

Attachment A
Installation Instructions for AWIPS Release OB4
Lessons Learned/Addendum

Date: 09/29/04

Assumption: It is assume that you are using the version of the installation installations dated **9/16/2004**. This is also the version that is found on the installation web page:

http://www.ops1.nws.noaa.gov/awips_softwre.htm

If you do not have this version, obtain it now.

Purpose: Replace the pages from the OB4 installation instructions document on the web page above (**dated 09/16/04**), with the updates included in this lessons learned/addendum (**dated 09/29/04**).

Chapter	Page # New Version	Comments	Directions
Part 1	Page 1-4	Step 15b was updated because of a typo.	Replace existing page with the update (1-4)
Part 15	Pages 15-2 through 15-7	Step 5d was updated. Step 9b was replaced with a new step.	Replace existing page (15-2 through 15-6), with the updated pages.

Part 1 Install Day Procedures

Change pages and modified steps for part 1:

Page 1-4 was updated. Replace this with page 1-4.

- ii. `rlogin px2`
- iii. `mkdir -p /local/install`
- iv. `script -a -f /local/install/prepare_OB4.out`
- v. `mount /mnt/cdrom`
- vi. `cd /mnt/cdrom`
- vii. `./prepare_OB4` (takes about 10 to 15 minutes)

If the script reports the following type of error near the beginning of the script:
ssh: connect to host lx5 port 22: Connection refused

The script will exit abnormally and require user action. If this happens, log in to the specified node and execute the following as `root`:

1. `/etc/init.d/sshd start`
2. `exit` (returns to PX2)

Then, restart the `prepare_OB4` script.

- viii. `exit` (exits the script)

Review the script output file, `/local/install/prepare_OB4.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

15. Install SSH keys for NCF access. Error information and sample output are shown in the *Script Log Output* document, sections 1.5 and 1.6.

From **PX2** as user `root`, type the following commands:

- a. `script -a -f /local/install/setupNCFSSHkeys.out`
- b. `/home/awipsadm/ssh/setupNCFSSHkeys.sh` (takes < 1 minute)
- c. `exit` (exits script)

Review the script output file, `/local/install/setupNCFSSHkeys.out`, to ensure that no unexpected errors (such as `busy`, `fail`, `error`, etc.) were encountered.

Exit out of PX2 and return to the Linux Workstation for the next step. Type:

- `exit` (returns to Linux Workstation)

16. Check for PX BIOS updates and install if needed. The PX BIOS was updated in OB3.2. A script is run on DS1 to verify if the update was correctly installed. Error information and sample output are shown in the *Script Log Output* document, sections 1.7 and 1.8.

Type the following commands:

- a. `rlogin ds1`
- b. `script -a /home/ncfuser/installPXupdates_OB4.out`

Part 15 OB4 After Install Procedures

Change pages and modified steps for part 15:

Pages 15-2 through 15-6 were updated. Replace these with pages 15-2 through 15-7.

5. System checkout.

The following items should be checked to verify that the system is running properly.

- a. Netscape System Monitoring Window.
Start the netscape browser and verify that servers and processes are functioning normally.

- b. Netscape bookmarks.

The bookmarks for `awipsusr` are stored in each users home directory:

```
/home/<username>/.netscape/bookmarks.html.old
```

Merge any previous bookmarks as needed into `bookmarks.html`.

- c. Radar products (applicable to sites that host radars).

Verify that radar products are being stored locally. In addition, verify that radar products are being sent out over the WAN by checking to the following web site:

<http://weather.noaa.gov/monitor/radar>

- d. Reboot Xyplex server.

The xyplex menu was updated in Part 1. Reboot the xyplex using the following commands to see the updated menu changes.

From the **Xyplex** terminal as user `root`, type the following commands:

- i. `set priv system`
- ii. `init delay 0` (The 0 is the numeric zero)

- e. Remove obsolete WWA directories (WFO systems only)

On **DS1** as user `root`, type the following commands:

- i. `rm -rf /data/local/TEMP_WWA_OB4_INSTALLATION_DIR`
- ii. `rm -rf /data/local/BACKUP*DIR`

6. Additional RFC system checkout (RFC systems only).

Check the following RFC specific items.

- a. As user `oper`, start the RFC specific `oper` cron.
- b. Check to see if the `shfdecoder` is running.
- c. Check to see if `DPA decoder` is running.
- d. Verify that `APPS_DEFAULTS` is pointing to `/awips/hydroapps/.Apps_defaults`.
- e. Verify that `APPS_DEFAULT_USER` and `APPS_DEFAULT_SITE` environment variables are set.
- f. Verify that the following directories are in the user's path.
`/awips/hydroapps/rfc/nwsrfs/ofs/scripts`
`/awips/hydroapps/public/bin`
`/usr/X11R6/bin`.

