

AWIPS SOFTWARE INSTALLATION INSTRUCTION NOTE 47

(for Electronics Systems Analysts, Information Technology Officers, & AWIPS Focal Points)
Maintenance, Logistics, and Acquisition Division

W/OPS12: JCS

SUBJECT : Release OB3 Installation Kit

PURPOSE : To provide ROB3 software installation instructions and information.

PREINSTALLATION REQUIREMENTS : At least ROB2.3 and the Linux workstation replacement/upgrade must be installed. CONUS and OCONUS WFOs and offices with WFO type systems must install IFPS 15.2 and AvnFPS 2.0 before installing ROB3. In addition, the WFO Archiver (WAX), RFC Archiver (RAX), and PX processors must be installed and running.

INSTALL PACKAGE CONTENTS : ROB3 installation upgrade kit includes:
ROB3 installation instructions
3 CDs
release notes
script log output (with error information)

EFFECTIVITY : All National Weather Service (NWS) CONUS and OCONUS WFOs/RFCs and offices with WFO/RFC type AWIPS systems must install ROB3.

ESTIMATED TIME REQUIRED : Installation time (Parts 1-13, see Appendix B, Installation Instructions for AWIPS ROB3) is approximately 6 to 7 hours, with 1 to 3 hours text data ingest downtime. Part 0, Pre-installation Activities and Part 14, After Install Procedures (see Appendix B, Installation Instructions for AWIPS ROB3) can take up to 2 hours each, although most of these steps will be completed on a different day.

EFFECT ON OTHER INSTRUCTIONS : None.

AUTHORIZATION : The authority for this modification is NWS Request for Change AB810.

VERIFICATION STATEMENT : These installation procedures were tested and verified at Silver Spring, MD (NMTW, NMTR, NHOR), Western Region Headquarters (VHW), Southern Region Headquarters (EHU), Central Region Headquarters (BCQ), Pacific Region Headquarters (PBP), WFO Mobile, AL (MOB), WFO Shreveport, LA (SHV), WFO Springfield, MO (SGF), WFO Dodge City, KS (DDC), RFC Minneapolis, MN (MSR), WFO Boston, MA (BOX), WFO Charleston, SC (CHS), WFO Hanford, CA (HNX), and OSF Norman, OK (OSFW).

SECURITY LEVEL : root

TECHNICAL SUPPORT : For questions or problems regarding the upgrade, call the Network Control Facility (NCF) at (301) 713-9344.

GENERAL:

The length of the upgrade requires sites to go into service backup. ROB3 localization or customization issues will be similar to those experienced in the ROB2 upgrade.

NOTE: 1. Pre-installation requirements:

- a. At least ROB2.3 must be installed prior to installing ROB3.
 - b. CONUS and OCONUS WFOs and offices with WFO type systems must install at least IFPS 15.2 before installing ROB3.
 - c. CONUS and OCONUS WFOs and offices with WFO type systems must install AvnFPS 2.0 before installing ROB3.
 - d. The WFO Archive Server (WAX) is installed and running on WFO systems.
 - e. The RFC Archive Server (RAX) is installed and running on RFC systems.
 - f. The PX processors should be installed and running.
 - g. The Linux workstations upgrade and/or HP workstation replacements have been installed.
 - h. AWIPS System Administration Note 16 "Passing SSH Traffic through Gauntlet firewall" has been installed at sites with an LDAD.
2. Sites must coordinate the ROB3 installation with their regional or NCEP Center AWIPS focal point. COMT, FSLC, systems at WSH, and the ROC should schedule their upgrade with Sanford Garrard (sanford.garrard@noaa.gov) at WSH or schedule themselves using the calendar feature on Netscape set aside for AWIPS software upgrades.
- <http://calendar.netscape.com>
3. AWIPS regional focal points must coordinate the ROB3 installation using the same Netscape calendar set aside for AWIPS software upgrades.
4. AWIPS remote displays (ARD) cannot be logged into AWIPS during this install. Sites must coordinate with their CWSUs before initiating the ROB3 upgrade. As noted above, the ROB3 upgrade must be coordinated with the appropriate personnel. Avoid the following scenarios:
- a. Sites and their backups must not perform simultaneous software upgrades.
 - b. Weather wire uplink sites and their backups must not perform simultaneous software upgrades.

PRE-INSTALLATION GUIDELINE

At least ROB2.3 and the Linux workstation replacements/upgrades must be installed. CONUS and OCONUS WFOs and offices with WFO type systems must install IFPS 15.2 and AvnFPS 2.0 before installing ROB3. In addition, the WFO Archiver (WAX), RFC Archiver (RAX), and PX processors must be installed and running.

INSTALLATION PROCEDURE:

1. NCF/NGIT upgrade support is available from 8 AM to 5 PM Eastern Time (ET), Monday through Wednesday, and 10 AM to 7 PM ET on Thursday.

OCONUS sites requiring upgrade assistance outside the set support hours on Thursdays, must coordinate through their AWIPS regional focal point. If the NCF/NGIT is not advised ahead of time, they will assume a scheduled OCONUS site will follow the set support hours.

2. Install support of a maximum number of **three sites per install day** will be available for the **ROB3** upgrade.
3. All sites must install ROB3 by July 10, 2004.

Review the instructions in Appendix B before performing the upgrade. It is important to complete Part 0, the Pre-installation Activities (see Appendix B, Installation Instructions for AWIPS ROB3) several days to a week before the upgrade. This can take up to two hours and includes a physical inspection of the installation CDs for possible damage in transit.

