

TO: Distribution
FROM: Joan Archer Scott
DATE: 24 November 75
RE: Multics Change Requests

Enclosed are copies of Multics Change Requests which were approved from 16 October 75 through 31 October 75.

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TITLE: New file utility commands		STATUS	DATE
AUTHOR: M. Asherman		Written	09/29/75
<input checked="" type="checkbox"/> Coded in PL/I <input type="checkbox"/> ALM <input type="checkbox"/> other- explain in DETAILED PROPOSAL. -Planned for System MR _____ -Fixes Bug Number(s) _____ -Documented in MTB 061 -User/Operations-visible Interface change? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no -Incompatible change? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no -Performance: <input type="checkbox"/> Better <input checked="" type="checkbox"/> Same <input type="checkbox"/> Worse -Replaces MCR _____		Status	P10/4/75 R 10/28/75
		Expires	04/28/76
		DOCUMENTATION CHANGES	
Category (Check One)		Document	Specify One or More
<input type="checkbox"/> Lib. Maint. Tools		MPM (Vol, Sect.)	vfile_status vfile_adjust
<input type="checkbox"/> Sys. Anal. Tools		PLMS (AN #)	
<input type="checkbox"/> Sys. Prog. Tools		MOSN (Sect.)	
<input type="checkbox"/> 355		MPAM (Sect.)	
<input type="checkbox"/> BOS		MSAM (Sect.)	
<input type="checkbox"/> Salvager		Info Segs	vfile_status vfile_adjust
<input type="checkbox"/> Ring Zero		Other (Name)	
<input type="checkbox"/> Ring One		None (Reason)	
<input type="checkbox"/> SysDaemon/Admin.			
<input type="checkbox"/> Runtime			
<input checked="" type="checkbox"/> User Cmnd/Subr.			
Objections/Comments:			

Use these headings: Summary of Proposal, Reasons for Proposal, Implications, Detailed Proposal.

SUMMARY:

Add the commands vfile_status (vfs) and vfile_adjust for use with storage system files as supported by vfile_.

Also some performance improvements in stream and sequential positioning and in index changes.

Remove possibility of error return on closing indexed files.

IMPLICATIONS:

Users can obtain basic information about files (type and statistics) in addition to that provided by the status command.

Files which have been left in an inconsistent state from an interrupted opening can be adjusted.

vfile_status

vfile_status

Name: vfile_status, vfs

This command prints the apparent type (unstructured, sequential, or indexed) of storage system files. For structured files, information about the state of the file (if busy) is printed. For indexed files, the file version (unless current) is indicated, and the following statistics are also provided:

1. The number of records in the file, including zero length records.
2. The total length of the records (bytes).
3. The number of blocks in the free space list for records.
4. The height of the index tree (=0 for empty files).
5. The number of nodes (each 1k words, page aligned) in the index tree.
6. The total length of all keys (bytes).

Usage

vfile_status path

where path is the pathname of the segment or multisegment file of interest. If the entryname portion of the pathname denotes a directory, it is ignored. If no files are found for the given pathname, a message to that effect is printed. If the entry is a link, the information returned pertains to the entry to which the link points. The star convention is permitted.

Notes

Additional information may be obtained through the status command.

vfile_status

vfile_status

Examples:

Assume that the file foo is in the user's working directory.
The command:

```
vfile_status foo
```

might produce the following output:

```
type: unstructured
```

if the file is unstructured,

or

```
type: sequential
```

if the file is sequential and not currently open,

or

```
type: indexed
state: write in progress
records: 397
record bytes: 3970
free blocks: 1
index height: 2
nodes: 3
key bytes: 3176
```

if the file is indexed and a write operation has been interrupted.

vfile_adjust

vfile_adjust

Names: vfile_adjust, vfa

This command is used to adjust structured files left in an inconsistent state by an interrupted opening, or unstructured files in any state. For unstructured files a control_arg must specify the desired adjustment. Otherwise, no control_args are allowed. A sequential file is adjusted by truncation after the last complete record. An indexed file is adjusted by finishing the interrupted operation.

Usage

vfile_adjust path -control_arg-

where:

1. path is the pathname of the file to be adjusted.
2. control_arg must be specified only for unstructured files and is selected from the following:
 - set_nl if the last non-zero byte in the file is not a newline character, a new line character is appended. The bitcount of the file's last nonempty segment is then set to the file's last nonzero byte (which is now sure to be a newline character).
 - use_nl The file is truncated after the last newline character.
 - set_bc the bit count of the file's last nonempty segment is set to the last nonzero byte in that segment. Any components beyond it are deleted.
 - use_bc -n- the file is truncated to the byte specified by the bit count of msf component n. If n is not given, it is taken to be the last nonempty segment.

vfile_adjust

vfile_adjust

Notes

See the description of the vfile_ I/O module for further details. The command `adjust_bit_count` used with the `-ch` control_arg is equivalent to `vfile_adjust` with the `-set_bc` control_arg, except that the latter will only operate on a file which appears to be unstructured.