- g. Verify that the `fun` function is set up on login.
- 7. Setup automatic launch of Text Workstations (optional).
Prior to OB4, when the `textdemo` user logged into the XT, the text workstation application automatically started. This feature is disabled in OB4. However, if the site is concerned that the individual users could forget to start the application, do the following steps to restore the automatic startup.

From a **Linux Workstation** as `fxa`, type the following:

- a. `umask 000`
- b. `cd /awips/fxa/bin`
- c. `ln -s ./startTextWsonXT ./runTextWsonXT`
- 8. Merge customized site changes into crons (optional).
Any site specific changes to the crons can be merged into the active crons as needed. However, check carefully before adding any items to the cron since some applications (such as HWR) have moved to the PXs.
- 9. Hydro information for WFO systems and RFC systems.
 - a. Check the RiverPro application (applicable to sites that use RiverPro).
If the RiverPro application is not working, review Section E in the OB3.3 release instructions, and complete steps as necessary.

- b. Instructions for the Site Specific Hydrologic Predictor (SSHP) (applicable to sites that use SSHP)

The following instructions provide steps for updating a new Informix table (`sshpcconfig`), associated with the new SSHP application delivered in AWIPS OB4. The OB4 version of SSHP introduces the option of using the Sacramento Soil Moisture Accounting model. The steps listed below set the initial model preference for all site specific points to the Kansas City API model which was used in the previous version of the SSHP.

- i. From **DS1** as `root`, switch to user `oper`, using the `su` command:

```
su - oper
```

- ii. Go to the `/awips/hydroapps/ihfsdb_conversion` directory:

```
cd /awips/hydroapps/ihfsdb_conversion
```

- iii. Connect to the NOAA1 ftp server by entering the command:

```
ftp 165.92.25.15
```

Once connected to the NOAA1 ftp server, login as user `ftp`, with your email address as the password, (e.g. john.doe@noaa.gov).

- iv. Get the site specific update file from the NOAA1 ftp server by entering the following sequence of commands:

```

1. cd /pub/ohd/site_specific
2. get update_SSHP_config.ksh
3. bye

```

- v. Before executing the script adjust the permissions on the downloaded file:

```
chmod 777 update_SSHP_config.ksh
```

- vi. Update the SSHPconfig table by executing the script by entering the following command:

```
update_SSHP_config.ksh
```

As the script runs, there should be messages that echo the SQL commands being executed.

- vii. After the script ends, a prompt returns. At this point, check the log file and see if any error output was written. To do this type the following:

```
more update_SSHP_config.log
```

If the prompt is returned with no output written to the display, then no errors were encountered. If text is returned to the display, contact the WHFS Support team so that any errors can be investigated.

- c. Adjust file retention criteria for the Multi-sensor Precipitation Estimator (MPE) (optional) If the site is already running MPE operations and not having disk space problems, then it is not necessary to adjust file retention.

To reduce retention, edit

```
/awips/hydroapps/precip_proc/bin/purge_mpe_files.
```

Find the line that contains `mtime ##` and reduce the `##` variable. A value of 1 actually implies retention of 2 days, a value of 2 implies retention of 3 days, etc.

- d. Activate new grids with MPE operations (optional).
New functionality includes two new precipitation grids as part of MPE operations:
 local bias corrected multi-sensor mosaic field and
 local bias corrected satellite field.

The default setting is set to OFF, but can be activated by setting the following
`/awips/hydroapps/.Apps_defaults_site` tokens to ON:

```
mpe_mlmosaic_calc (for multi-sensor), and
mpe_lsatprec_calc (for satellite).
```

Additional information is provided in the HydroView/MPE documentation.

10. WWA/WarnGen Template Information (WFO systems only).
The only difference between OB3.3 and OB4 is that all WWA templates, including a corrected `WWA_mws.preWWA` template, are delivered into `/data/fxa/nationalData`.

The only difference between OB3.3 and OB4 in WarnGen templates is a corrected `wwa_mws_nosmw.preWWA`.

Continue to customize WWA and WarnGen templates, as needed, according to the instructions in release OB3.3.

11. Localization for Backup sites.

A backup localization needs to be run before the WWA and WarnGen applications can be used in backup mode.

12. Maintenance Release.

This is a reminder that maintenance releases to OB4 should be installed on the day of the upgrade, if appropriate.

The web page with AWIPS Software and Maintenance Release information is located at the following link:

http://www.ops1.nws.noaa.gov/awips_software.htm

13. Miscellaneous Post Install Information.

a. Local entries in the virtual field table could produce unexpected results when using the ETA40 model due to a bug that mixes ETA20 and ETA40 data. Detailed workaround information is available in the *OB4 Release Notes*.

b. OB4 delivers a new version of Tcl/Tk. One beta site noticed that code with square brackets, e.g., `catch [action]`, was causing errors to be displayed. A change to curly braces, e.g., `catch {action}`, seemed to take care of the problem.

c. Information on how D2D User IDs and new login accounts interact.

