To: Distribution

From: M. S. Hodges

Date: July 18, 1974

Subject: Multics Change Requests

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

Multics Project internal working documentation. Not to be reproduced or distributed outside the Multics Project.
TITLE: Fix bug in com_err

AUTHOR: M. Weaver

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

CLASSIFICATION | JUSTIFICATION | Replaced by proposal MCR
-----------------|---------------|-----------------------------
Incompatible     | Marketing     | Implemented in System
Extension         | Performance to | Objections/Comments:
Restriction       | Increased     | X Bur Fix
Performance       | Consistency   |
Improvement       | Simplification|
Reliability       | Generalization|
Improvement       | Bug #299      |

REASONS: Because of an uninitialized variable, com_err blows up when its second argument (the caller name) is null.

SUMMARY: Initialize the variable.

IMPLICATIONS: Calling com_err with a null second argument is illegal (the entry $suppress_name should be used), but this change will allow users to get away with it. com_err does not have a way of printing its own error message.
Enable Operator to Specify tape drive # in BOS SALV

Noel I. Morris

Internal

AUTHOR:

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

CLASSIFICATION | JUSTIFICATION | Replaced by proposal NCR
---|---|---
Incompatible Change | Marketing Requirement | Implemented in System
Extension | Conformance to Standard | 
Restriction | Increased Consistency | 
Performance Improvement | Simplification | 
Reliability Improvement | Generalization | 
Bug Fix | 

REASONS:
The BOS SALV command currently performs a BOOT COLD SALV 2. If drive 2 is inoperative, it is difficult for operations to perform a system salvage.

Summary:
Modify the BOS SALV command to accept a tape drive number when it is invoked. If no drive number is supplied, a default drive number of 2 will be used.
MULTICS CHANGE REQUEST

MCR 627

TITLE: Fix bugs in sort_seg

AUTHOR: Gary C. Dixon

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

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

STATUS | DATE
| Written | 06/25/74
| Approved | 7/2/74
| Rejected | 
| Postponed | 
| Withdrawn | 
| Expires | 1/2/75

SUMMARY:
1) Initialize uninitialized variables in sort_seg before they are referenced.
2) Keep pointer to system free area in internal static, and initialize it only once per process.
3) Use standard status codes in calls to com_err_, rather than generating equivalent messages within sort_seg.

REASONS:
1) Prevent out_of_bounds error by freeing referencing stack_41777777 when sort_seg invoked mistakenly without arguments. Fix same bug in cleanup on unit.
2) Reduce sort_seg overhead after its first use in a process.
3) Make sort_seg produce more standardized error messages.

IMPLICATIONS:
1) sort_seg will stop producing out_of_bounds errors.
2) sort_seg will prepare for the sorting more efficiently.
3) Users will be able to interpret sort_seg's error messages more easily because they will use more standard message text.
TITLE: Fix bug in get_library_segment

AUTHOR: Steve Herbst

STATUS

Written 6-26-
Approved 7/7/7
Rejected
Postponed
Withdrawn
Expires 12/75

CLASSIFICATION
Incompatible Change

JUSTIFICATION
Marketing Requirement

Replacing by proposal MCR

Replaced by proposal MCR

Extension Performance to Standard

Restriction Increased Consistency

Performance Simplification

X Improvement Generalization

Reliability Improvement

X Bug Fix unreported

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

REASONS: gls uses copy_seg_ to get a segment that is not archived. copy_seg_ handles a name duplication properly and returns error_table_$namedup if the answer is "no" to deleting the old segment. gls reports this as an error.

SUMMARY: Ignore error_table_$namedup from copy_seg_.

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

REASONS: The system default condition handler does not make sure that the terminal printer is on before printing a message and going to command level. If the printer was off, this can be annoying and confusing.

SUMMARY: Change real_sdh_ (quit handler) and default_error_handler_ to insure an order call to turn the printer on before any messages are printed. Change get_to_cl_ to turn the printer on as part of its task of making the common I/O streams usable in a normal way, for those cases when a user handler calls cu_scl. Also change real_sdh_ and default_error_handler_ to call iox instead of ios_.

Addition of security check module to hardcore

Title: Addition of security check module to hardcore

Author: Jerold C. Whitmore

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

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

REASONS: It will be beneficial to centralize the code which interprets security attributes for access control decisions to provide:
1. Improved modularity, simplicity, and generality.
2. Ease of correctness verification.
3. Reduced work if the algorithm should ever be changed.