If any of these instructions require further clarification, call the NCF.

REPORTING INSTRUCTIONS:

Report the completed modification using the Engineering Management Reporting System (EMRS) according to the instructions in NWS Instruction 30-2104, Maintenance Documentation, Part 4, Appendix F. Include the following information on the EMRS Report:

Block #	Block Type	Information
5	Description	Upgrade AWIPS Software to ROB3 I.A.W. AWIPS Software Installation Instruction Note 47
7	Equipment Code	AWIPS
8	Serial Number	001
15	Comments	Report serial numbers of all workstations
17a	Mod. No.	S47

A sample EMRS report is provided as appendix A.

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Director, Maintenance, Logistics, and Acquisition Division

Appendix A - EMRS Report Sample

Appendix B - Installation Instructions for AWIPS ROB3, Sample Output, and Release Notes

Appendix A - EMRS Report Sample

A26 Detail Form - ESCM2, SILVER SPRING, MD :: JOHN MERHI - Microsoft Internet Explorer

New A26 Commit A26 Place on Hold Cgpy A26 Delete A26 Detail Report Document Summary Help

GENERAL INFORMATION

NEW RECORD WFO* TBW Document No.* TBW40301014

1. Open Date: 02/24/2004 Open Time: 08:00 2. Op Initials: WSH 3. Response Priority: Immediate Low Routine Not Applicable 4. Close Date: 02/26/2004 Close Time: 14:00

5. Maintenance Description: 477 characters left AWIPS
Install AWIPS Build OB3

EQUIPMENT INFORMATION

6. Station ID*: TBW 7. Equipment Code: AWIPS 8. Serial Number: 001 9. TM: M 10. AT: M 11. How Mal: 999

Alert: Time Remaining: (For Block 12 use only)

13. PARTS USAGE and CONFIGURATION MANAGEMENT REPORTING

ASN	Vendor Part No. (New Part)	Serial Number (Old Part)	Serial Number (New Part)	
				New Row
				Delete Row

14. WORKLOAD INFORMATION

a. Routine		b. Non-Routine		c. Travel		d. Misc		e. Overtime	
Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes
						11	0		

MISCELLANEOUS INFORMATION

15. Maintenance Comments: 554 characters left
Report serial numbers of all AWIPS workstations upgraded : AX: P06P513EX; PX1: EXZ6K21; PX2: EXR6K21 LX1: KP-LL999EX; LX2: KP-MF999EX; LX3: KP-LL000; LX4: KP-MF000; LX5: KP-LL998EX

16. Tech Initials: GAF

17. SPECIAL PURPOSE REPORTING INFORMATION

a. Mod No.: S47 b. Mod Act/Deact Date: 02/26/2004 c. Block C: d. Trouble Ticket No.: e. Block E:

Commit A26 Place on Hold Cgpy A26 New A26 Cancel

Appendix B

Installation Instructions for AWIPS Release OB3

READ ENTIRE DOCUMENT BEFORE BEGINNING!

Part 0: Pre-Install Activities, may take up to 3 hours and should be done several days before the upgrade. The main OB3 install (Parts 1-13) will take 6 to 7 hours to complete, depending upon the number of workstations. Part 14: After-Install Procedures, could take several additional hours depending on the site.

On the day of the install (Parts 1-14), call the NCF and tell them that you are doing the OB3 upgrade; and give them the version date of the installation instructions. Coordinate with your service backup sites, as needed. After this, do the upgrade.

NOTE 1: The text data ingest downtime will be 2 to 4 hours. Model data will be queued up by the PXs during the upgrade and should not be lost.

NOTE 2: The system should be available to use about 5 to 6 hours after starting the upgrade.

NOTE 3: After-Install Procedures (Part 14 on page 14-1) must be done at all sites as part of the OB3 upgrade. Steps 1 through 4 should be completed on the day of the install, as appropriate. The procedures include:

1. Miscellaneous Post install procedures
2. LDAD Post Install Procedures
3. OH Post install Procedures
4. Maintenance Release(s) for OB3 (if applicable)
5. Run the appropriate localization for your backup site(s) (operational WFOs may wish to do this on the day of the upgrade)
6. Users of XNOW may want to upgrade to fix a spell check bug
7. Modifying WarnGen templates to create segmented products (optional)
8. Making Additional Changes to Radar Depict Keys (optional)
9. Secure a Good LDAD Backup

NOTE 4: DO NOT use <CTL-C> to stop installation scripts during the install.

NOTE 5: DO NOT PROCEED if any unexpected problems are encountered. Instead, contact the NCF immediately before taking any action.

Preface

- ▶ **Localization for installs now on PX2.** A new feature of the OB3 upgrade is that the site localization is now done on PX2, instead of LX1 or DS1. The localization is then pushed everywhere else. In OB2, the localization was done on LX1 then pushed to the other devices (i.e., DS2, AS1, AS2, WS#). This change means that localization-related files on PX2 must have the most up- to-date files or else a corrupt localization will be propagated throughout.
- ▶ **Radar changes.** There are significant radar changes in OB3, in conjunction with the ORPG Build 5, which will bring new functionality and major reorganization to radar tables, menus and products. There are several steps in the instructions that will help preserve current customizations and allow radar operations immediately after the upgrade. However, after the upgrade is complete, the radar focal point and hydrologists/ meteorologists may need to make some adjustments.