9/16/75 vfile_status,vfs

Function: this command prints the apparent type of storage system files. Additional information is provided for structured files.

Syntax: vfile_status pathname

Arguments: pathname is the path name specifying the file of interest. The star convention is permitted.

Notes: for structured files (sequential or indexed), the state of the file is printed (if busy). The following statistics are also provided for indexed files:

1. the number of records in the file, including those of zero length
2. the total length of the records (in bytes)
3. the number of blocks in the free space list for records
4. the height of the index tree (zero for empty files)
5. the number of nodes in the index (each occupies a single 1K page)
6. the total length of all keys (bytes)

References: additional information about a file may be obtained with the status command. See documentation of the vfile_ I/O module for further details.

r 1103 0.449 0.686 17

9/16/75 vfile_adjust,vfa

Function: this command adjusts a storage system file which may have been left in an inconsistent state by an interrupted opening.

Syntax: vfile_adjust pathname -control_arg-

Arguments: pathname is the path name of the file to be adjusted.

Control arguments: (one specified if and only if file is unstructured)

- set_nl: append a newline char if file does not end with one
- use_nl: truncate file after last new_line character
- set_bc: set bitcount and truncate at last non-zero byte in the file
- use_bc -n-: truncate at byte specified by bitcount of component n
(last non-zero component if n not specified)

Notes: a sequential file is adjusted by truncation after the last complete record. An indexed file is adjusted by completing any interrupted operation.

References: the condition of a file may be determined with the vfile_status command. See documentation of the vfile_ I/O module for further details.

adjust_bit_count

adjust_bit_count

Name: adjust_bit_count, abc

The adjust_bit_count command is used to set the bit count of segments that for some reason do not have the bit count set properly (e.g., the program that was writing the segment got a fault before the bit count was set, or the process terminated without the bit count being set, etc.). The adjust_bit_count command looks for the last nonzero 36-bit word or (if specified) the last nonzero character in the segment and sets the bit count to indicate that the word or character is the last meaningful data in the segment.

Usage

adjust_bit_count paths -control_args-

where:

1. paths are the pathnames of segments for which the bit count is to be adjusted.
2. control_args are as follows and apply to all path arguments:
 - character, -ch set the bit count to the last nonzero character.
 - long, -lg print a message when the bit count of a segment is changed, giving the old and new values.

Notes

If the bit count of a segment could be computed but could not be set (e.g., the user had improper access to the segment), the computed value is printed so that the user can use the set_bit_count command after resetting access or performing other necessary corrective measures. See the description of the set_bit_count command.

The user must have write permission on the segment whose bit count is being adjusted. He need not have modify permission on the directory containing that segment.

The adjust bit count command should not be used on segments in structured files. The adjustments to all file types supported by vfile_ may be made with the vfile_adjust command.

Ver. 3		
741022	MULTICS CHANGE REQUEST	MCR 1453
TITLE: Spooling Facility Enhancement		STATUS: DATE
AUTHOR: Janice B. Philipps		Written: 10/8/75
		Status: PA 10/28/75
		Expires: 04/08/76
Planned for System: MR 3.1		
Fixes Bug Number(s): not applicable		CATEGORY (check one)
Documented In MTB: 117 (original design)		() Lib. Maint. Tools
Incompatible Change: no		() Sys. Anal. Tools
User/Operations-visible Interface Change: yes		() Sys. Prog. Tools
Coded in: <input checked="" type="checkbox"/> PL/I () ALM () other-see below		() 355
Performance: () better <input checked="" type="checkbox"/> same () worse		() BOS
		() Salvager
DOCUMENTATION CHANGES (specify one or more)		() Ring Zero
MPM (vol,sect) MPAM (sect)		() Ring One
MOSN (sect) MSAM (sect)		() SysDaemon/Admin
PLMs (AN#)		() Runtime
Info Segs		() User Command/Subr
Other MOH		<input checked="" type="checkbox"/> SysDaemon/Admin.
OBJECTIONS/COMMENTS:		

Headings are: SUMMARY, REASONS, IMPLICATIONS, DETAILED PROPOSAL (optional)

REASONS: Not all sites that want to use the Spooler can record/read at 1600 bpi; need optional density setting.

SUMMARY: Add new control argument, "-density", acceptable to operator interface.

IMPLICATIONS: Service improvement.