SUMMARY: Two modules will be added to bound_sss_active which will be the only ring 0 accessible modules that understand the interpretation of the bit(54) security attributes string. Bound_sss_active is chosen to allow these same modules to be used in rings 0 - 5 without duplication and extra verification.

One module with 3 entry points will interpret the security attributes string for access control decisions. Each entry point will have identical argument lists and will return a 1 bit value indicating if the named function of the entry point is allowed based on its 2 arguments.

The other module will format a 14 char ASCII string suitable to represent the value of a bit(54) security attributes string in the audit logs or on the operators console. The ASCII string will be in fixed bin and octal format.

Performance degradation should be slight, but timing tests will be made and submitted for review prior to submission of installation requests.

IMPLICATIONS: More instructions per security check due to call-push-return sequence and possible double call in multilevel security mode.
**TITLE:** Add tool "ol_dump" to system

**AUTHOR:** Steve Webber

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

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**REASONS:** The tool "ol_dump" has been used for years from a private directory. It should be installed in tools, as it is a convenient way to look at online dumps created from system crashes.
**TITLE:** Install new version of tool "dump_pdmapi"

**AUTHOR:** Steve Webber

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

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

**REASONS:** A new version of the tool "dump_pdmapi", used in page control problem analysis has been used for several months from a private directory. It should be installed.
TITLE: Delete obsolete bound_io_daemon_

AUTHOR: R.S. Coren

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

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

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

REASONS: bound_io_daemon_ has long since been superseded by bound_iodd_ and bound_iocd_; printer DIM should be bound with device driver code which most often calls it.

SUMMARY: Move components prtdim_ and printer_dim_ from bound_io_daemon_ to bound_iodd_, delete bound_io_daemon_.

IMPLICATIONS: None
MULTICS CHANGE REQUEST

TITLE: Fixes to the system tool "mexp"

AUTHOR: D. Wells

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

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

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

REASONS:
1) The constructs that generate unique names in mexp do not conform to documentation.
2) The multi-line argument parsing does not work, and arguments whose parameter number is greater than 9 are incorrectly copied.
3) The external segment reference mechanism (macros) does not work well with system library structure.

SUMMARY:
1) The bugs in generating unique names are corrected.
2) Arguments on arbitrarily many extra lines are processed correctly. Arguments over 9 (but less than 100) are processed correctly.
3) An "#include" pseudo-op (which works in much the same manner as the "include" statement in alm or PL/I) is added, and the "#macros" pseudo-op is relegated to the status of a unadvertised compatibility feature.

In conjunction with this, the system gate macro segment "#mexp_system_macros" will be installed in the include file libraries so that system gates may gradually start using the "#include" mechanism for them.

IMPLICATIONS:
As always, the correcting of a bug which didn't diagnose itself may cause problems wherein programmers may have "programmed around" the bug. Because "mexp" is a system tool, and because the previous symptoms were hard to "program around", it is expected that this will not be a great obstacle.
TITLE: Installation of "user_telnet" and some related programs in the Network Library.

D. Wells

AUTHOR: ____________________________

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

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

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

REASONS: The program "user_telnet", which is used to access other Network hosts from Multics, has been maintained in the Network group's library. With the coming of the Network Library, this program should be installed. There are also a few related programs which determine status of Network connections which will be installed along with "user_telnet".

SUMMARY: Install the Network User TELNET program and related support commands. Documentation is included with forthcoming Network Users' Supplement.
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Use these headings: REASONS, SUMMARY, IMPLICATIONS, DETAILED PROPOSAL (Optional)

**REASONS:**
Latest installation of I/O Coordinator introduced bug when running two devices of same class because variable name reused.