Summary of radar actions included in these instructions:

- Removing radarDepictKeys.template from localization directories
- Copying and renaming customized RPS lists
- Verifying that SCAN and FFMP have their required products in the RPS lists
- Saving and converting radar meteorology procedures

Summary of actions that may be required of the radar focal point and meteorologists/hydrologists after OB3 is complete:

- Editing of preserved RPS lists and newly created RPS lists to take advantage of new functionality.
- Verify that SCAN and FFMP required products are in the newly edited lists. (Required products are listed in Attachment d.)
- Restoring local color curves that are not fully compatible with OB3. More information about this is available in Section 1.5 of the Release Notes.
- Restoring any radar meteorology procedures that did not get properly converted.
- Possible customizations of the new radarDepictKeys.template file (Information is listed in Part 14).

NOTE: Important for Early Deployment Sites

Several radar display bugs were identified just prior to initial deployment and will be corrected in the OB3.1 maintenance release, which will be available in early April. Similar information about these issues should also be contained in the release notes.

1. All three products in the *kxxx* -> *kxxx four panel* -> *other* submenu are not displayable (DR 13989). This includes the:

**COMP 0.5 VIL Mx
VIL Comp Max2 Max3 and
Tot 1hr 3hr 0.5 products**

Workaround - Manually create these products in a radar procedure as needed.

2. The All Tilts Z/SRM8 product and All Tilts Z/SRM4 product from the *kxxx* menu will load slowly and produce red banner messages on initial loading for both lower level elevations and each successive scan (DR 13990).

Workaround - None currently, other than temporarily removing 8 bit radar products from RPS list.

3. The All Tilts Z/SRM8 product will not always display the 8-bit products even though the product is available. The display is inconsistent; sometimes the loop will display the 8-bit products, sometimes it will display a combination of 4-bit and 8-bit products, and sometimes only 4-bit products will be displayed.

Workaround - Reload the data.

NOTE: (continued)

4. There are occasional missing images in radar loops with 4 bit and 8 bit reflectivity, which becomes more noticeable the longer the loop runs (DR 13787).

Workaround - The problem will manifest itself as a missing pane in a radar loop. It may have the map background(s) visible or the entire pane may be black. To restore the missing panel, stop looping the images, then click once on the panel with the right mouse button. It should restore the data. If not, swap the offending panel with one of the smaller ones, and try the single right click on the smaller image. If this does not work, you will likely have to follow the steps below to temporarily remedy the situation.

These steps should be performed by the person working radar:

- 1) Log out of the graphics and text workstations where you plan to work.
- 2) When you have the login prompt on both the text and graphic workstations, press Ctrl-Alt-Bksp (the Control, Alternate, and Backspace keys).

This will restart the X server, causing the screens to reset.

- 3) Once the login prompts reappear (should take less than one minute), login and start D2D.

NOTE: Do not run GFE on this workstation before or during intensive radar interrogation. It may play a part in making the right click solution less effective at restoring the missing data. Also, try to keep the number of frames loaded to 4 or 5.

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PART 0: Pre-installation Activities (complete before day of install)

1. **Prerequisites.** The following list describes items that the OB3 install expects to have in place before the upgrade begins.
 - At least the OB2.3 maintenance release has been installed.
 - At least the IFPS 15.2 release has been installed at WFO type systems.
 - At least the AvnFPS 2.0 release has been installed at WFO type systems. Earlier versions of AvnFPS will not work with OB3.
 - WFO Archive Server (WAX) is installed and running on WFO systems.
 - RFC Archive Server (RAX) is installed and running on RFC systems.
 - The PX Pre-processors are installed and running on all systems.
 - The Linux workstations upgrade and/or HP workstation replacements have been installed.
 - AWIPS System Administration Note 16 "Passing SSH Traffic through Gauntlet Firewall" has been installed at sites with an LDAD. Verify this in step 5.
 - Assumption is made that the OB2 Watch Warning Advisory (WWA) and WarnGen templates are activated.
2. **Coordination.** Coordinate the OB3 upgrade with other sites, if applicable.
 - Coordinate the install date with backup site(s).
 - If the site is a Weather Wire uplink site, ensure (through the Regional Focal Point) that the backup Weather Wire uplink site(s) are not concurrently doing the upgrade.
 - If the site has a CWSU with its Linux box attached to an AWIPS Workstation (WS), coordinate the install with the CWSU since they will not be able to use their system while the OB3 upgrade is taking place.
3. **Check for Lessons Learned/Addendum.** After implementation of OB3 begins and several early deployment sites complete their upgrade, some will have comments, additions, and clarifications to this document. For this reason, a lessons learned/addendum document will be created and posted to http://www.ops1.nws.noaa.gov/awips_software.htm. This document will be updated frequently during the first few weeks of deployment. You should check the web page to see if it exists, and if it does, download it and combine it with this document. Also, you should check the web page again shortly before your actual upgrade to see if a more updated version is available.

4. **Download Files.** You will need to download a number of files, including NDM files and scripts from the noaa1 server before the installation of OB3. They will be placed in a safe directory until install day and then be moved to their proper location just before installation. In Part 2, you will run the moveob3files.sh script which will copy the appropriate files into place. **If you have made any localized changes to these files on your system, you will need to merge those into the downloaded files before install day.**

NOTE: Send NDM changes that are applicable to the national datasets to Fran Curnow (frances.curnow@noaa.gov).

- a. From a Linux workstation, log in as **root**, open a telnet window, and logon to **DS1** as **root**:

```
rlogin ds1
```

- b. Go to the “/data/local/nationalData” directory:

```
cd /data/local/nationalData
```

If this directory doesn't exist, create it by using the **mkdir** command:

If the directory does exist, use the list command to ensure that the files downloaded in ROB2 were deleted during the ROB2 upgrade. If not, **delete those files now**:

```
ll /data/local/nationalData
```

```
rm /data/local/nationalData/*
```

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

```
ftp 165.92.25.15
```

Once you are connected to the NOAA1 ftp server, login as user **ftp**, with your email address as the password.