TO: Operations

From: Janice B. Phillips

Subject: OPERATION OF THE MULTICS SPOOLING FACILITY

Date: October 20, 1975

The Multics spooling facility provides a alternative method for processing users' dprint requests when the service printer is either down or substantially backlogged. The "spooler" obtains queued dprint requests, and writes the requests out onto magnetic tape. The tape can then be processec immediately or at a later time in one of two ways: the spooling tape can be input to a Multics system using the spooler and the Multics printer software to process the tape, or the spooling tape can be input to another system which has software capable of reading in and printing the contents of the tape.

Logging In the Spooler

The IO coordinator should be logged in and running before attempting to bring up the spooler. (Refer to Multics Operators Handbook for any details on setting up the coordinator.) The spooler runs as a standard IO driver process and can process requests in any set of IO queues. If the service system dprint queues are to be used by the spooler, that is if the spooler will be run instead of the printer, the printer driver must be logged out before the spooler is brought up. To login the driver from an ordinary terminal, the operator should type

```
login IO SysDaemon
```

The system will reply:

```
Password:
```

and then the operator types the password associated with the I/O Daemon. However, if the spooler is to be logged in as a consoleless daemon from the initializer console, the operator should type

login IO SysDaemon source_id

where source_id is the message coordinator source name for the spool driver. In the examples below of operator replies to the spool driver, the information presented in closed brackets applies only if the spool driver is to be routed thru the message coordinator. If the spooler is to be run from an ordinary terminal, the information included in brackets in the examples below does not apply and may be ignored.

Spool Driver Initialization

Once the IO SysDaemon has been logged in, it will print

```
Enter command: coordinator or driver
```

The operator should reply by typing

```
[r source_id] driver
```

indicating that the process is to be an IO driver. If no coordinator is running at this time, the spooler will wait up to five minutes for one to login; after that time, if there still is no coordinator running, an error message will be printed and the spooler will logout. If a coordinator is present however, the driver will start to initialize itself and then will print

```
Enter device name and optional request type:
```

The operator should respond by typing the name of the spooling device, which is "spla", and either give the request type of his choice or rely on the default request type. To bring up the spooler in place of the printer, the operator would type either

```
[r source_id] spla printer
```

or simply (relying on the default request type)

```
[r source_id] spla
```

In the case of using IO queues other than the standard dprint queues, the operator would type the spooling device name of "spla" followed by the name of the special request type, for example "m168".

Next the spooling data must be entered. At least one tape volume identifier must be supplied, but additional spooling data

may optionally be supplied. This optional input includes a recording density, a maximum printer line length, a number of requests (files) to limit the spooling operations, or a number of lines to limit the spooling operations. The spooler asks for this information by printing

Enter volids, optional density, optional line-length and optional spooling limits:

For example, if the operator wishes to spool one hundred dprint requests to volume 070064 to be recorded at 800 bpl, which will be printed on a printer with a line length of 135 characters he would type

```
[r source_id] -volid 070064 -density 800 -line_length 135 -files 95
```

requests will be spooled to volume 070064 until 95 requests have been written to tape.

Spooling Parameters

The operator may make a selection of spooling data from the following possible spooling input parameters:

-volid xxxxxx xxxxxx ... xxxxxx

-vol xxxxxx xxxxxx ... xxxxxx

where xxxxxx is a six-character volume identifier of a tape reel to use for spooling. Up to three volids (separated by spaces) may be specified at one time, and at least one valid must be specified.

-density xxx

-den xxx

where xxx is either "800" or "1600" or The default is 1600 bpl. Density can only be given once during a spooling session, or an error is indicated.

-line_length xxx

-ll xxx

where xxx is a number between 10 and 136, indicating the maximum line length of the printer which will process the spooling tape. If this parameter is omitted, the maximum printer line length will default

to 132 characters on writing the spooling tape and
136 characters on printing the spooling tape.

-files xxxxxx

-fl xxxxxx

where xxxxxx is a number between 1 and 999999,
indicating the number of files (requests) to be
written to tape before stopping. There is no default
file limit. If this parameter is omitted, no limit stop
is set on the spooling action.

-lines xxxxxx

-ln xxxxxx

where xxxxxx is a number between 1 and 999999,
indicating the number of printed lines to spool
before stopping. There is no default line limit.
If this parameter is omitted, no limit stop is set on
spooling action.