- i. The D2D application has a set of User IDs defined in the `/awips/fxa/data/fxa-users` file on each workstation. The format of `fxa-users` is account name on the left and user real name on the right.

```
# Acct      Name
#-----
martin      Martin
moss        Moss
```

- ii. User IDs are activated on the D2D by choosing **File:Select User ID...** from the main D2D application and choosing the Name from the Select User ID GUI.
- iii. Acct names in `fxa-users` point to a procedure directory located at `/data/fxa/procs`. For example, User ID `Martin` has a directory named `/data/fxa/procs/martin`.
- iv. The `setupAwipsUser.sh` script adds additional User IDs to the `fxa-users` file for any newly created individual user names that were different than the User IDs previously defined before OB4. For example, if the `setupAwipsUser.sh` script creates `wmartin` as the new login name and

Wayne Martin as the real name, then the `fxa-users` has a new entry listed below:

```
# Acct          Name
#-----
martin         Martin
moss           Moss
wmartin        Wayne Martin
```

- v. Once the new entry is selected from the Select User ID GUI, a new procedure directory in `/data/fxa/procs` is created. So, when Wayne Martin is selected in the GUI, the `/data/fxa/procs/wmartin` directory is created.

Therefore, it is possible to have two procedure directories for one user. One directory has the previously defined procedures and the other directory is the newly created (empty) one. Review the example for a suggestion on how to clean up the directories and link the old procedures to the new username.

Given the following example:

```
lx1-nmtw:ncfuser:\3$ cd /data/fxa/procs
lx1-nmtw:ncfuser:\4$ ls -l
total 6784
...
drwxrwxr-x  23 fxa      fxalpha      1024 Nov 20  2001 martin
drwxrwxr-x   3 fxa      fxalpha           96 Sep 10 12:30 wmartin
...
drwxrwxr-x   4 fxa      fxalpha           96 Sep 10 12:35 mmoss
drwxrwxr-x  35 fxa      fxalpha      1024 Feb 26  2004 moss
...
```

The pre-existing procedures are in the `martin` and `moss` directories.

As user `root` on **DS1**, move those directories into `wmartin` and `mmoss` as follows:

```
cd /data/fxa/procs
rm -rf wmartin      (removes empty wmartin directory)
mv martin wmartin  (copies old directory to new username)
rm -rf mmoss       (removes empty mmoss directory)
mv moss mmoss      (copies old directory to new username)
```

To complete the cleanup, edit the `/awips/fxa/data/fxa-users` file on LX1 and remove the lines with the old `martin` and `moss` IDs. Copy the corrected `fxa-users` file to all other workstations.

- vi. Ownership and permissions in `/data/fxa/procs` are set the first time a User ID is opened. As a consequence, if `wmartin` opens up `mmoss`'s User ID before `mmoss` opens it, then the ownership and permissions are set to `wmartin`. This scenario prevents `mmoss` from saving any procedures in `mmoss`'s directory. There can also be ownership problems if a user saves a procedure in another user's directory. Review the example for a suggestion

on how to fix these problems.

Given the following example:

```
lx1-nmtw:ncfuser:\5$ cd /data/fxa/procs
lx1-nmtw:ncfuser:\6$ ls -l
total 6784
...
drwxr-xr-x  23 wmartin  fxalpha    1024 Sep 10 12:30 wmartin
...
drwxr-xr-x  35 wmartin  fxalpha    1024 Sep 10 12:35 mmoss
...
```

The `mmoss` directory is owned by `wmartin`. Correct ownership and permissions problems by typing the following:

```
chown -R mmoss:fxalpha mmoss
chmod -R 775 *
```

Now, `mmoss` is able to save procedures under the `mmoss` username.

14. LDAD Post Install Procedures (optional).

If the site had customized changes to the files that are listed in Appendix A, section 1, merge the changes into the appropriate files. When complete, stop and start LDAD.

From **DS1** as user `ldad`, type the following commands:

- a. `cd /awips/fxa/ldad/bin`
- b. `stopLDAD.sh`
- c. `startLDAD.csh`

15. LDAD Backup.

LDAD executables and/or configuration files have been changed as a result of this installation. Therefore, once the installation has been completed along with the after-installation procedures, and the system is working correctly, generate a new LDAD backup. This should be done a week or so after the upgrade using System Administration Note 12 entitled *LDAD Backup and Restore Procedure*. This document can be found on the following web page:

<http://www.ops1.nws.noaa.gov/AWIPSSystemAdminNotes.htm>