AUTO_REVIEW VERSION 4.11-4 UPGRADE INSTRUCTIONS

Change History:

2012-07-20 – initial instructions written.

Note: WSC's wishing to initially start up automated swreview retrievals as part of the upgrade process should contact GS-W_OSW_Scripts@usgs.gov for instructions to do so specific to their installation.

Description:

Note: For those that are wishing to initially install Auto_Review for the first time (never installed Auto_Review/swreview for NWIS 4.8 or later), please contact GS-W_OSW_Scripts@usgs.gov for full installation instructions. These instructions are intended only for those that have previously fully installed Auto_Review-1.0-8 or greater (type '**rpm –q Auto_Review**' to see what version you have installed, if any). All current NWIS servers have had one of these versions previously installed at some point in time...

The primary purpose of this release is to add enhanced support for groundwater-level stations with the gwreview module. Several other minor enhancements and bug fixes are also included. See the current release notes, documentation, etc... at http://water.usgs.gov/usgs/osw/adaps/swreview.html .

Please take the time to read through all of the steps in these instructions before proceeding. If you have questions, please contact GS-W_OSW_Scripts@usgs.gov.

Estimated upgrade time is 5-10 minutes.

Installation:

All steps below should be performed as root unless otherwise specified:

1. **(Optional) Notify users of possible interruption of ongoing swreview and wqmreview retrievals at time of upgrade:**

   Any active retrievals occurring at the same time the script is upgraded may be disrupted, causing bad retrievals or causing running Auto_Review processes to hang with various error messages. Hung processes will need to be broken out of and restarted and bad retrievals may need to be redone. Can also simply try to time upgrade process around normal peak usage hours and check for running swreview and wqmreview processes prior to performing step 2. Usage is generally light most days and it's not anticipated that the upgrade process would affect more than a few users in most WSC's (if any at all).

2. **Install the new Auto_Review package:**

   as root, rpm -Uvh ftp://nwisftp.er.usgs.gov/pub/NWIS/release/Auto_Review-4.11-4.usparc.rpm

   Note: All executable scripts will be linked to /usr/opt/bin. It's assumed this area will be in all users' search

paths.

3. **Check for updated swr_settings file and update settings as necessary.**

   If running a version of Auto_Review prior to Auto_Review-1.0-10, the/usr/opt/Auto_Review/Swreview/Settings/swr_settings file may be replaced during the install, effectively undoing user-modified settings that will now have to be redone. If this is the case, the installer should see the line in green below after the "preparing…" message during the installation (starting with "1:"):

   Preparing... ### [100%]
   1:Auto_Review warning: /usr/opt/Auto_Review/Swreview/Settings/swr_settings saved as usr/opt/Auto_Review/Swreview/Settings/swr_settings.rpmsave

   If this is seen, the installer should compare the swr_settings and swr_settings.rpmsave files in that area (using the diff or tkdiff commands can be helpful here) and adjust the settings in the new swr_settings file as appropriate (swr_settings file contains explanations of all current settings – ignore the version setting as it's no longer used by the program and now just denotes the version of that file). After modifying the file (if necessary), be sure to reset permissions on the file to allow all users read and execute rights on the file (suggested permissions settings below):
   chown nwis:nwuser /usr/opt/Auto_Review/Swreview/Settings/swr_settings
   chmod 750 /usr/opt/Auto_Review/Swreview/Settings/swr_settings

   If the green line isn't seen, then no further action should be required as the file shouldn't have been modified.

4. **IMPORTANT - Make sure that there are not two xvfb entries in /etc/inittab respawning the same display/screen numbers and check for a missing newline in that file.**

   This step is due to an old bug in the initial release of the Auto_Review software package. Bug has been addressed, but the check is included just in case...

   You should only see one entry like the following that contains **":1 -screen 0"**:

   fb:234:respawn:/usr/X11R6/bin/Xvfb **:1 -screen 0** 1152x900x8

   Note that you can have multiple Xvfb displays respawning as shown below, as long as you don't have multiple occurrences trying to respawn the same display/screen.