When the coordinator has accepted the spooler as a driver and all
the preliminaries of validating the input parameters and
attaching the printer stream, the spool driver prints

```
Spool driver ready at 08/18/75 1452.8 edt Mon
Enter command:
```

The spooler is now at command level and ready to start processing
requests. The spool driver commands which are available are
described below in the section Spool Driver Commands. To begin
processing requests at this point, the operator must type the
command "go". Assuming that some outstanding dprint requests are
queued, the spooler will start processing requests at the "go"
command. The first dprint request message will be printed on the
spooler's log, followed by a tape mount message; then requests
will continue to be processed and logged sequentially until
either the queues become empty or one of the spooling limits has
been reached. The spooler's output log will look something like
this:

Request 10001.3: print >udd>PC0>Phillipps>test for Phillipps.
\PDO.a (to PHILLIPPS)

tape_ansi_: Mounting volume xxxxxx with a write ring.
tape_ansi_: xxxxxx mounted on tape_04.

Request 10002.3: print >ucc>PDO>jp>test1 for Phillipps.PDO.a
Request 10003.3: print >udd>PDO>jp>test2 for Phillipps.PDO.a

·
·
·

When any spooling limits have been reached, that is either lines limit stop or files limit stop, the spooler will print:

Reached specified spooling limits;

Current file count is xxx
Current line count is xxx

Enter either new file and/or line limits, or "detach":

At this time the operator must choose to either enter additional spooling limits, or to terminate spooler processing and bring down the spooler.

To Terminate Spooling:

If the operator wishes to terminate spooling when spooling limits have been reached he types "detach", then the reply will be something like this:

Detaching current volume.

Spooling file count is 5
Spooling line count is 3316

* QUIT * request in progress
Enter command (quit):

Indicating that a total of five dprint requests and 3316 lines have been spooled to tape. At this point the operator should type "halt" to halt the device and then "logout" to logout the spool driver.

Pending requests for halted devices being processed.
Enter command (quit):

The operator types "logout" to logout the spooler.

Driver logout for device sp1a

To Continue Spooling:

If the operator wishes to continue spooling when the spooling limits have been reached, he may renew the limits by entering new "-files" and/or "-lines" parameters. The new numbers typed in are added to the already specified spooling limits to update the spooling limits. For example, at this time the operator may type

```
[r source_id] -files 20 -lines 20000
```

and 20 will be added to the current file limit, 20000 will be added to the current lines limit, and spooling will continue.

If a fatal tape error occurs while writing the tape or if the end of a volume is reached when only one volume id has been specified the spooler asks for additional volume names.

Reached end of spooling volume list;
Enter either more spooling volids or "detach":

Here the operator types in another volume id, "-void xxxxxx", to continue spooling or types "detach" to terminate spooling.

Spooler Messages

The spooler has a command question handler which should answer all questions asked by the tape_ansi_IO module. The operator should not have to type answers to any questions which appear on the spooler's log. For example should a given volume need initialization, the following sequence of lines might appear on the spooler's console:

tape_ansi: Volume xxxxxx requires initialization, but
cannot read VOL1 label.
Do you want to initialize it? yes

Spool Driver Commands

The following commands are available for the Spooling driver. See the Multics Operators Handbook for a full description of the following general commands.

- cancel** terminates the request that the driver is currently processing. The request will not be placed the coordinator's saved list and it cannot be restarted later.
- go** starts the driver looking for requests to process.
- halt** reverse function of ready. Coordinator won't send any requests to driver.
- help** lists the available driver commands.
- hold** holds driver at command level. This is released by a "go" command normally, or by a "start" command after a "quit".
- logout** [-force] causes the driver process to logout.
- reinit** reinitializes the driver. Almost the same as a new_proc to the driver. Any pending requests will be suspended until the coordinator is reinitialized.
- restart** [<request_number>] restarts the processing of the coordinator's save list starting with the request number specified. After a "quit" has been issued, this "restart" command may be used without an argument to restart the processing of the current request from the beginning.
- save** <request_number> tells coordinator that requests in the saved list starting with the given request number, are to be retained beyond the normal holding time.
- start** allows the driver to continue operation at the point where it was suspended by a quit.

status prints information about the current status of the driver.

step [set|reset] puts the driver in or out of step mode. When in step mode, the driver will return to command level after processing each request from the coordinator.

Three special commands are available to the Spool driver:

debug_on turns on an audit trace as the spooler runs. Used in test mode primarily.

debug_off turns off the audit trace once it has been turned on. This is the default state.

single sets the single mode of the printer dim to treat form-feed and vertical tab characters as new-line characters for the current request. It will also cancel any additional requested copies which have not yet been processed by the driver.

Printing a Spooling Tape on Multics

To print a spooling tape on Multics, the operator will have to take over a printer, login a process and issue the "print_spooling_tape" command to attach the printer and print the spooling tape. The parameters for the print_spooling_tape command follow:

```
print_spooling_tape prtdim device -filenbr-
```

prtdim is the name of the Multics printer IO module. This parameter must be specified.

device is the name of the printer to use. This parameter must be specified.

filenbr is the file number of the file on tape where printing will begin. This parameter is optional. If it is omitted, a message will be printed to remind the operator that printing will begin with the first file on the spooling tape.

