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 CHANGE REQUEST

MCR   624

Page   1 of   1

TITLE: Fix bug in com_err_

STATUS

Written	6-21-74
Approved	7/2/74
Rejected	

AUTHOR: M. Weaver

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

Postponed	
Withdrawn	
Expires	1/2/75

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	
Reliability Improvement	Generalization	
	Bug #299	
	X Bug Fix	

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

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.

MULTICS CHANGE REQUEST

TITLE: Enable Operator to Specify tape drive # in BOS SALV

AUTHOR: Noel I. Morris

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

         Internal

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Withdrawn	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

CLASSIFICATION		JUSTIFICATION	
	Incompatible Change	☒	Marketing Requirement
☒	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:

The BOS SALV command currently performs a BOOT COLD SALV 2.   If drive 2 is

inpperable, 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	STATUS	DAT
	Written	06/25/74
AUTHOR: Gary C. Dixon	Approved	7/2/74
	Rejected	
SOURCE: (if external: e.g., "User", "Marketing") local	Postponed	
	Withdrawn	
	Expires	1/2/75

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

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 freen_ 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.

MULTICS CHANGE REQUEST

| MCR | 628 |
| Page 1 of 1 |

TITLE:	Fix bug in get_library_segment	STATUS	DATE
		Written	6-26-
AUTHOR:	Steve Herbst	Approved	7/2/7
		Rejected	
SOURCE:	(if external) e.g., "User", "Marketing"	Postponed	
		Withdrawn	
		Expires	1/2/75

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

MULTICS CHANGE REQUEST	MCR	629
	Page 1 of 1	

TITLE: Turn printer on after a condition	STATUS	DATE
	Written	6-25-74
	Approved #	7/2/74
AUTHOR: M. Weaver	Rejected	
SOURCE: (if external) e.g., "User", "Marketing"	Postponed	
	Withdrawn	
	Expires	1/2/75

CLASSIFICATION		JUSTIFICATION		
	Incompatible Change		Marketing Requirement	
X	Extension		Conformance to Standard	
	Restriction	X	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: 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_$cl. Also change real_sdh_ and default_error_handler_ to call iox_ instead of ios_.

MULTICS CHANGE REQUEST		MCR 630
		Page 1 of 1

TITLE: Addition of security check module to hardcore	STATUS	
	Written	06/27/
AUTHOR: Jerold C. Whitmore	Approved	7/2/7
	Rejected	
SOURCE: (if external) e.g., "User", "Marketing"	Postponed	
	Withdrawn	
	Expires	1/2/75

CLASSIFICATION		JUSTIFICATION		Replaced by proposal MCR _____
	Incompatible Change	X	Marketing Requirement	Implemented in System _____
X	Extension		Performance to Standard	Objections/Comments:
	Restriction	X	Increased Consistency	Reference MTB 081
	Performance Improvement	X	Simplification	
	Reliability Improvement	X	Generalization	
			Bug Fix	

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 th
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 attribu
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-retu
sequence and possible double call in multilevel security mode.

MULTICS CHANGE REQUEST

MCR	631
Page 1 of 1	

TITLE:	Add tool "ol_dump" to system	STATUS	

		STATUS	
		Written	6-25-74
		Approved	7/2/74
		Rejected	

AUTHOR: Steve Webber

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

Postponed	
Withdrawn	
Expires	1/2/75

Replaced by proposal MCR _____

Implemented in System _____

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

Objections/Comments:

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

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.

MULTICS CHANGE REQUEST

MCR	632
Page 1 of 1

TITLE: Install new version of tool "dump_pdmap"

AUTHOR: Steve Webber

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

STATUS	DATE
Written	6-25-74
Approved #	7/2/74
Rejected	
Postponed	
Withdrawn	
Expires	7/2/75

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

Replaced by proposal MCR _____

Implemented in System _____

Objections/Comments:

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

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

MULTICS CHANGE REQUEST

MCR   633
Page   1 of 1

TITLE: Delete obsolete bound_io_daemon_

AUTHOR: R.S. Coren

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

STATUS	DATE
Written	6-25-74
Approved	H 7/2/74
Rejected	
Postponed	
Withdrawn	
Expires	1/2/75

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

Replaced by proposal MCR _____

Implemented in System _____

Objections/Comments:

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

REASONS: bound_io_daemon_ has long since been superseded by
bound_iodd_ and bound_iodc_; 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	MCR 634
	Page 1 of 1 Pages

