

Subject: MCR10085, Move existing help and vis to bound_old_help_
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Two recent technical bulletins describe replacements for the Multics help subsystem and the validate_info_seg command:

- MTB-1004: [verify_info Command & info_seg](#)
- MTB-1005: [help Subroutine](#)

For a variety of reasons, it may be prudent to save working versions of the current help and validate_info_seg commands, and the help_ subroutine in the Obsolete Library to allow these older command and subroutine versions to be used instead of (or in parallel with) their newer versions.

This change proposes to install renamed versions of help.pl1, help_.pl1 and help_rql_.pl1 in a new bound_old_help_ bound segment. The existing validate_info_seg (vis) command would also be moved into the bound_old_help_ bound segment.

Reasons for preserving the older help and vis commands include the following:

- Some users may want to try out the older commands to experience help as implemented at the final Multics hardware sites. Some site administrators may want most of their users to run older versions of help and help_.
- Some subsystems using help or calling help_ directly may encounter problems with the newest versions of these entry points. They may wish to fall-back to the older subsystem request or subroutine.
- Code auditor of the newer help, help_ and verify_info commands may wish to compare output of these with earlier versions. It is useful to run both versions in parallel in the same process.
- Reviewers of Multics code may want to compare the complex of code in the older version of help_ and validate_info_seg with the new implementation.

This change is requested in Multics Ticket: [#216](#).

This MCR is archived at: <http://multics-wiki.swenson.org/index.php/MCRs>

Proposed Changes

The exact changes proposed include the following source and include files and info segments.

bound_old_help_: A new bound segment containing: the current help command and help_subsystem; and the validate_info_seg command.

- names: old_help, oh; old_help_; validate_info_seg, and vis.
- components: old_help, old_help_, old_help_rql_, and validate_info_seg.
- retained entry points: old_help\$old_help, oh\$oh, old_help\$help; old_help_\$init; old_help_\$term; old_help_\$old_help_; old_help_\$help_; validate_info_seg\$validate_info_seg, vis\$vis.

This will allow a user to create a link to the bound segment with names: help, help_. If this link appears before >sss in linker search paths, then bound_old_help_ can be used exactly as the existing help command, and help_ subroutine. The link will make the newer help command and help_ subroutines (proposed in MTB-1005) invisible unless referenced by absolute pathname.

Components of the bound_old_help_ bound segment were created as follows.

old_help_args_.incl.pl1: An include file that captures current contents of help_args_.incl.pl1, in case it may be changed in the future.

- Use library_fetch to obtain a current version of the help_args_.incl.pl1 file.
- Change the file name to old_help_args_.incl.pl1.
- Change all references to the help_args_.incl.pl1 file name (appearing in comments within the file) to old_help_args_.incl.pl1.
- Change all references to help_ subroutine entry points to instead use the old_help_ reference name.

old_help_cis_args_.incl.pl1: An include file that captures current contents of help_cis_args_.incl.pl1, in case it may be changed in the future.

- Use library_fetch to obtain a current version of the help_cis_args_.incl.pl1 file.
- Change the file name to old_help_cis_args_.incl.pl1.
- Change all references to the help_cis_args_.incl.pl1 file name (appearing in comments within the file) to old_help_cis_args_.incl.pl1.
- Change all references to help_ subroutine entry points to instead use the old_help_ reference name.

old_help.pl1: A command that performs like the current help command, but whose names are old_help (oh). If called as old_help or oh, it should identify itself under that name. If called at a new help entrypoint, it should identify itself as help in any output or errors.

- Use library_fetch to obtain a current version of the help.pl1 file.
- Change the file name to old_help.pl1.
- Declare a variable named PROC while holds the primary name of the entry point used to enter the command. Use this PROC variable in creating the standalone ssu_ subsystem used by old_help to access the command arguments and report error messages.
- Change the label of its procedure statement from help to:
 - old_help with short name oh.
 - Add a new entry point called help.

Both entry points branch to a new MAIN_ENTRY_POINT label after setting PROC.

- Change all references to the help_ subroutine to call old_help_ instead.
- Change the %include reference from help_args_ to old_help_args_.

Many ssu_ subsystems use help\$ssu_help_request to provide a help function within their subsystem. If bound_old_help_ is linked with the name help, they would find the old_help\$ssu_help_request entry point to provide this service. If such link does not appear in their linker search paths, they will find the newer help\$ssu_help_request entry point (version proposed in the MTB-1005 version of help.pl1).

old_help_.pl1: A subroutine that performs like the existing help_ subroutine, but whose name is old_help_. The old_help_ object will be bound with the old_help command in the bound_old_help_ bound segment. The old_help command will therefore always use the old_help_ subroutine to display info segments. Existing entry points will be retained in the bound segment: help_, init, and term. The help_ entry point will get an added old_help_ entry point label.

