

MCR10128

Update `master.ec` with Various Fixes and Features

Revision 1.0

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1 Problem Description

Over the years, various fixes have been made and various features added to the `master.ec` on GHM. As that is a production system, it makes sense to consider adding some of those fixes and features to the `master.ec` included in the next Multics release. The `master.ec` holds the administrating and accounting commands, including commands run for the crank.

Included in the proposed changes are:

- Fix malformed output in `crank.absout` when attempting to emit the date/time.
- Not attempt to truncate `system.report` if that segment doesn't exist (such as when running crank for the first time).
- Add system logprint support for the incremental hierarchy and volume dumper logs.
- Add support for summarizing and moving incremental hierarchy and volume dumper logs.
- Not cause crank absentee job to fail when updating the HEALS log if this log doesn't already exist. It will be created automatically.
- Not attempt to truncate `meter.data.print` or `bwchart.print` if these segments don't exist.
- Insert some blank comment lines to make `exec.com` easier to read.
- Indent a couple spaces at the beginning of command lines within a `file.output` / `revert.output` block for ease in finding the end of this sequence.

Ticket <https://multics-trac.swenson.org/ticket/273> proposes updating the `master.ec`.

2 Proposed Fix

The proposed fix is this best illustrated by taking the output of `compare_ascii` and embedding commentary:

The fragment below fixes the `ioa_` string used to emit the header in the `crank.absout` segment.

```
cpa >t>master.ec ==
A409      ioa_ "'day' last done ^a ^a ^a ^a^/" [value_get -pn sys_admin crank_absout_read]
Changed by B to:
B409      ioa_ "'day' last done ^a^/" [date_time [value_get -pn sys_admin
      crank_absout_read]]
```

The fragment below conditionalizes the truncate of the `system.report` segment on whether it exists.

```
A482      truncate system.report
Changed by B to:
B482      &if &[exists segment system.report] &then
B483      truncate system.report
```

The following fragment adds the incremental hierarchy and volume backup logs to the `logprint` mechanism.

```
Inserted in B:
B519      &+ "bk_all          system_logprint"  &- the bk log
B520      &+ "vinc_all       system_logprint"  &- the vinc log
Preceding:
A518      &+ "operator_sac   system_logprint"  &- the admin log
```

The fragment that follows summarizes the incremental hierarchy and volume backup logs.

```
Inserted in B:
B530      summarize_sys_log -mc_log bklog -control daily_bk_log -from &(START) -to &(NOW)
B531      summarize_sys_log -mc_log vinclog -control daily_vinc_log -from &(START) -to
      &(NOW)
Preceding:
A527      &- Detach the syn_ switches.
```

The following fragment closes the incremental hierarchy and volume backup logs switches used in the `logprint` mechanism.

```
Inserted in B:
B544      &+      bk_all
B545      &+      vinc_all
Preceding:
A539      &+      operator_sac
```

The fragment that follows moves old incremental hierarchy and volume backup logs.

```
Inserted in B:
B567      move_log_segments bklog >sc1>as_logs history 1day
B568      move_log_segments vinclog >sc1>as_logs history 1day
Preceding:
A560      &- add other lines for other logs defined
```

The lines below conditionalize the truncate of the HEALS log on whether it exists.

```
A562    update_heals_log
A563    truncate_heals_log 30
Changed by B to:
B571    answer yes -bf update_heals_log
B572    truncate_heals_log 30
B573    &-
```

The lines below ensures that the meter_data.print and bwchart.print segments aren't truncated unless they exist.

```
A567    truncate meter_data.print
A568    truncate bwchart.print
Changed by B to:
B577    &-
B578    &if &[exists segment meter_data.print] &then
B579        truncate meter_data.print
B580    &if &[exists segment bwchart.print] &then
B581        truncate bwchart.print
B582    &-
```

The following blank comment lines separate some command lines so that they are easier to read.

```
Inserted in B:
B585    &-
Preceding:
A571    &- delete yesterday's asdump segments.
```

```
Inserted in B:
B588    &-
Preceding:
A573    &- snatch today's asdump segments.
```