TITLE: Fixes to the system tool "mexp"	STATUS	DATE
	Written	74.06.
	Approved	7/3/7
AUTHOR: D. Wells	Rejected	
SOURCE: (if external) e.g., "User", "Marketing"	Postponed	
	Withdrawn	
	Expires	1/2/7

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

MULTICS CHANGE REQUEST		MCR 636	
		Page 1 of 1 Pages	

TITLE: Installation of "user_telnet" and some related programs in the Network Library.	STATUS	DATE
	Written	74, 26
AUTHOR: D. Wells	Approved	7/2/74
	Rejected	
SOURCE: (if external) e.g., "User", "Marketing"	Postponed	
	Withdrawn	
	Expires	1/2/75

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

| MULTICS CHANGE REQUEST | MCR 637 |
| Page 1 of 1 |

TITLE: Fix bug in I/O Coordinator	STATUS	DATE
	Written	6-28-74
AUTHOR: Robert S. Coren	Approved #	7/11/7
	Rejected	
SOURCE: (if external) e.g., "User", "Marketing"	Postponed	
	Withdrawn	
	Expires	1/11/75

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

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.

MULTICS CHANGE REQUEST		MCR 638
		Page 1 of 1

TITLE:	msf_manager_ acl handling	STATUS	DATE
		Written	6-28-74
AUTHOR:	A. Kobziar	Approved ⫲	7/11/74
		Rejected	
SOURCE:	(if external) e.g., "User", "Marketing"	Postponed	
		Withdrawn	
		Expires	1/11/75

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

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

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.

MULTICS CHANGE REQUEST

	MCR	639
	Page 1 of 1	

TITLE:	Fix bug in tty_dim for MDS2400	STATUS	DATE
		Written	7-2-7
AUTHOR:	M.J. Grady	Approved	7/11/
		Rejected	
SOURCE:	(if external) e.g., "User", "Marketing"	Postponed	
		Withdrawn	
		Expires	1/11/

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

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

REASONS: There is a bug in tty_inter and tty_write which allows
the ring 4 g115 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.

MULTICS CHANGE REQUEST

MCR ___640___

Page _1_ of _1_

TITLE: Fix bug in tty_write

AUTHOR: ___M.J. Grady___

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

STATUS	DATE
Written	7-2-74
Approved H	2/11/74
Rejected	
Postponed	
Withdrawn	
Expires	1/11/75

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	
Reliability Improvement	Generalization	
	unreported	
	X Bug Fix	

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

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.

MULTICS CHANGE REQUEST

| | MCR 641 |
| | Page 1 of 1 |

TITLE:	Message Segment Bug Fixes	STATUS	DATE
		Written	7-2-74
AUTHOR: P. Haber		Approved	7/11/7
		Rejected	
SOURCE: (if external) e.g., "User", "Marketing"		Postponed	
		Withdrawn	
		Expires	1/11/75

CLASSIFICATION		JUSTIFICATION		Replaced by proposal MCR _____
	Incompatible Change		Marketing Requirement	Implemented in System _____
	Extension		Performance 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: 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.

MULTICS CHANGE REQUEST	MCR 642
	Page 1 of 2

TITLE: Install new mail command	STATUS	DATE
	Written	7-2-74
AUTHOR: Steve Herbst	Approved H	7/11/7
	Rejected	
SOURCE: (if external) e.g., "User", "Marketing"	Postponed	
	Withdrawn	
	Expires	1/11/7

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	
	Reliability Improvement		Generalization	
			Bug Fix	
		X	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.

MULTICS CHANGE REQUEST

MCR	643
Page 1 of 1	

TITLE:	Fix MSF bug in copy_seg_	STATUS	DATE
		Written	7-9-74
AUTHOR: Steve Herbst		Approved #	7/11/7
		Rejected	
SOURCE: (if external) e.g., "User", "Marketing"		Postponed	
		Withdrawn	
		Expires	1/11/7

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

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

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.

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.

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 differe
from the actual length. In the future if a strict standard
on MSF component lengths is enforced, this fix may need to
be replaced.