- d. Get the national data and other files from the NOAA1 ftp server by entering:

```
binary
```

```
hash
```

```
prompt (Use this only if you don't want to get prompts for each file)
```

```
cd /pub/BuildOB3
```

```
mget * (You should receive 2 files from this command)
```

```
cd /pub/ndm/OB3
```

```
mget * (You should receive 4 files from this command)
```

```
bye
```

Filename	Directory Location at NOAA1 server before download	Final directory location after upgrade
dataInfo.manual	/pub/ndm/OB3	/data/fxa/nationalData
depictInfo.manual	/pub/ndm/OB3	/data/fxa/nationalData
productButtonInfo.txt	/pub/ndm/OB3	/data/fxa/nationalData
redbookDataKeys.txt	/pub/ndm/OB3	/data/fxa/nationalData
moveob3files.sh	/pub/BuildOB3	/data/local/nationalData
AWIPSCheckout.sh	/pub/BuildOB3	/home/awipsadm/install

- e. Set permissions and relocate scripts. Use the move command since it is not needed in the `/data/local/nationalData` directory anymore.

```
chmod 755 *sh
mv AWIPSCheckout.sh /home/awipsadm/install
```

5. **Verify that System Administration Note 16 has been installed.** This is a pre-installation requirement for sites with an LDAD. System Administration Note 16, [Passing SSH Traffic through Gauntlet firewall](#), must be completed before attempting to install OB3.

(System Administration Notes can be found at <http://www.ops1.nws.noaa.gov/AWIPSSystemAdminNotes.htm>)

To check that SSH was successfully configured on the firewall, initiate an SSH session from DS1 to LS1.

From **DS1** as **root**, type the following:

```
ssh ls1
```

If SSH has been successfully configured on the firewall, you should receive a password prompt from LS1. Next, type the root user's password for LS1 and verify that you have successfully logged into LS1. Afterwards, you can exit LS1 and return to DS1.

If you do not get a prompt, you will need to complete the admin note before installing OB3.

6. **Manual file backup information.** Read carefully!

These include the following:

- In OB3, the RPS list format is changing which will allow separate RPS lists for each VCP, instead of just one for clear-air and one for storm. In addition, ORPG Build 5 will add two new VCPs (VCP 12 and VCP 121) which will become available once OB3 and ORPG Build 5 are available at your site.

CAUTION

As a result of RPS list changes, sites with dedicated radars should go to attachment D entitled [Preserving RPS Lists](#) and do the procedure outlined. Failure to do attachment D could result in you having to create your customized RPS lists from scratch.

- Not really a file, but you should advise your radar focal point to save some samples of customized color curves. Beta sites have noted that the colors sometimes get compressed during the upgrade, and the radar focal point may need to recreate the customized color curves after the upgrade.
 - Customized awipsusr crons on any workstations should be saved to a safe directory.
 - If you made localized changes to /awips/fxa/awipsusr/.gnome/awipsStartupMenu or /awips/fxa/data/awipsStartCmds*.conf, you should back up those changes in a safe directory, since those files will be replaced with the install.
 - Secure a good LDAD backup a week or so before the upgrade. Use System Administration Note 12 entitled "[LDAD Backup and Restore Procedure](#)."
7. **Automatic file backup and restore information.** Unless told otherwise, the following lists files from each part of the installation that are automatically backed up and restored during the installation. However, you may wish to manually back up other files that are specifically stated that they will not be saved off.
- In Part 2, Install Linux Software
No files will be saved off.
 - In Part 3, Install OB3 CP Software
No files will be saved off
 - In Part 4, Install OB3 Archiver Software
At WFOs, the current Archive Setup will be saved off in /awips/archiver/arch_root/config. The original file has a ".config" extension.
 - In Part 5, Install OB3 LDAD Software
The ROB2 versions of files mentioned in Attachment A section A, will be saved off to /px2data/BACKUPLDADOB2 by the script called installLDADOB3. The OB3 versions of these files will become operational.
 - In Part 6, OB3 MSAS Script
MSAS files listed in Attachment A, section B will be updated. The replaced files will be saved to /data/fxa/BACKUPMSASOB2.

- In Part 7, OB3 Pre-install Script

No files will be saved off.

During the OB3 upgrade, the crontab files (listed below) on the DS1, DS2, AS1, AS2, are replaced. Note that the swap package crontab files is also replaced during the upgrade.

NOTE: A backup copy of these files will not be saved off. We highly recommend that you save these off.

```
/var/spool/cron/crontabs/informix
/var/spool/cron/crontabs/ifps
/var/spool/cron/crontabs/ldad
/var/spool/cron/crontabs/root
/var/spool/cron/crontabs/fxa
/var/spool/cron/crontabs/oper
```

- In Part 8, Install OB3 LAPS Software
No files will be saved off.
- In Part 9, Install OB3 Hydrology Software

NOTE: RFC type systems will see the following HP/Linux type questions which they need to answer.

Remember that R24.0 is being delivered in OB3. When RFC sites answer the following questions, a "y" means copy back your pre-OB3 version instead of keeping the delivered R24.0 version.