Finally, two spaces are inserted at the beginning of the following command lines, which are executed after diverting output to a file, so it is easier to see where they start and stop.

```
A660    list_delegated_projects >system_control_1>sat
A661    print_reqfile
A662    print_projfile
A663    ioa_ ^|
A664    ioa_ "Listing of sys_admin.value^/"
A665    value_list -pn sys_admin
A666    save_dir_info >udd>SysAdmin>admin
A667    comp_dir_info old.admin admin -lg
A668    delete old.admin.dir_info; rename admin.dir_info old.admin.dir_info
A669    list_acl; list_iacl_seg; list_iacl_dir
A670    list -dtm -a
A671    save_dir_info >udd>SysAdmin>lib
```

```

A672    comp_dir_info old.lib lib
A673    delete old.lib.dir_info; rename lib.dir_info old.lib.dir_info
A674    list_acl >udd>SysAdmin>lib; list_iacl_seg >udd>SysAdmin>lib; list_iacl_dir
>udd>SysAdmin>lib
A675    list -pn >udd>SysAdmin>lib
A676    save_dir_info >system_control_1
A677    comp_dir_info old.system_control_1 system_control_1 -lg
A678    delete old.system_control_1.dir_info; rename system_control_1.dir_info
old.system_control_1.dir_info
A679    list_acl >system_control_1; list_iacl_seg >system_control_1; list_iacl_dir
>system_control_1
A680    list -pn >system_control_1 -dtm -a
A681    save_dir_info >system_control_1>pdt
A682    comp_dir_info old.pdt pdt -lg
A683    delete old.pdt.dir_info; rename pdt.dir_info old.pdt.dir_info
Changed by B to:
B676    list_delegated_projects >system_control_1>sat
B677    print_reqfile
B678    print_projfile
B679    ioa_ ^|
B680    ioa_ "Listing of sys_admin.value^/"
B681    value_list -pn sys_admin
B682    save_dir_info >udd>SysAdmin>admin
B683    comp_dir_info old.admin admin -lg
B684    delete old.admin.dir_info; rename admin.dir_info old.admin.dir_info
B685    list_acl; list_iacl_seg; list_iacl_dir
B686    list -dtm -a
B687    save_dir_info >udd>SysAdmin>lib
B688    comp_dir_info old.lib lib
B689    delete old.lib.dir_info; rename lib.dir_info old.lib.dir_info
B690    list_acl >udd>SysAdmin>lib; list_iacl_seg >udd>SysAdmin>lib; list_iacl_dir
>udd>SysAdmin>lib
B691    list -pn >udd>SysAdmin>lib
B692    save_dir_info >system_control_1
B693    comp_dir_info old.system_control_1 system_control_1 -lg
B694    delete old.system_control_1.dir_info; rename system_control_1.dir_info
old.system_control_1.dir_info
B695    list_acl >system_control_1; list_iacl_seg >system_control_1; list_iacl_dir
>system_control_1
B696    list -pn >system_control_1 -dtm -a
B697    save_dir_info >system_control_1>pdt
B698    comp_dir_info old.pdt pdt -lg
B699    delete old.pdt.dir_info; rename pdt.dir_info old.pdt.dir_info

```

A full comparison of the existing and proposed master.ec is found below.

```

cpa >t>master.ec ==
A409    ioa_ "~/day' last done ^a ^a ^a ^a^/" [value_get -pn sys_admin crank_absout_read]
Changed by B to:
B409    ioa_ "~/day' last done ^a^/" [date_time [value_get -pn sys_admin
crank_absout_read]]

```

```

A482      truncate system.report
Changed by B to:
B482      &if &[exists segment system.report] &then
B483      truncate system.report

```

Inserted in B:

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B519      &+ "bk_all          system_logprint"  &- the bk log
B520      &+ "vinc_all        system_logprint"  &- the vinc log
Preceding:
A518      &+ "operator_sac     system_logprint"  &- the admin log

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B530      summarize_sys_log -mc_log bklog -control daily_bk_log -from &(START) -to &(NOW)
B531      summarize_sys_log -mc_log vinclog -control daily_vinc_log -from &(START) -to
          &(NOW)
Preceding:
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A562      update_heals_log
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B571      answer yes -bf update_heals_log
B572      truncate_heals_log 30
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```

```

A567      truncate meter_data.print
A568      truncate bwchart.print
Changed by B to:
B577      &-
B578      &if &[exists segment meter_data.print] &then
B579      truncate meter_data.print
B580      &if &[exists segment bwchart.print] &then
B581      truncate bwchart.print
B582      &-

```

Inserted in B:
B585 &-
Preceding:
A571 &- delete yesterday's asdump segments.