MULTICS CHANGE REQUEST

	MCR 644
	Page 1 of 1

TITLE: Bug in tty control tables

AUTHOR: R.B. Snyder

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

local

STATUS	DATE
Written	7-3-74
Approved	H 7/11/74
Rejected	
Postponed	
Withdrawn	
Expires	1/11/75

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

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

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

MCR _____ 645

Page _1_ of _____ Pages

TITLE: Add substitutable argument capability to BOS RUNCOM facility

AUTHOR: _____ Noel I. Morris _____

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

Requested by Phoenix

STATUS	DATE
Written	7/3/74
Approved #	7/11/7
Rejected	
Postponed	
Withdrawn	
Expires	1/11/7

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	
	Reliability Improvement	☒	Generalization	
			Bug Fix	
•				

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, O -> 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 invokation will be stored as fences of sevens.

Implications:
Octal values greather 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	MCR __647__	
TITLE: Improvements to accounts_overseer_	STATUS	DATE
	_Written__	07/06/74
AUTHOR: VanVleck	_Approved_	7/11/74
	Rejected	
SOURCE: (if external; e.g., "User", "Marketing")	_Postponed_	
	Withdrawn	__
	_Expires__	1/11/75

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	
[ ]	[ ]	

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

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 "listcacl" 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.

	MULTICS CHANGE REQUEST	MCR __648__
TITLE: Fix bug in black and white chart	STATUS	DAT
	_Written___	07/06
AUTHOR: VanVleck	_Approved_	7/11
	_Rejected__	
SOURCE: (If external; e.g., "User", "Marketing")	_Postponed_	
	Withdrawn	
	_Expires___	1/11/7

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	
[X] Reliability Improvement	[ ] Generalization	
	[X] (Unreported)	
[ ]	[ ] Bug Fix	

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.

MULTICS CHANGE REQUEST

MCR	649
Page	1 of 2

TITLE:	New FORTRAN common implementation	STATUS	DATE
		Written	7-8-74
		Approved	7/11
AUTHOR:	D.S. Levin	Rejected	
SOURCE:	(if external) e.g., "User", "Marketing"	Postponed	
		Withdrawn	
		Expires	1/11

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

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:

old	new	link
x	x$x	x$x
x.com$	x	x.com$
blank common	b_$b_	b_$b_
b_.com$	blank common	b_.com$

Summary of Links:

name	Old link	offset	New link	offset
x	x	x	x.com	o
x$	x	o	x	o
x$x	x	x	x	x
x$a	x	a	x	a
blank common	b_	b_	b_.com	o

MULTICS CHANGE REQUEST

MCR	650
Page 1 of 1	

TITLE: Remove file_manager from standard system

AUTHOR: D.S. Levin

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

STATUS	DATE
Written	7-8-7
Approved H	7/11/7
Rejected	
Postponed	
Withdrawn	
Expires	1/11/

CLASSIFICATION		JUSTIFICATION	
	Incompatible Change		Marketing Requirement
	Extension		Conformance to Standard
	Restriction	X	Increased Consistency
X	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: 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	STATUS	DATE
	written / 07/03/74
AUTHOR: VanVleck	Approved H 7/11/74
	Rejected
SOURCE: (if external, e.g., "User", "Marketing")	Postponed
	Withdrawn
	Expires 1/11/75

CLASSIFICATION	JUSTIFICATION	
		Replaced by proposal MCR
_ Incompatible Change	_ Marketing Requirement	
	Conformance	Implemented in System
_ Extension	_ to Standard	Objections/Comments:
	Increased	
_ Restriction	_ Consistency	
Performance		
_ Improvement	_ Simplification	
X Reliability		
_ Improvement	_ Generalization	
	X (unreported)	
_	_ bug fix ✳304	

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

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.

| MULTICS CHANGE REQUEST | MCR 652 |
| | Page 1 of 1 |

TITLE: Implement mail_table_manager_	STATUS	DATE
	Written	7-2-
	Approved #	7/11/
AUTHOR: Steve Herbst	Rejected	
SOURCE: (if external) e.g., "User", "Marketing"	Postponed	
	Withdrawn	
	Expires	1/11/

CLASSIFICATION		JUSTIFICATION		Replaced by proposal MCR _____
	Incompatible Change		Marketing Requirement	Implemented in System _____
X	Extension		Performance to Standard	Objections/Comments:
	Restriction		Increased Consistency	An administrative interface to print the contents of mail_table should be provided.
	Performance Improvement		Simplification	
	Reliability Improvement	X	Generalization	
			Bug Fix	

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_1. 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.