   This is OK:
   fb:234:respawn:/usr/X11R6/bin/Xvfb **:1 -screen 0** 1152x900x8
   fb:234:respawn:/usr/X11R6/bin/Xvfb :2 -screen 1 1280x1024x8
   fb:234:respawn:/usr/X11R6/bin/Xvfb :3 -screen 3 1152x900x8

   This is NOT OK:
   fb:234:respawn:/usr/X11R6/bin/Xvfb **:1 -screen 0** 1152x900x8
   fb:234:respawn:/usr/X11R6/bin/Xvfb **:1 -screen 0** 1280x1024x8

   Also check to be sure that the last command entered in the file contains a newline at the end of the command! There should be another line without a command after the last command in the /etc/inittab file. Failure to include a newline after the last command can cause boot problems as init won't completely finish

reading inittab.

If you see two or more Xvfb entries like the examples above (that both have **:1 -screen 0**) or notice a missing newline at the end of the inittab file, remove the extra Xvfb entries and/or add a newline to the end of the file and then run the '/etc/telinit q' command to force init to re-read the inittab file.

Auto_Review checks for this during the install and should avoid it during the upgrade, but there have been problems with that check in previous packages and it's possible the entry may have been manually entered as part of the installation of other software so it's best to make sure. If the extra entry or missing newline is present, init may start acting very strangely, using almost an entire CPU, and there may be boot problems until those issues are corrected in the inittab file.

5. **Remove any potential swreview.control files from the swreview user's home directory (for WSC's using the swreview user to run automated or batch updates).**

A bug in previous versions of swreview could cause a swreview.control file to be left in the swreview user's home directory if a batch/automated swreview process was killed. That lingering control file would then be used for automated updates instead of the normal master swreview.control file installed at /usr/opt/Auto_Review/Swreview/Controlfiles/Mastercontrol/, causing confusion after updating the master file. This is fixed in a newer version, but any lingering swreview.control files should be deleted from the swreview users' home directory:

as swreview or root,
rm –f /*swreview_user_home_directory*/swreview.control*

where *swreview_user_home_directory* is the home directory for the swreview user – use "**getent passwd swreview**" to see the swreview user's home area if unsure.

6. **Check for possible hung automated swreview processes (only if cron swreview processes have been enabled in WSC). If found, kill them and remove residual lock files.**

as swreview or root,
ps -ju swreview (example output of command below for WSC with cron swreview processes running at time of upgrade):

```
  PID  PGID   SID TTY      TIME CMD
28477 28477 28477 ?        0:00 sh
 9564 28477 28477 ?        0:01 swreview
20324 28477 28477 ?        0:04  tkg2.pl
28490 28477 28477 ?        0:05 swreview
```

Any swreview or swreview_bat processes running under user swreview are possibly processes that have hung due to the upgrade process and should be stopped so that automated cron processes can continue to run as normal (if you don't see any, you are finished at this point). From the example above, the Process Group ID for the potentially hung group of swreview processes is 28477 (2nd column) – substitute that

process group ID from your output to kill all processes related to swreview as shown below for this example:

kill -9 *28477*

If you found potentially hung swreview processes and killed them, you will also need to remove any swreview lock files from /tmp so that new processes can be started (this isn't always necessary and could probably be avoided with a softer kill, but it's easy enough to do and ensures all processes are stopped):

as swreview or root,
rm -f /tmp/swreview.swr*.lock

Swreview automated processes should now start up and run normally as scheduled. If a hung automated retrieval was killed in step 5, the next cron swreview run should re-pull any station updates that it was in the middle of, so no swreview station updates should have been lost during the upgrade process.

Continuous GW-level stations should already be included in WSC's swreview.control files as this step was included in the 4.10 update of the software when initial support for continuous GW-level stations was added. If that step hasn't been performed, option 6 of the auto_control_builder script can be run as a user with write permissions to the /usr/opt/Auto_Review/Swreview/Controlfiles/Mastercontrol/ directory and the swreview.control file contained there to add them as well as stage-only and reservoir stations (and other options can be used to create an initial control file if just starting up automated retrievals or rebuilding a file).

No cron or batch abilities have yet been added to the wqmreview module. Those may or may not be added in the future pending outcome of the Commercial ADAPS Replacement Project (CARP).

END INSTALLATION - See the readme.auto_review, readme.swreview, readme.gwreview, readme.wqmreview, and Auto_Review ppts documents for additional information on the program itself (or contact GS-W_OSW_Scripts@usgs.gov).