For example, to print a spooling tape recorded at 800 bpi, starting with the third file on the tape, using the standard Multics printer IO module and the printer "prta", the operator would type

```
print_spooling_tape prtdim prta 3
```

Then the spooler asks for volume lcs and spooling limits just as it does when writing the spooling tape.

Enter voids, optional density, optional line-length and optional spooling limits:

The operator might type

```
-voidl xxxxxx -density 800 -files 50
```

giving the voidl of the spooling tape to be printed, the density at which the volume is recorded, and a limit of fifty files to print before the printing is stopped. After verifying the spooler printing parameters, the spooler types

```
Mounting volume xxxxxx on tape_05 with no write ring.  
Volume mounted.
```

As each file on the spooling tape is printed, a message on the spooler's log giving the generic name of the file and the volume id of the spooling tape. This continues until spooling limits have been reached or until the entire tape has been processed. The spooler's log output looks like this:

```
Printing FILE3 from spooling tape xxxxxx  
Printing FILE4 from spooling tape xxxxxx  
.  
.  
.
```

```
Reached end of data for current fileset.  
Detaching current volume.  
tape_ansi: The only member of the volume set is  
xxxxxx.
```

```
Spooling file count is 4  
Spooling line count is 1254
```

At this point printing has finished and the operator will logout his process.

Appendix I

The Description of the Spooling Tape

The spooler creates a 1600 bpi ANSI standard tape (ASCII) with D-format (variable length) records of a specified printer line length, which are blocked to 8192 characters. Each dprint request constitutes one ANSI tape file which is surrounded by ANSI standard tape labels. The exact format of the ANSI tape can be found by referring to Draft Proposed Revisor X3L5/419T of American National Standard ANSI X3.27-1969, Magnetic Tape Labels and File Structure for Information Interchange. Each line (logical record) of the spooled request (dprint file) is preceded by a USA printer carriage control character which directs a printer action before the line is printed. A table of these control characters and the corresponding Multics spooler slew functions can be found as Appendix II of this memo.

Appendix II

Table of USA Printer Carriage Control Characters
As listed in OS Data Management Services Manual.

<u>USA</u> <u>Char</u>	<u>Multics Spooler</u> <u>Slew Function</u>	<u>Printer Action</u>
blank	NL	One line spaced.
0	2(NL)	Two lines spaced.
-	3(NL)	Three lines spaced.
+	CR	Suppress line space.
1	FF	Skip to channel 1 (top line 3, any page).
2	none	Skip to channel 2.
3	none	Skip to channel 3.
4	none	Skip to channel 4.
5	none	Skip to channel 5.
6	none	Skip to channel 6.
7	bottom inside page	Skip to channel 7 (odd page).
8	bottom inside page	Skip to channel 8 (even page).
9	none	Skip to channel 9.
A	none	Skip to channel 10.
B	none	Skip to channel 11.
C	none	Skip to channel 12.

Note: The printer action is before a line is printed.

Multics Change Request

TITLE: Fix directory bug in copy		STATUS	DATE
AUTHOR: S. Herbst		Written	10/13/75
-Coded in: <input checked="" type="checkbox"/> PL/I <input type="checkbox"/> ALM <input type="checkbox"/> other- explain in DETAILED PROPOSAL -Planned for System MR _____ -Fixes Bug Number(s) _____ -Documented in MTB _____ -User/Operations-visible Interface change? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no -Incompatible change? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no -Performance: <input type="checkbox"/> Better <input checked="" type="checkbox"/> Same <input type="checkbox"/> Worse -Replaces MCR _____		Status	P10/21/75 A 10/28/75
		Expires	04/22/76
		DOCUMENTATION CHANGES	
Category (Check One)		Document	Specify One or More
<input type="checkbox"/> Lib. Maint. Tools			
<input type="checkbox"/> Sys. Anal. Tools		MPM (Vol, Sect.)	
<input type="checkbox"/> Sys. Prog. Tools		PLMS (AN #)	
<input type="checkbox"/> 355		MOSN (Sect.)	
<input type="checkbox"/> BOS		MPAM (Sect.)	
<input type="checkbox"/> Salvager		MSAM (Sect.)	
<input type="checkbox"/> Ring Zero		Info Segs	
<input type="checkbox"/> Ring One		Other (Name)	
<input type="checkbox"/> SysDaemon/Admin.		None (Reason)	no change
<input type="checkbox"/> Runtime			
<input checked="" type="checkbox"/> User Cmnd/Subr.			
Objections/Comments:			

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

SUMMARY:

Fix bug in copy that causes no error message to be printed for the command line:

```
copy seg.** dir.==
```

when dir.== matches a directory name, though no action is taken in this case. It should say:

```
copy: dir.etc is a directory
```

for each directory match.

ls -a

Segments= 3, Records= 0.

r w 0 seg.name3
r w 0 seg.name2
r w 0 seg.name1

Directories= 3, Records= 3.

sma 1 dir.name3
sma 1 dir.name2
sma 1 dir.name1

Multi-segment files= 0.