**SUMMARY:**
Change conflicting name in iodc_ to fix bug

**IMPLICATIONS:**
Two devices of same class will work properly again.

**NOTE:**
Already submitted as emergency fix.
TITLE: msf_manager_ acl handling

AUTHOR: A. Kobziar

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

CLASSIFICATION

| Incompatible | Incompatibility | Justification | Replaced by proposal "CR"
|--------------|----------------|---------------|-------------------|
|              |                |               | Implemented in System
| Extension    | Performance to Standard | Increased Consistency | Objections/Comments: |
| Restriction  |                 |               | Bus Fix
| Performance  |                      |               |                  |
| Improvement  |                      |               |                  |
| Reliability  |                      |               |                  |
| Improvement  |                      |               |                  |

REASONS: When setting or deleting acls, msf_manager_ uses the following sequence: 1) Initial acl, 2) msf directory acl, and then 3) loop through all component acls. This operation fails at step 3) whenever the user is removing write mode (=modify on the msf directory) for himself. It also fails at step 1) if the user attempts to add write permission for himself.

SUMMARY: Change the above sequence to: 1) Initial acl, 2) Loop through all component acls, and 3) The msf directory acl.

IMPLICATIONS: acl_commands can now perform all requests via msf_manager_ by setting an acl for "user.tag" sm on the msf directory before calling msf_manager_. Before setting the acl, it will save any mode that was already associated with "user.tag". At the end of the command, the mode for "user.tag" will be reset or the acl deleted as appropriate.
**TITLE:** Fix bug in tty_dim for MDS2400

**AUTHOR:** M.J. Grady

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

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**REASONS:**
There is a bug in tty_inter and tty_write which allows the ring 4 gl15 DIM to confuse the tty_dim when running the MDS2400.

**SUMMARY:**
The tty_dim must protect itself from ring 4 code. Further consistency checks will be added to tty_write and code will be added to tty_inter to allow the ring 4 DIM to perform a required function for the MDS2400; i.e. write aborts.

**IMPLICATIONS:**
Ring 4 should no longer be able to confuse the tty_dim and cause 355 crashes.
TITLE: Fix bug in tty_write

AUTHOR: M.J. Grady

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

CLASSIFICATION: Incompatible Change

JUSTIFICATION: Marketing Improvement: Implemented in System

Restriction: Increased Consistency

Performance Improvement: Simplification

Reliability Improvement: Generalization

unreported

IMPROVEMENTS: x Bug Fix

REASONS:
The code in tty_write which attempts to prevent a WRU (octal 005) character from being sent to most ASCII terminals in raw mode (the hog bug), has a bug. Instead of preventing the transmission to a TTY model 33, it prevents transmission of an 05 to an IBM 2741, and an 05 is a Q on a 2741.

SUMMARY: Fix the bug.

IMPLICATIONS: Allows APL to run on IBM2741's, since they transmit 05 in raw mode.
**TITLE:** Message Segment Bug Fixes

**AUTHOR:** P. Haber

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

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

**REASONS:** Correct bugs found by J. Stern in security audit of message facility.

**SUMMARY:** Argument copied incorrectly by one proc, pointer used incorrectly by another proc, variable used inconsistently by two other procs.

**IMPLICATIONS:** May eliminate some of mysterious truncations of message segments.
**TITLE:** Install new mail command  

**AUTHOR:** Steve Herbst  

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

**CLASSIFICATION** | **JUSTIFICATION** | Replaced by proposal MCR  
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Incompatible Change | Marketing Requirement | Implemented in System  
Extension | Performance to Standard |  
Restriction | Increased Consistency |  
Performance Improvement | Simplification |  
Reliability Improvement | Generalization |  
| | New Fix |  
| | New feature |  

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

**REASONS:** To begin the transition to an improved mail facility that operates in ring 1 and thus offers various kinds of mail protection by means of extended access.

**SUMMARY:** A new command called "mail" and a command called "old_mail" will be installed at the same time. The transition will be accomplished for each user as follows:  
The first time he uses mail to read and delete his mail after this installation, the new command will print the contents of his old mailbox called "mailbox", delete the old mailbox and create a new ring 1 mailbox called "<Person>mbx" in his home directory. An entry in old_mail is what mail uses to print the contents of "mailbox". Also, when mail tries to send mail and finds that the intended recipient has not had his mailbox converted, old_mail sends to that person's old mailbox.

The new mail command will accept a "-bf" option, only when reading one's own mail (i.e. "mail -bf"), which causes it to print just the number of messages and to print nothing when there is no mail.
IMPLICATIONS: The only other user-perceptible differences about the new mail command are:

1) He will see a different mailbox in his home directory. He should not make any explicit references to "mailbox", for example in his startup, after the installation takes effect.