Do you want to replace Linux nwsrfs with saved off version (y/n)
Do you want to replace Linux ffg with saved off version (y/n)
Do you want to replace Linux verify with saved off version (y/n)
Do you want to replace Linux xdat, xnav, and xsets R23.0 with saved off version
Do you want to replace HP grib with saved off version (y/n)
Do you want to replace HP nwsrfs with saved off version (y/n)
Do you want to replace HP ffg with saved off version (y/n)
Do you want to replace HP send_rfc with saved off version (y/n)
Do you want to replace HP verify with saved off version (y/n)
Do you want to replace HP xdat, xnav, and xsets with saved off version (y/n)

- In Part 10, Install Release OB3 ADAPT Software

Nothing will be saved off.

- In Part 11, Install OB3 NMAP Software
The oldest version of NMAP (located in \$NMAP_DIR/old) will be removed. The current version will be moved to \$NMAP_DIR/old. The OB3 version will be installed in \$NMAP_DIR/current.
 - In Part 12, Install OB3 FXA/System Software
No files will be saved off.
 - In Part 13, OB3 Post Install Script
No files will be saved off.
- 8. Information on the Watch Warning Advisory (WWA) program for operational WFOs.**
There will be both new and updated WWA templates delivered in OB3. However, it is not necessary to have the new templates activated on the day of the install. Most of the OB3 template changes fixed bugs found in the OB2 templates or were updated due to new directives. Sites that have customized their OB2 templates may have already discovered the bugs and or made the directive changes themselves. Other changes can be incorporated into your customized templates as time permits after the OB3 upgrade. For more information on What's New in OB3 WWA, your WWA focal point should go to the following web page:
<http://www.nws.noaa.gov/mdl/wwa/docs/OB3/WWA-OB3-NEW.pdf>
- 9. Hydro pre-install steps.** Verify that the HydroView/MPE geographic coordinate file is in the proper location for Linux. This should have been done as part of a previous AWIPS install, but some sites have reported that it was not done.
- a. Confirm that the HP-UX location of the file "coord_*.dat" is located in the correct directory on DS1.
- For WFOs, the file `coord_host.dat` should be in
`/awips/hydroapps/geo_data/host/ascii`
- For RFCs, the file `coord_nnrfc.dat` should be in
`/awips/hydroapps/geo_data/nnrfc/ascii`
- where *nn* is the RFCs two character identifier.

CAUTION

If the file is not there, call the NCF and have them contact the WHFS Field Support Group within the Office of Climate, Water and Weather Services/Hydrologic Services Division Support Branch.

- b. Now check to see if Linux version is there.

For WFOs, the file `coord_host.dat` should be in
`/awips/hydroapps/lx/geo_data/host/ascii`

For RFCs, the file `coord_nnrfc.dat` should be in
`/awips/hydroapps/lx/geo_data/nnrfc/ascii` where *nn* is the RFCs
two character identifier.

- c. If the **Linux** file is there, no action is necessary. If it is missing, then copy it over from the **HP-UX** location that was confirmed in step a. Issue the following command:

For WFOs,
`cp /awips/hydroapps/geo_data/host/ascii/coord_host.dat \
/awips/hydroapps/lx/geo_data/host/ascii/coord_host.dat`

For RFCs,
`cp /awips/hydroapps/geo_data/nnrfc/ascii/coord_nnrfc.dat \
/awips/hydroapps/lx/geo_data/nnrfc/ascii/coord_nnrfc.dat`

where *nn* is the RFCs two character identifier.

10. Information on freeware and COTS changes.

- a. These can be found in [Attachment C](#).
- b. Note that "perl" will be updated from 5.61 to 5.8. Therefore, if any of your local applications have `/usr/local/perl5.6/bin` referenced, you should update it to the static path of `/usr/local/perl/bin/perl`. This path will work in both OB2 and OB3.
- c. Note that "ispell" is being updated. This will affect the spell-checker on XNOW. A patch is currently available on the XNOW page <http://www.srh.noaa.gov/ama/xnow> which can be installed either before or after the OB3 installation. If the patch is not installed, the spell checker in XNOW will not work in OB3.

11. **Removing Alpha/beta test Software.** If your site has been testing alpha/beta software or patches, generally, these patches need to be removed before the OB3 upgrade.

12. **Ensure localization-related files on PX2 are current.** As mentioned earlier, a new feature of the OB3 upgrade is that the site localization is done on PX2, not LX1. The localization results are then pushed everywhere else. In OB2, the localization was done on LX1 then pushed to the other devices (i.e. DS2, AS1, AS2, WS#). This change means that localization-related files on PX2 must be current or else a corrupt localization will be propagated throughout. Verify that files are up to date on PX2, since a number of sites missed this step in OB2.

For example, we highly recommend that you take the **latest version** of the following file:

- a. `/awips/fxa/data/localization/LLL/LLL-hydroSiteConfig.txt`
and copy it to both **PX1** and **PX2** to the subdirectory called:
`/awips/fxa/data/localization/LLL/LLL-hydroSiteConfig.txt`

NOTE: The LLL-hydroSiteConfig.txt file should **not** be placed into the `/data/fxa/customFiles` directory.

In addition, we highly recommend that you take the latest version of the following 2 files:

- b. `/awips/fxa/data/localization/LLL/LLL-acqPatternAddOns.txt`
- c. `/awips/fxa/localization/LLL/LLL-portinfo.txt`

and place them either into the `/data/fxa/customFiles` directory or `localization/LLL` directory on PX2.