Links= 0.

copy seg.** dir.== id
done
ls -s -a

ioa_done

Segments= 3, Records= 0.

r w 0 seg.name3
r w 0 seg.name2
r w 0 seg.name1

Directories= 3, Records= 3.

sma 1 dir.name3
sma 1 dir.name2
sma 1 dir.name1

move seg.** dir.== id
done
ls -s -a

Segments= 3, Records= 0.

r w 0 seg.name3
r w 0 seg.name2
r w 0 seg.name1

Directories= 3, Records= 3.

sma 1 dir.name3
sma 1 dir.name2
sma 1 dir.name1

TITLE: Fix bug in deleting upgraded directory trees		STATUS	DATE
AUTHOR: A. Kobziar		Written	10/20/75
-Coded in: <input checked="" type="checkbox"/> PL/I <input type="checkbox"/> ALM <input type="checkbox"/> other- explain in DETAILED PROPOSAL -Planned for System MR -Fixes Bug Number(s) <u>unreported</u> -Documented in MTB -User/Operations-visible Interface change? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no -Incompatible change? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no -Performance: <input checked="" type="checkbox"/> Better <input type="checkbox"/> Same <input type="checkbox"/> Worse -Replaces MCR <u>1215</u>	Category (Check One)		Status A <u>10/28/75</u>
	Lib. Maint. Tools		Expires <u>04/28/76</u>
	Sys. Anal. Tools		DOCUMENTATION CHANGES
	Sys. Prog. Tools		Document Specify One or More
	355		MPM (Vol, Sect.)
	BOS		PLMS (AN #)
	<input checked="" type="checkbox"/> Ring Zero		MOSN (Sect.)
	Ring One		MPAM (Sect.)
	SysDaemon/Admin.		MSAM (Sect.)
	Runtime		Info Segs
User Cmnd/Subr.		Other (Name)	
Objections/Comments:		None (Reason) Bug fix	

Use these headings: Summary of Proposal, Reasons for Proposal, Implications, Detailed Proposal.

REASONS:

When del_dir_tree receives an incorrect_access error from delentry, it sets access for the user and goes back to the delentry call. This fails on an upgraded directory because acl setting succeeds at the lower authorization, but deletion of the contents of an upgraded directory doesn't because a higher authorization is required. Since delentry returns an incorrect_access error for this directory, an infinite loop results.

SUMMARY:

Recode del_dir_tree to eliminate loop by using straight line code (for installation in system 4.0).

Multics Change Request

TITLE: Fix a bug in backup_cleanup		STATUS	DATE
AUTHOR: Grace Ackerman-Lewis		Written	10/10/75
<input checked="" type="checkbox"/> Coded in PL/I <input type="checkbox"/> ALM <input type="checkbox"/> other- explain in DETAILED PROPOSAL <input type="checkbox"/> Planned for System MR <input type="checkbox"/> Fixes Bug Number(s) <u>unreported</u> <input type="checkbox"/> Documented in MTB <input type="checkbox"/> User/Operations-visible Interface change? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Incompatible change? <input type="checkbox"/> yes <input type="checkbox"/> no Performance: <input type="checkbox"/> Better <input checked="" type="checkbox"/> Same <input type="checkbox"/> Worse <input type="checkbox"/> Replaces MCR _____		Status	A 10/28/75
		Expires	04/28/76
		DOCUMENTATION CHANGES	
Category (Check One) <input type="checkbox"/> Lib. Maint. Tools <input type="checkbox"/> Sys. Anal. Tools <input checked="" type="checkbox"/> Sys. Prog. Tools <input type="checkbox"/> 355 <input type="checkbox"/> BOS <input type="checkbox"/> Salvager <input type="checkbox"/> Ring Zero <input type="checkbox"/> Ring One <input checked="" type="checkbox"/> SysDaemon/Admin. <input type="checkbox"/> Runtime <input type="checkbox"/> User Cmmnd/Subr.		Document	Specify One or More
Objections/Comments:		MPM (Vol, Sect.)	
		PLMS (AN #)	
		MOSN (Sect.)	
		MPAM (Sect.)	
		MSAM (Sect.)	
		Info Segs	
		Other (Name)	
		None (Reason)	

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

SUMMARY: Fix an uninitialized pointer in backup_cleanup which caused the error message "Bad syntax in pathname" when backup_cleanup was copying its error file into the >udd>SysDaemon>error_file directory.