2) He will normally not be able to read or delete another person's message in another person's mailbox, but he will be able to read and delete his own: "Your messages:" or "You have no messages in <path>.

3) He must use special commands for mailboxes to add names to or delete his mailbox, or to change its ACL. These commands, "mbsa", "mbdl", etc. are awaiting installation.

Discovering that you have no mail will be no more expensive than doing the same with the current mail command. Sending and printing mail will be slightly more expensive because of the additional ring 1 overhead.
**TITLE:** Fix MSF bug in copy_seg

**AUTHOR:** Steve Herbst

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

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**IMPLICATIONS:** This fixes a bug wherein a copy of an MSF having a non-standard max length was inconsistent due to the max length and current length of all but the last component being different from the actual length. In the future if a strict standard on MSF component lengths is enforced, this fix may need to be replaced.

**SUMMARY:** copy_seg will be modified to insure that the newly created MSF will have the same size components as the one being copied. This will be implemented by having copy_seg create the new MSF as a segment with a maximum length set to that of the MSF being copied. msf_manager will turn the segment into an MSF with the correct max length.

**REASONS:** When copying an MSF, copy_seg sets the max length on the components to be sys_info$max_seg_size. It should use the max length of the original MSF.
### DETECT CHANGE REQUEST

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### REASONS:

If someone dials into an ARDS 202C6 dataset with a dataset other than a 202C6, this hangs the line and it can't be used again even after the caller hangs up.

### SUMMARY:

This bug has been fixed and is going into 23.13.

### IMPLICATIONS:

None
MULTICS CHANGE REQUEST

TITLE: Add substitutable argument capability to BOS RUNCOM facility

AUTHOR: Noel I. Morris

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

Requested by Phoenix

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</tr>
<tr>
<td>Reliability</td>
<td>Generalization</td>
</tr>
</tbody>
</table>

JUSTIFICATION

Replacing by proposal MCR

IMPLEMENTED IN SYSTEM

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

REASONS:

The operations staff at various Multics sites often wishes to have BOS RUNCOM's which can be invoked in different ways for different situations. One example of this would be a RUNCOM to write EOF's on the current dump tape after a system crash. If substitutable arguments were provided, such a RUNCOM could be invoked with the drive number of the dump tape as an argument.

Summary:

A facility will be inserted in the BOS line reading primitive (nextline) which will insert up to 10 arguments into a line read from a RUNCOM file. When a RUNCOM is invoked, up to 7 arguments (plus the name of the RUNCOM) will be retained for use in substitutable argument insertion. These arguments will have been converted in the usual BOS manner (i.e., they will either be binary integer values or BCD strings of up to 6 characters). An argument will be substituted in any line read from a RUNCOM file by using the sequence "NC", where N is an integer from 0 to 7 specifying the argument number, and C is a conversion character (G -> GEBCD conversion, 0 -> octal conversion, D -> decimal conversion) to be used in converting the argument as it is substituted into the line input from the RUNCOM file. Any arguments not supplied to a RUNCOM at the time of its invocation will be stored as fences of sevens.

Implications:

Octal values greater than $2^{18} - 1$ should not be supplied as arguments to BOS RUNCOM's. This is due to the fact that argument conversion is performed by the same subroutine that BOS uses to print error messages, and octal numbers longer than 6 digits will be converted with a space to the left of the rightmost 6 digits.
**MULTICS CHANGE REQUEST**

<table>
<thead>
<tr>
<th>TITLE</th>
<th>Improvements to accounts_overseer_</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTHOR</td>
<td>VanVleck</td>
</tr>
<tr>
<td>SOURCE</td>
<td>(if external; e.g., &quot;User&quot;, &quot;Marketing&quot;)</td>
</tr>
<tr>
<td>CLASSIFICATION</td>
<td>Incompatible</td>
</tr>
<tr>
<td>JUSTIFICATION</td>
<td>Replaced by proposal MCR</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REASONS</th>
<th>SUMMARY</th>
<th>IMPLICATIONS</th>
</tr>
</thead>
</table>

**REASONS:**

The process overseer for restricted system administrators calls obsolete procedures and does not handle system conditions correctly. Error messages are incorrectly typed by the fault handler.

**SUMMARY:**

Remove references to "listcall" and "listen_${get_area}". Add code to ignore "finish", "stack", and "cleanup" conditions. Rename "unclaimed_signal" to "any_other". Fix bug in typing of fault messages.

