

To: Operations
 From: T. H. Van Vleck
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 Subject: Changes to operator command interface

Effective with MSS 20.6, some minor improvements will be made to the program "system_control", which handles operator commands and ring-4 system initialization.

1. The spellings of some commands have changed slightly. Formerly, all commands could be spelled anyhow, and the command interface looked only at the first four characters of the command. This has been corrected. Answering service commands now have a "long name" and an abbreviation, like the rest of the commands in Multics, and one or the other must be typed correctly.

The changes from MOSN-271 are:

OLD NAME	NEW NAME	ABBREV
development_reload	develop	deve
force_reset	force	forc
mc	mc_on	mc
add270chan	add270	add2
del270chan	del270	del2
storage	storage	dvm
warn	warn	w
exec	exec	x

2. Several new commands have been added.

no_start (ns)

This command inhibits the execution of the system_start_up.ec. This means that the message coordinator will not be started, the TermiNet will not be attached, and the daemons will not be automatically logged in. Do not use this command except for special sessions or when requested to do so by a member of the staff.

addpage (addp)
 delpage (delp)

These commands are used for Bulk Store reconfiguration. See MOSN-xxx for instructions on their use.

addtape (addt)

`deltape (delt)`

These commands will be used to change the system tape drive configuration. See MOSN-xxx for instructions on their use.

3. The bug which caused the system to loop after an "admin command" was sent by one of the system programmers has been fixed.
4. The initializer now sets up its own search rules. This is a step closer to removing the "tools" library from the default search path. Author-maintained programs will no longer be found if called from admin mode in the initializer.
5. The `system_start_up.ec` now runs in three parts, instead of two. The first part runs before answering service startup, as before. The second part now runs after answering service startup, but before all TTY channels are answered, and will log in the daemons as usual. A ten-second pause has been inserted here to allow the daemons to become active before continuing. The third part of `system_start_up` runs after all lines have answered. It is currently null, but may be used in the future to perform additional startup operations.

New or modified initializer messages

Message:

system_control_: error in "BLAH" command. index = ZZ

Source: sc (error_output)

Time: While system is running.

Meaning: This message indicates a bug in system_control_. The operator has issued a command, but the internal command table index is incorrect. The command will be ignored.

Action: Save console output and inform system programmers.

Message:

system_control_: ERROR_MESSAGE. Error from initiate_search_rules.

Source: sc (error_output)

Time: System startup.

Meaning: The initializer is attempting to set its search rules, and has encountered an error. This message may occur if some bug has been introduced into the system tape, or it may indicate that one of the directories searched by the initializer has been destroyed.

Action: Contact system programmers.

Message:

system_control_: begin_admin error on ttyXXX

Source: sc (error_output)

Time: While system is running.

Meaning: This message is the response to an operator command which takes control of a device channel away from the message coordinator. An attempt has been made to attach the stream "real_i/o" to the channel but the attachment could not be made. This problem may arise due to a bug in the system. An attempt will be made to continue; in some situations, the initializer may lose the ability to execute commands.

Action: Contact system programmers. Save all console output.

New or modified initializer messages

Message:

system_control_: cannot attach io streams to NAME

Source: BOS typewriter

Time: While system is running.

Meaning: This message indicates a fatal error in attaching the input-output streams used by the initializer process. This may occur if the OPTY card indicates a non-existent or inoperative channel or an illegal or non-existent device interface module, or if there is a failure in SYNing one of the initializer streams to a stream which has previously been attached.

This is a fatal error. The initializer is unable to write output normally and so will return to BOS.

Action: Contact system programmers. Take a dump of the initializer process. Check the OPTY card; if it is in error, correct it and attempt to re-boot the system.

Message:

system_control_: bad ring number

Source: BOS typewriter

Time: While system is running.

Meaning: This message usually indicates a bug in system_control_ or the message coordinator. An illegal signal has been received by the attached terminal handler in system_control_. The signal will be ignored.

Action: Contact system programmers.

New or modified initializer messages

Message:

system_control_: called with null ptr

Source: BOS typewriter

Time: While system is running.

Meaning: This message usually indicates a bug in system_control_ or the message coordinator. An illegal signal has been received by the attached terminal handler in system_control_. The signal will be ignored.

Action: Contact system programmers.

Message:

system_control_: called with bad ptr

Source: BOS typewriter

Time: While system is running.

Meaning: This message usually indicates a bug in system_control_ or the message coordinator. An illegal signal has been received by the attached terminal handler in system_control_; the data pointer which should point to an entry in the mc_anstbl does not point to the correct segment. The signal will be ignored.

Action: Contact system programmers.

Message:

system_control_: mc_ansp is null

Source: BOS typewriter

Time: While system is running.

Meaning: This message usually indicates a bug in system_control_ or the message coordinator. A signal has been received by the attached terminal handler in system_control_ but the signal cannot be handled because the mc_anstbl cannot be located. The signal will be ignored.

Action: Contact system programmers.

New or modified initializer messages

Message:

system_control_: ttyXXX is hung up

Source: BOS typewriter

Time: While system is running.

Meaning: This message indicates that an attempt has been made to read input from a terminal device channel attached to the message coordinator and that the channel is not active. This may be due to a transient line condition, or a terminal failure, or a communications line failure. The system will attempt to proceed.

Action: If the terminal is a hard-wired device and can be re-connected, do so. If this is a dialup channel, try re-dialing the terminal. If the device has broken, use the "substty" or "drop" commands to remove the channel.

Message:

system_control_: ttyXXX error WWWWWWWWWWWW

Source: BOS typewriter

Time: While system is running.

Meaning: The attached terminal handler in system control has attempted to read input from a channel and has encountered some error. This may be due to some communications-line failure or device problem, or it may be due to a garbaged mc_anstol. The system will attempt to proceed.

Action: Contact system programmers. Try resetting, re-dialing, or reconnecting the device. If none of these operations helps, use the "substty" or "drop" commands to get rid of the channel.