13. **Remove radar depict keys file from customFiles and localization directories.** There are significant changes in the Radar Depict Keys for OB3. Therefore, you will need to check and **remove** any `radarDepictKeys.template` or `LLL-radarDepictKeys.template` files in `/data/fxa/customFiles` and `/awips/fxa/data/localization/LLL` directories. Be sure and check `/awips/fxa/data/localization/LLL` on PX2 since the main install localization for OB3 will be run there. You can save a copy in a safe directory for reference if your site decides to customize the depict keys sometime after the upgrade.
14. **Backup local environment and radar meteorology procedures.** Because the radar depict keys are changing in OB3, you will also need to do the following in order to make sure that site meteorological procedures that contain radar products still work after OB3 is installed. First you will delete some old directories, if they exist, and then run two scripts to produce the backup information. The `backUpLocEnv` script will save a reference of the OB2 depict keys and the `backUpProcedures` script will save a copy of your OB2 procedures. You will run additional scripts in the post-install (Part 14) in order to convert the procedures to the new depict keys after the upgrade.

On **LX1** as **root** run the following commands:

```
mkdir -p /local/install      Note: This may already exist at some sites
chmod 777 /local/install
```

```
script -a -f /local/install/preRadarpatch.out
rm /awips/fxa/data/procRedefinitions.522
```

NOTE: If you see the following message, you can ignore it:

rm: cannot remove `/awips/fxa/data/procRedifinitions.522': No such file or directory

```
rm -rf /data/fxa/backup/data
rm -rf /data/fxa/oldprocs
rm -rf /awips/fxa/oldprocs
rm -rf /awips/fxa/backup/data
rm -rf /scratch/backup/data
rm -rf /scratch/oldprocs
```

On **LX1** as **awipsusr** run the following commands:

```
/awips/fxa/bin/backUpLocEnv
/awips/fxa/bin/backUpProcedures
exit      (Back to lx1 as root.)
exit      (Back to where you were before this step.)
```

- 15. Scatterometer Wind Setup Procedures (Optional).** One new feature for OB3 is the ability to display Scatterometer Winds over marine areas. Currently, this product is only applicable for coastal sites, along with regional and national centers as listed below. By default it will be **disabled** upon install. However, if you want to have it enabled, perform the following steps now in order to configure your site.

On **DS1** as **fxa** do the following:

```
cd /data/fxa/customFiles
vi <LLL>-preserveMenuItems.txt (Where LLL is the site 3 letter id. If the file
                                doesn't exist, create it.)
```

Add the numerical entry **10630** to the end of the file and save it.

```
vi <LLL>-acqPatternAddOns.txt
```

Add the following entry to the end of the file for each regional code:

```
POINT ^ISXX[0][Regcode].* /ispan/bufr/QuikScat
```

(Where Regcode is defined in the following list based on site id.)

NOTE: For multiple Regcodes use a separate line in acqPatternAddOns.txt file

East/Gulf Coast CWAs:

BOX, CAR, GYW, OKX	1-2
PHI, LWX, AKQ, MHX, ILM	1
CHS, JAX, MLB, MFL	1
EYW, TBW, TAE, MOB, LIX	13
LCH, HGX, CRP, BRO	3

Great Lakes CWAs:

BUF, CLE, DTX, APX, GRR	2
IWX, LOT, MKX, GRB	2
MQT, DLH	24

West Coast CWAs:

SGX, LOX, MTR, EKA	5
MFR, PQR, SEW	6

Alaska CWAs:

ANC, AJK	69
FAI	9

Pacific CWAs:

HFO	7-9
GUM	7-8

National/Regional Centers:

TPC	1-3 5-8
SFMG	1-3 5-7
MPC, AWC, HPC	1-9
VUY	1-2
VHW	569
BCQ	4
EHU	13
VRH	69
PBP	7-9

- 16. Run AWIPScleanup to verify version numbers and localization.** Although it is now optional in Part 0, we recommend that you run the AWIPScleanup script that was downloaded in step 4. This script will help verify that you have the correct release version IDs, and also help you compare the localization directories on each server and workstation. Remember that the main localization for OB3 will be done on PX2, and it is

possible that there could be outdated localization files on PX2 if you have not completed Part 0, step 12 yet.

The instructions to run AWIPSCheckout are located in [Part 1, step 9](#).

NOTE: You will need the installation CDs in order to complete the remaining steps in Part 0.

17. Check Delivered CDs before the upgrade to ensure they have no problems. You received an install package containing 3 CDs. These names are listed below:

1. **LDAD, LAPS, FREeware, LINUX WFO-A, LINUX NGIT**
2. **OH**
3. **ADAPT, HP WFO-A, NMAP, NGIT UX**

First, you should examine all 3 CDs to ensure they are physically okay.

Next, check the contents of the CDs as follows:

- a. Log on to the **DS1** as **root**. Insert the CD labeled "**LDAD, LAPS, FREeware, LINUX WFO-A, LINUX NGIT**" into CD-ROM drive on DS1. Verify that the `/cdrom` directory exists.

```
ll /cdrom
```

If it does not exist, type:

```
mkdir /cdrom
```

- b. Use the appropriate command to mount the CD-ROM in the root directory on DS1:

For K class server:

```
mount /dev/dsk/c3t2d0 /cdrom
```

For D class server:

```
mount /dev/dsk/c1t2d0 /cdrom
```

NOTE: If you don't remember which class server you have, type: `model`

- c. Use the list command to ensure that you can list what is on the CD.

```
cd /cdrom
```

```
ll
```

- d. Un-mount the "LDAD, LAPS, FREEWARE, Linux WFO-A, Linux NGIT" CD:

```
cd /  
fuser -k /cdrom  
umount /cdrom
```
- e. Repeat steps A-D with the second CD ("OH") and finally with the third CD ("ADAPT, HP WFO-A, NMAP, NGIT UX").