**IMPLICATIONS:**

System administrators will be able to log out. Errors encountered by system administrators will print correct message.
<table>
<thead>
<tr>
<th>MULTICS CHANGE REQUEST</th>
<th>MCR 648</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TITLE:</strong> Fix bug in black and white chart</td>
<td>STATUS</td>
</tr>
<tr>
<td><strong>AUTHOR:</strong> VanVleck</td>
<td>DAT</td>
</tr>
<tr>
<td><strong>SOURCE:</strong> (If external; e.g., &quot;User&quot;, &quot;Marketing&quot;)</td>
<td>Written</td>
</tr>
<tr>
<td></td>
<td>Approves</td>
</tr>
<tr>
<td></td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>Postponed</td>
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<tr>
<td></td>
<td>Withdrawn</td>
</tr>
<tr>
<td></td>
<td>Expires</td>
</tr>
<tr>
<td><strong>CLASSIFICATION</strong></td>
<td><strong>JUSTIFICATION</strong></td>
</tr>
<tr>
<td>Incompatible</td>
<td>Marketing</td>
</tr>
<tr>
<td>Change</td>
<td>Requirement</td>
</tr>
<tr>
<td>Extension</td>
<td>to standard</td>
</tr>
<tr>
<td>Restriction</td>
<td>Consistency</td>
</tr>
<tr>
<td>Performance</td>
<td></td>
</tr>
<tr>
<td>Improvement</td>
<td>Simplification</td>
</tr>
<tr>
<td>Reliability</td>
<td></td>
</tr>
<tr>
<td>Improvement</td>
<td>Generalization</td>
</tr>
<tr>
<td></td>
<td>(Unreported)</td>
</tr>
<tr>
<td></td>
<td>Bug Fix</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**REASONS:**

The black and white chart is incorrect whenever some of the data must extracted from the previous month's segment.

**SUMMARY:**

Correct the index calculation used to locate the previous month's data.

**IMPLICATIONS:**

The report should be correct when a month boundary is included.
New FORTRAN common implementation

D.S. Levin

STATUS
Written 7-8-75
Approved 8/7/76
Rejected
Postponed
Withdrawn
Expires 11/17/76

CLASSIFICATION: Incompatible Change

Extension
Restriction
Performance Improvement
Reliability Improvement
Blank common

JUSTIFICATION: Marketing Requirement
Performance Standard
Increased Consistency
Simplification
Generalization

Replaced by proposal MCR

Objections/Comments:

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

REASONS: FORTRAN common is implemented by type-6 links (create if not found links). The search rules are used to find the external name.

Currently there are five different forms a FORTRAN common name can take:

1. /x/ - A link to x$x is created. If x exists, it must have a linkage section specifying the internal symbol x.
2. /x$/, - A link to x$. If x exists, a linkage section is not needed.
3. /x$x/ - Same as #1 above.
4. /x$a/ - A link to x$a. Similar to #1.
5. Blank common - a link to b$_b$. Similar to #1. Numbers 1 and 5 are not implemented as intended. No linkage section should be required.

A reimplementation of #1 is proposed. A link to x.com$ would be created. This would prevent the user from accidental linking to some unintended segment in his search rules. This reimplementation will not limit the type of links the user could make. This also removes the requirement for a linkage section.
A reimplementation of #5 is proposed to change the link generated and remove the requirement for a linkage section.

Bug fix to allow a user to reference a common block by the FORTRAN name (/x/) and link name (/x.com$/).

**IMPLICATIONS**

The reimplementation of #1 & #5 is incompatible with the current implementation. The user can make minor modifications to his procedures to have old and new subprograms link to the same external static storage:

<table>
<thead>
<tr>
<th>old</th>
<th>new</th>
<th>link</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>x$x</td>
<td>x$x</td>
</tr>
<tr>
<td>x.com$</td>
<td>x</td>
<td>x.com$</td>
</tr>
<tr>
<td>blank common</td>
<td>b_$b_</td>
<td>b_$b_</td>
</tr>
<tr>
<td>b_.com$</td>
<td>blank common</td>
<td>b_.com$</td>
</tr>
</tbody>
</table>