Multics Change Request

TITLE: Change vfile_ use of msfs		STATUS	DATE
AUTHOR: M. D. MacLaren		Written	10/21/75
-Coded in <input checked="" type="checkbox"/> PL/I <input type="checkbox"/> ALM <input type="checkbox"/> other- explain in DETAILED PROPOSAL -Planned for System MR -Fixes Bug Number(s) _____ -Documented in MTB _____ -User/Operations-visible Interface change? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no -Incompatible change? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no -Performance: <input checked="" type="checkbox"/> Better <input type="checkbox"/> Same <input type="checkbox"/> Worse -Replaces MCR _____		Status	A 10/28/76
		Expires	04/28/76
		DOCUMENTATION CHANGES	
		Document	Specify One or More
		MPM (Vol, Sect.)	
		PLMS (AN #)	
		MOSN (Sect.)	
		MPAM (Sect.)	
		MSAM (Sect.)	
Objections/Comments:		Info Segs	
		Other (Name)	
		None (Reason)	

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

SUMMARY:

1. Change vfile_ so that it does not call msf_manager_.
2. When processing a sequential file, initiate and terminate segments one-by-one.
3. When vfile_ truncates an msf to first component, do not have it change to a single segment file. Leave second component as zero length segment.

REASONS:

1. a. The msf_manager_ maintains a date base that duplicates vfile_'s own data. This overhead should be avoided.
- b. As currently implemented msf_manager_ imposes too high an overhead for use in FAST, so vfile_ will have to special case single segment files in any case.
2. This is simpler than batching all terminates at close and will reduce kst entries.

3. The ssf/msf transitions are costly; and if the file was that large once, it is likely to be again.

Remark: The decision as to whether or not vfile_ will call make_msf_ will be determined by weighing centralization of code against performance.

Ver. 3 741022	MULTICS CHANGE REQUEST	MCR 1460
TITLE: Fix msa_manager_ to correspond to changes made in MSS 27.0.		STATUS DATE
AUTHOR: P. Kelley		Written 10/10/75
Planned for System: not applicable		Status 10/28/75
Fixes Bug Number(s): not applicable		Expires 04/10/76
Documented in MTB: not applicable		CATEGORY (check one)
Incompatible Change: no		<input checked="" type="checkbox"/> Lib. Maint. Tools
User/Operations-visible Interface Change: no		<input type="checkbox"/> Sys. Anal. Tools
Coded in: <input checked="" type="checkbox"/> PL/I <input type="checkbox"/> ALM <input type="checkbox"/> other-see below		<input type="checkbox"/> Sys. Prog. Tools
Performance: <input checked="" type="checkbox"/> better <input type="checkbox"/> same <input type="checkbox"/> worse		<input type="checkbox"/> 355
DOCUMENTATION CHANGES (specify one or more)		<input type="checkbox"/> BOS
MPM (vol,sect) x	MPAM (sect)	<input type="checkbox"/> Salvager
MOSN (sect)	MSAM (sect)	<input type="checkbox"/> Ring Zero
PLMs (AN#)		<input type="checkbox"/> Ring One
Info Segs		<input type="checkbox"/> SysDaemon/Admin
Other		<input type="checkbox"/> Runtime
		<input type="checkbox"/> User Command/Subr
OBJECTIONS/COMMENTS:		
Clarify writing to hcs_\$initiate in Subroutines Volume of MPM		

Headings are: SUMMARY, REASONS, IMPLICATIONS, DETAILED PROPOSAL (optional)

Summary:

The hardcore system MSS 27.0 introduced a problem in programs calling hcs_\$initiate with the reserved segment switch on. Previous to 27.0 if hcs_\$initiate couldn't initiate the entryname with the given seg_ptr (input), the seg_ptr returned would be nulled and appropriate error code returned. With 27.0, the error code is still returned, but seg_ptr is not nulled. Programs which relied on the pointer being nulled as an indication of error now have to be modified to check the error code returned. Segment msa_manager_ is one such program.

Detailed Proposal:

Modify msa_manager_ to check error codes returned from hcs_\$initiate to validate the correctness of the returned seg_ptr.

