | Written 11/14/74 |
| Status | Expires 5/19/75 |

| Document | Specify One or More |
| MFM (Vol, Sect.) | |
| PLMS (AN #) 71, 60 | |
| MOSN (Sect.) 6.6 | |
| MSAM (Sect.) | |

| Objections/Comments: | Info Segs |
| Objections/Comments: | Other (Name) |
| Objections/Comments: | None (Reason) |

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

**SUMMARY:** Implement a mechanism to automatically delete main memory pages on which parity errors are taken. This prevents repetitive errors, and the likelihood of fatal errors. Thus, it is a reliability improvement.

**REASONS:** The system should be adaptive to hardware problems.

**IMPLICATIONS:** MOB/MOB documentation

**DETAILED PROPOSAL:**

Parity fault handler, after checking again for problem via abs_seg, will call new page-control primitive to delete core block.

Page control, on noticing a parity error on a page write at interrupt time, will do similarly.
TITLE: Implement DELMEM command

AUTHOR: B. Greenberg

Category (Check One)
- Lib. Maint. Tools
- Sys. Anal. Tools
- Sys. Prog. Tools

Status
- Written
- Expires

Category (Check One)
- DOCUMENTATION CHANGES
- Specifiy One or More

Status
- Planned for System MH NA
- sys. Anal. Tool
- Document

Fixes Bug Number(s)
- System
- System
- Program

User/Operations-visible
- Yes
- No

Interface change?
- Yes
- No

Incompatible change?
- Yes
- No

Performance:
- Better
- Same
- Worse

Other (Name)

Objections/Comments:

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

SUMMARY: Operations needs the ability to delete given core blocks for performance testing and maintenance. The new primitives installed for the I/O Interfacer make this fairly easy.

REASONS: Needed for dynamic reconfiguration. This would be the only way to delete a partial controller, i.e., a memory as opposed to a controller.

IMPLICATIONS: PLM, MOSN documentation

DETAILED PROPOSAL: Extend the Daemon/Admin commands:

1. ADDMEM port block_no number_of_blocks
2. DELMEM port block_no number_of_blocks
3. number_of_blocks is the number of contiguous 1024-word blocks of memory affected
**TITLE:** t _and_d_ gate

**AUTHOR:** B. Greenberg

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**Planned for System MH**

**Implemented in**

**Fixes Bug Number(s)**

**-Explain in DETAILED PROPOSAL**

**Lib. Cmmd/Subr.**

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**-Incompatible change?**

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**-Replaces MCR**

**User Cmmd/Subr.**

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**Objections/Comments:**

**SUMMARY:** A gate is needed for test and diagnostic functions, particularly certain entries at the I/O interfacer. hphcs is too powerful for such functions.

**PROPOSAL:** Create a gate t _and_d_ cumulating such functions.