- Use library_fetch to obtain the current version of the help_.pl1 file.
- Change the file name to old_help_.pl1.
- Add an entry point label called old_help_ to the help_ entry point.
- Change all references from help_rql_ to old_help_rql_.
- Change all references from help_\$term to old_help_\$term.
- Change the include file reference from help_args_ to old_help_args_.
- Change the include file reference from help_cis_args_ to old_help_cis_args_.

Some subsystems call `help_` directly from their own help request. If `bound_old_help_` is linked with the name `help_`, a call to `help_$XXX` will reach `old_help_$XXX` entry point to provide this service. If such link does not appear in their linker search paths, calls to `help_$XXX` will find the newer `help_$XXX` entry points (as proposed in the MTB-1005 version of `help_.pl1`).

old_help_rql_.pl1: A subroutine that performs like the existing `help_rql_` subroutine, but whose name is `old_help_rql_`. The `old_help_rql_` object will be bound with the `old_help_` subroutine in the `bound_old_help_` bound segment. Since it is a private support routine for `old_help_`, none of its entry points are retained in the `bound_old_help_` bound segment.

- Use `library_fetch` to obtain the current version of the `help_rql_.pl1` file.
- Change the file name to `old_help_rql_.pl1`.
- Change the entry point label from `help_rql_` to `old_help_rql_`.
- Change all references from `help_` to `old_help_`.
- Change the include file reference from `help_args_` to `old_help_args_`.
- Change the include file reference from `help_cis_args_` to `old_help_cis_args_`.

Documentation

validate_info_seg.info: The >doc>info>validate_info_seg.info segment will be moved to >doc>obsolete directory (since vis will no longer be the preferred tool for validating info segments). The only changes are to add a history comment documenting the move, and to correct errors in its heading date format (as reported by verify_info).

old_help.info: the >doc>info>help.info segment will be renamed to old_help.info with added name of oh.info. The command name in its heading line will be changed from help to old_help, oh and the date will be changed to iso_date format. The Syntax line will reference the oh command name.

Two :Info: blocks will be defined in the segment:

```
:Info: old_help: oh: 1988-07-15 old_help, oh
```

```
[original content of help.info with modifications as described above.]
```

```
:Info: help: 1988-07-15 help
```

```
[original content of help.info with only the changed date format.]
```

Since the only names on the segment will be old_help.info and oh.info, only the first block will be visible to users. However, any user who links to >doc>obsolete>old_help.info with the name help.info will see the second block, which shows the help command name and syntax line.

Other references to the word “help” will be retained in both blocks.

A history comment will be added to old_help.info to document these changes.

Build Script

The build script for this proposed change is shown below.

Description:

- A) Add the pre-2020 version of help and help_ as old_XXX components in a new bound_old_help_ bound segment to preserve ability to test functionality of this long-standing help implementation.
- B) Move validate_info_seg from >t>bound_lib_utility_ to bound_old_help_.
- C) Move validate_info_seg.info (vis.info) from >doc>info to >doc>obs.
- D) Rename existing help_args_.incl.pll and help_cis_args_.incl.pll to old_help_args_.incl.pll and old_help_cis_args_.incl.pll so these include file versions are preserved for use by old_help and old_help_.

Installation_directory: >udd>m>gd>w>oh;

Build_script: oh.mb;

Bound_obj:	bound_lib_utility_	IN: tools UPDATE;
bindfile:	bound_lib_utility_.bind	REPLACE;
source:	validate_info_seg.pll	DELETE;
Bound_obj:	bound_old_help_	IN: obs ADD;
bindfile:	bound_old_help_.bind	ADD;
source_arch:	bound_old_help_.s.archive	ADD;
source:	old_help.pll	ADD compiler: pll -ot;
source:	old_help_.pll	ADD compiler: pll -ot;
source:	old_help_rql_.pll	ADD compiler: pll -ot;
source:	validate_info_seg.pll	ADD compiler: pll -ot;
Include:	old_help_args_.incl.pll	IN: obs.incl ADD;
Include:	old_help_cis_args_.incl.pll	IN: obs.incl ADD;
Info:	old_help.info	IN: obs.info ADD;
	add_name: oh.info;	
Info:	validate_info_seg.info	IN: sss.info DELETE;
Info:	validate_info_seg.info	IN: obs.info ADD;
	add_name: vis.info;	

Testing

Given the minimal changes to source components of bound_old_help_, testing focused on ensuring there are no compile or bind errors in creating the bound segment; and that all expected entry points are retained in the bound segment.

In addition, the old_help (oh) and validate_info_seg (vis) commands in bound_old_help_ were used in output comparison testing of the help subsystem and verify_info commands proposed in MTB-1004 and MTB-1005.

Version History

Date	Revision	Author	Comment
2021-02-17	1.0	Gary Dixon	Initial draft.
2021-02-18	1.1	Gary Dixon	Change target dir for info segments to >doc>obsolete.