Inserted in B:
B588 &-
Preceding:
A573 &- snatch today's asdump segments.

A660 list_delegated_projects >system_control_1>sat
A661 print_reqfile
A662 print_projfile
A663 ioa_ ^|
A664 ioa_ "Listing of sys_admin.value^/"
A665 value_list -pn sys_admin
A666 save_dir_info >udd>SysAdmin>admin
A667 comp_dir_info old.admin admin -lg
A668 delete old.admin.dir_info; rename admin.dir_info old.admin.dir_info
A669 list_acl; list_iacl_seg; list_iacl_dir
A670 list -dtm -a
A671 save_dir_info >udd>SysAdmin>lib
A672 comp_dir_info old.lib lib
A673 delete old.lib.dir_info; rename lib.dir_info old.lib.dir_info
A674 list_acl >udd>SysAdmin>lib; list_iacl_seg >udd>SysAdmin>lib; list_iacl_dir
 >udd>SysAdmin>lib
A675 list -pn >udd>SysAdmin>lib
A676 save_dir_info >system_control_1
A677 comp_dir_info old.system_control_1 system_control_1 -lg
A678 delete old.system_control_1.dir_info; rename system_control_1.dir_info
 old.system_control_1.dir_info
A679 list_acl >system_control_1; list_iacl_seg >system_control_1; list_iacl_dir
 >system_control_1
A680 list -pn >system_control_1 -dtm -a
A681 save_dir_info >system_control_1>pdt
A682 comp_dir_info old.pdt pdt -lg
A683 delete old.pdt.dir_info; rename pdt.dir_info old.pdt.dir_info

Changed by B to:

B676 list_delegated_projects >system_control_1>sat
B677 print_reqfile
B678 print_projfile
B679 ioa_ ^|
B680 ioa_ "Listing of sys_admin.value^/"
B681 value_list -pn sys_admin
B682 save_dir_info >udd>SysAdmin>admin
B683 comp_dir_info old.admin admin -lg
B684 delete old.admin.dir_info; rename admin.dir_info old.admin.dir_info
B685 list_acl; list_iacl_seg; list_iacl_dir

```

B686      list -dtm -a
B687      save_dir_info >udd>SysAdmin>lib
B688      comp_dir_info old.lib lib
B689      delete old.lib.dir_info; rename lib.dir_info old.lib.dir_info
B690      list_acl >udd>SysAdmin>lib; list_iacl_seg >udd>SysAdmin>lib; list_iacl_dir
>udd>SysAdmin>lib
B691      list -pn >udd>SysAdmin>lib
B692      save_dir_info >system_control_1
B693      comp_dir_info old.system_control_1 system_control_1 -lg
B694      delete old.system_control_1.dir_info; rename system_control_1.dir_info
old.system_control_1.dir_info
B695      list_acl >system_control_1; list_iacl_seg >system_control_1; list_iacl_dir
>system_control_1
B696      list -pn >system_control_1 -dtm -a
B697      save_dir_info >system_control_1>pdt
B698      comp_dir_info old.pdt pdt -lg
B699      delete old.pdt.dir_info; rename pdt.dir_info old.pdt.dir_info

```

Comparison finished: 11 differences, 76 lines.

3 Documentation

No changes to documentation are necessary – as the changes are only internal or have never been documented.

4 Test

A virtually identical version of this `master.ec` has been running for many months on the GHM Multics system. In addition, a set of install tapes will be used to cold boot a system to make sure there are no errors in the resulting system, and that the expected changes work correctly.

5 Version History

2022-10-28	1.0	Initial version of the MCR.
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