**Summary of Links:**

<table>
<thead>
<tr>
<th>name</th>
<th>Old link</th>
<th>Old offset</th>
<th>New link</th>
<th>New offset</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x.com</td>
<td>0</td>
</tr>
<tr>
<td>x$</td>
<td>x</td>
<td>o</td>
<td>x</td>
<td>0</td>
</tr>
<tr>
<td>x$x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>x$a</td>
<td>x</td>
<td>a</td>
<td>x</td>
<td>a</td>
</tr>
<tr>
<td>blank common</td>
<td>b_</td>
<td>b_</td>
<td>b_.com</td>
<td>0</td>
</tr>
</tbody>
</table>
TITLE: Remove file_manager from standard system

AUTHOR: D.S. Levin

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

CLASSIFICATION | JUSTIFICATION | Replaced by proposal MCR
-----------------|-----------------|-------------------------
Incompatible     | Marketing       | Implemented in System   
Change           | Requirement     |                         
Extension        | Performance to  |                         
                  | Standard        |                         
Restriction      | Increased       |                         
Performance      | Simplification  |                         
X Improvement     | Consistency     |                         
Reliability      | Generalization  |                         
Improvement      | Sur-Fix         |                         

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

REASONS: 1. There are no known users of this subsystem.

2. There is another subsystem (iox_) which is supported and performs the same functions.

3. Name conflict (close_file) with an iox_ related command.

SUMMARY: Remove obsolete software from supported system, move to installation maintained libraries or delete.
MULTICS CHANGE REQUEST

MCR 651

TITLE: fix bugs in answering service

AUTHOR: VanVleck

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

CLASSIFICATION: Incompatible
JUSTIFICATION: replaced by proposal MCR

INCOMPATIBLE CHANGE
MARKETING REQUIREMENT
IMPROMENT
SCHEDULE: 
REQUIRMENT
EXTENSION TO STANDARDS
CONSISTENCY
PERFORMANCE
IMPROVEMENT
SQUALIFICATION
IMPROVEMENT
INTERNAL
RETRACTION

REASONS:

1. Lines were being detached and not answered after a user on the line got an automatic logout. (Bug 304)

2. Bumps for inactivity are done twice if the shift changes at the time of detection, causing duplicate messages.

3. Garbage lines cause a fault in login_parse_.

4. The "detach" operator command caused a fault.

SUMMARY:

Problems 1 and 4 were caused by an incorrect index in dialup_'s action array. The calculation is corrected.

Problem 2 is due to the rescan to check that a user has funds on the new shift. Attempts to bump an already-bumped user will be ignored.

Problem 3 requires one more check on the value returned by a scan in login_parse_.

IMPLICATIONS:

Listed bugs will no longer occur. Detaching consoles will be possible, and lines will not be lost when users are bumped for inactivity.
TITLE: Implement mail_table_manager

AUTHOR: Steve Herbat

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

CLASSIFICATION | JUSTIFICATION | Replaced by proposal "IC"
--- | --- | ---
| | | Implemented in System

X: Extension to Standard
Restriction: Increased Consistency
Performance Improvement: Simplification
Reliability Improvement: Generalization

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

REASONS: In order to provide a feature with mail and message sending programs whereby a user can send by name only, we need a subroutine call that returns the pathname of a default mailbox given a person's registered name or alias.

SUMMARY: The table in which this information is kept will be called mail_table and will reside possibly in system_control. All users will have read access to mail_table. The program that uses and manages the table will be called mail_table_manager and have entries to look up a default pathname given a registered person id or alias and to add, replace and delete people from the table.

mail_table_manager$lookup will be used by mail and message sending commands in cases where the user does not specify a project destination. The other entries will be used by administrators or administrative processes. A call to mail_table_manager$add will be made at the time a new user is registered. A user can at this time ask not to be listed. mail_table_manager$add takes a full default pathname for the mailbox or concatenates one from the registered person id and a default project name.

(contd.)
An administrative command can make calls to mail_table_manager_$replace and mail_table_manager_$delete, and users convey their requests to the administrator in charge. In the future, users might mail such requests to a mailbox somewhere and have them read by an administrative process that logs in periodically for that purpose.

IMPLICATIONS: mail_table is no more a security problem than the who table because, like the who table, the listing is optional. Any user or group of users can stay out of the table by personal request or by the decision of an administrator.