18. Check PX Configuration. The PX configuration was modified in OB2.1, but it is possible that some sites may have had to replace some systems since the OB2.1 installation. Therefore, all sites must verify that the PX is set up correctly before you attempt to install OB3.

From **DS1** as **root**, type the following commands:

For WFOs

```
rlogin px2  
df /awips/ifps
```

For RFCs

```
rlogin px2  
df /awips/hydro
```

If you get a valid response back from these df commands, you can exit back to DS1 and skip to Step 19.

If you do not get a response, then do the following steps:

From the **xyplex** console, log on to **PX1** as **root**.

Insert the "LDAD LAPS, FREEWARE LINUX WFO-A, LINUX NGIT" CD into the PX1 drive, and issue the following commands:

```
mkdir -p /local/install  
script -a -f /local/install/px_ms1.out  
  
mount /mnt/cdrom  
cd /mnt/cdrom  
./px_ms1.sh  
exit
```

NOTE: This script will reboot the PXs.

Once the PX reboots, log back as root and do the following:

```
mount /mnt/cdrom
cd /mnt/cdrom

script -a -f /local/install/px_ms2.out
./px_ms2.sh

clustat (Verify that the cluster is up and running)
exit

script -a -f /local/install/px_ms3.out
cd /mnt/cdrom

./px_ms3.sh
exit
```

19. **Run Linux Workstation Configuration Scripts.** If you have not already done so, go to the **PX1** CD ROM drive and insert the "LDAD LAPS, FREEWARE LINUX WFO-A, LINUX NGIT" CD. Note that this CD will remain in PX1 for steps 19 and 20.

For the following step, we recommend that it be done from the **xyplex console**, since the **lx_fix_ext.sh** script may reboot all linux workstations. Since at least one of the LXs will most likely reboot, we also recommend that everyone log off the LXs before proceeding with this step.

From the **xyplex** console, log into **PX1** as **root**, and issue the following commands:

```
mkdir -p /local/install
script -a -f /local/install/lx_fix_ext.out

mount /mnt/cdrom
cd /mnt/cdrom

./lx_fix_ext.sh
exit
```

CAUTION

The Linux workstations might reboot after running the above. Wait for all Linux workstations to reboot before proceeding.

NOTE: Don't let the name of the next script throw you. Both **RFC type systems** and **WFO type systems** will need to do the following:

```
script -a -f /local/install/lx_wfo.out
cd /mnt/cdrom

./lx_wfo.sh
exit
```

NOTE: If you see the following type of error on any LX, you cannot ignore. Call the NCF.

```
ERROR: Device lx5-xxx is down. Skipping.
```

20. Setup User ssh Keys. In order to do this step, you must have successfully completed step 5, which is verifying that System Administration Note 16 has been properly installed. You can continue to work from the xyplex, or return to a linux workstation.

From **PX1** as **root**, issue the following commands:

```
script -a -f /local/install/setupSSHkeys.out
cd /mnt/cdrom/home/awipsadm/ssh

./setupSSHkeys.sh      (if prompted to overwrite a file answer 'y')
exit
cd /

eject cdrom
exit
```

Go to the **PX1** CD ROM drive and remove the "LDAD LAPS, FREEWARE LINUX WFO-A, LINUX NGIT" CD.

End of Part 0

PART 1: Install Day Procedures

CAUTION

It is very important that all steps in Part 0 are completed before attempting to begin the installation, especially steps 5, 18, 19 and 20. Failure to complete these steps will cause serious issues on your system after OB3 is installed. Double-check to make sure those steps have been completed, especially if someone else did Part 0.

1. Contact the NCF and tell them you are doing the OB3 upgrade.
2. Send a free text message to users of radar information that it will not be available during the OB3 upgrade.
3. Initiate service backup, if applicable, and advise your backup site(s) that you are beginning the OB3 installation.
4. Stop any **customized awipsusr** crons on the workstations, if applicable. Do a telnet as **awipsusr** to each applicable workstation and do a **crontab -r**
5. Terminate and exit all D2D sessions, text and graphics workstations, AWIPS applications, the CWSU LINUX applications (if applicable), and any site specific applications that run via crons on all graphic and text workstations.

NOTE: If you are hosting a CWSU LINUX connection, we suggest that the CWSU log out of D2D on their end and that you unplug the wire to Port 16 on the waveswitch on your system. The latter is needed to ensure that the CWSU does not log back in, by mistake, during the upgrade.

6. Log out of AWIPS LINUX boxes.
7. If your site has a data feed to the FAA, don't forget to contact your FAA site.
8. If you are a Weather Wire uplink site, contact Dyncorp, if necessary.
9. **System Check using AWIPSCheckout.sh.** (This is not optional, this script must be run.)
This script has been updated in OB3. It will perform several checks that are needed before installation. As the script runs, output displays on the screen, prints out and also is written to two different files for further reference. Another script, **check_process**, is created. This **check_process** script is used in Part 7.
 - a. From a Linux workstation, login as **root (not as awipsusr! If you log in as awipsusr, your window will be killed in Part 7 and you will have to start Part 7 over.)**

- b. Open a xterm window, and log into the **DS1** as **root**.

```
rlogin ds1
```

- c. Change directories and run the script.

```
cd /home/awipsadm/install  
./AWIPScleanup.sh
```

- d. Using the output (either from the screen or file), verify the following items. If a problem is encountered, call the NCF.