Multics Change Request

TITLE: Fix bug in copy_names_		STATUS	DATE
AUTHOR: Steve Herbst		Written	10/20/75
-Coded in: <input checked="" type="checkbox"/> PL/I <input type="checkbox"/> ALM <input type="checkbox"/> other- explain in DETAILED PROPOSAL -Planned for System MR _____ -Fixes Bug Number(s) _____ -Documented in MTB _____ -User/Operations-visible Interface change? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no -Incompatible change? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no -Performance: <input type="checkbox"/> Better <input checked="" type="checkbox"/> Same <input type="checkbox"/> Worse -Replaces MCR _____		Status	A 10/22/75
		Expires	04/22/76
		DOCUMENTATION CHANGES	
		Document	Specify One or More
		MPM (Vol, Sect.)	
		PLMS (AN #)	
		MOSN (Sect.)	
		MPAM (Sect.)	
		MSAM (Sect.)	
		Info Segs	
		Other (Name)	
		None (Reason) doc. ok	

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

SUMMARY:

Fix copy_names_ to test for case where the from and to names are different names on the same entry.

REASONS:

move_names fool foo2

where fool and foo2 are names on the same entry deletes all names but fool from that entry.

DETAILED PROPOSAL:

Have to get a pointer to the from and to entries; these pointers are not otherwise useful to copy_names_.

Multics Change Request

TITLE: Fix bug in mbla		STATUS	DATE	
AUTHOR: Steve Herbst		Written	10/20/75	
-Coded in: <input checked="" type="checkbox"/> PL/I <input type="checkbox"/> ALM <input type="checkbox"/> other- explain in DETAILED PROPOSAL -Planned for System MR _____ -Fixes Bug Number(s) _____ -Documented in MTB _____ -User/Operations-visible Interface change? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no -Incompatible change? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no -Performance: <input type="checkbox"/> Better <input checked="" type="checkbox"/> Same <input type="checkbox"/> Worse -Replaces MCR _____	Category (Check One)			
	<input type="checkbox"/>	Lib. Maint. Tools	Status	10/28/75
	<input type="checkbox"/>	Sys. Anal. Tools	Expires	04/28/76
	<input type="checkbox"/>	Sys. Prog. Tools	DOCUMENTATION CHANGES	
<input type="checkbox"/>	355	Document	Specify One or More	
<input type="checkbox"/>	BOS	MPM (Vol, Sect.)		
<input type="checkbox"/>	Salvager	PLMS (AN #)		
<input type="checkbox"/>	Ring Zero	MOSN (Sect.)		
<input type="checkbox"/>	Ring One	MPAM (Sect.)		
<input type="checkbox"/>	SysDaemon/Admin.	MSAM (Sect.)		
<input type="checkbox"/>	Runtime	Info Segs		
<input checked="" type="checkbox"/>	User Cmd/Subr.	Other (Name)		
		None (Reason)	doc ok	
Objections/Comments:				

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

SUMMARY:

Fix mailbox_list_acl to work with the star convention.

IMPLICATIONS:

One-line fix.

Multics Change Request

TITLE: Improve saving of unspent mail		STATUS	DATE
AUTHOR: S. Herbst		Written	10/16/75
-Coded in: <input checked="" type="checkbox"/> PL/I <input type="checkbox"/> ALM <input type="checkbox"/> other- explain in DETAILED PROPOSAL -Planned for System MR _____ -Fixes Bug Number(s) _____ -Documented in MTB _____ -User/Operations-visible Interface change? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no -Incompatible change? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no -Performance: <input type="checkbox"/> Better <input checked="" type="checkbox"/> Same <input type="checkbox"/> Worse -Replaces MCR _____		Status	A 10/28/75
		Expires	04/28/76
		DOCUMENTATION CHANGES	
		Category (Check One)	Document Specify One or More
		Lib. Maint. Tools	
		355	
		Salvager	MPM (Vol, Sect.)
		Ring Zero	PLMS (AN #)
		Ring One	MOSN (Sect.)
		SysDaemon/Admin.	MPAM (Sect.)
		Runtime	MSAM (Sect.)
		<input checked="" type="checkbox"/> User Cmmnd/Subr.	
Objections/Comments:		Info Segs	
		Other (Name)	
		None (Reason) doc. ok	

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

SUMMARY:

1. Change mail to save unspent mail whenever mail cannot be sent to any mailbox, whether due to insufficient access, record quota overflow, or an incorrectly specified destination.
2. Change the saving of unspent mail to save it in the process directory if for some reason it can't save it in the working directory.

REASONS:

Unsent mail is currently saved in some but not all cases. It is not saved when mail is not sent to any but the first of multiple destinations nor when a record quota overflow occurs adding a message to a mailbox. When even one destination did not get the message, the sender wants to be able to say: mail_unsent_mail_correct_destination.

Unsent mail will survive in more cases than it does currently.