- (1) **Verify connectivity to all machines.**

Output should be: *as1 as2 ds1 ds2 px1 px2 lx1-<site> lx2-<site>* etc.

If the LDAD server (ls1) or other workstations do not respond, check the non-responding system(s).

- (2) **Check Swap Packages.** The system should be in “normal” operation with no swap packages failed over.

Output should be: *All packages on primary*

If all packages are not on primary or enabled, check and correct the appropriate packages.

- (3) **Check Release ID.** The Release ID **must** be at least OB2.3.

- (4) **Check localization variables.** Verify that the site is localized correctly.

Output should list the SITE_TYPE, FXA_LOCAL_SITE, FXA_INGEST_SITE, FXA_LOCAL_TZ, NODE (on WFO only), and the current satellite feed.

- (5) **Check for unsuccessful localizations.** If your site has performed an unsuccessful localization, a file called **.unSafe** was written to **/awips/fxa/data/localizationDataSets/LLL** on PX2. If this file exists, it must be deleted before the install begins.

Output should be: *no .unSafe file detected*

If an **.unSafe** file exists, manually delete it.

- (6) **Check AvnFPS version (applies to WFO type systems only).** If the site is a WFO system, the script will display the latest version installed. Verify that version 2.0 is listed.

- (7) **Check IFPS version (applies to WFO type systems only).** If the site is a WFO system, the script will display the latest version installed.

An example of the output is below:

<i>rap_name</i>	<i>rap_version install_time</i>
<i>IFPS11.4</i>	<i>11.4 2002_10_04 15:36:21</i>
<i>IFPS12.3</i>	<i>12.3 2003_01_11 14:20:48</i>
<i>IFPS13.2</i>	<i>13.2 2003_04_15 16:45:52</i>
<i>IFPS14.2</i>	<i>14.2 2003_09_29 13:02:26</i>
<i>IFPS15.2</i>	<i>15.2 2003_11_12 17:15:37</i>

The last entry is the IFPS version most recently installed on the system, which in this example, is 15.2. **At least IFPS15.2, must be installed in order to install the AWIPS OB3 Release.**

- (8) **Cleanup of Server localization directories.** The script runs the `cleanup_localization.sh` script on `as1`, `as2`, `ds1`, and `ds2`.
- (9) **Check localization files.** During the OB3 installation, a full localization will be run on PX2 and then the results will be pushed out to the other servers and workstations. As a consequence, you might get unsatisfactory results if you have different localization files on each system. You should review the `/home/ncfuser/AWIPSCheckout<date>.localfiles` and make any necessary changes. In addition, localization scripts choose files from directories in a certain order of preference:

- (a) `/data/fxa/customFiles/<filename>`
- (b) `/awips/fxa/data/localization/<site_id>/<site_id>-<filename>`
- (c) National templates under various directories (e.g., `/awips/fxa/data`)

Therefore, also check to ensure that the intended active file is not overridden by an identically named file in a higher priority directory. Consult with your onsite localization expert for more information.

- (10) **Check informix status.** Verify that your Informix server is primary, online and replicating.
- (11) **Check for Stale NFS file handle.** The script will do a 'df' for `px1data` and `px2data` for each workstation. You should verify that:
- (a) `/px1data` and `/px2data` are present, and
 - (b) the percentages are non-zero.

If a workstation is found that does not meet the above criteria, do the following steps to unmount and remount the px data drives.

- (a) Rlogin as the **root** user to the suspect workstation.
- (b)

```
umount /px1data /px2data
mount -a
df      (use output to recheck steps A and B above)
exit   (back to DS1)
```

10. Return to your Linux Workstation by typing:

```
exit
```

11. Run the **prepare_OB3** script.

- a. Go to the CD-ROM drive on **PX2** and insert the "LDAD, LAPS, FREEWARE, LINUX WFO-A, LINUX NGIT" CD.
- b. From a **Linux Workstation** as **root**, type the following:

```
export TMOUT=0
```
- c. Use the following commands to login to PX2 and run the **prepare_OB3** script. (Sample output and error information are shown in the Script Log Output, page A1-1.)

```
rlogin px2
export TMOUT=0
mkdir -p /local/install
script -a -f /local/install/prepare_OB3.out
mount /mnt/cdrom
cd /mnt/cdrom
./prepare_OB3          (Takes 15 to 45 minutes.)
exit
```

12. Ensure that there are no non-root users are logged into any workstations.

Use the "**who -u**" command to check this.

Before going to Part 2, ensure you have returned to PX2 and are the root user.

PART 2: Install Linux Software

Automatically Saved and Restored information:

Nothing will be saved off.

1. **This step is for GUM and HFO only. All other sites skip to step 2.**

From **PX2** as **root**, run the "OCONUS_Setup" script to setup some localization files. (Sample output and error information are shown in the Script Log Output, page A2-1.)

```
script -a -f /local/install/OCONUS_SetupOB3.out
cd /mnt/cdrom
./OCONUS_Setup          (takes less than 1 minute)
exit
```

2. From **DS1** as **root**, use the following commands to move appropriate files into place.

```
cd /data/local/nationalData
./moveob3files.sh      (takes less than 1 minute)
exit                  (this should return you to PX2)
```

3. From **PX2** as **root**, start the output file and then type the following inline script to check again for stale NFS mounts.

```
script -a -f /local/install/installPXLXOB3.out

for i in $LX_WORKSTATIONS
do
    echo $i
    rsh $i "df /px1data /px2data"
done
```

For each workstation, verify that:

- a. There are no errors in the output
- b. /px1data and /px2data are present, and
- c. The percentages are non-zero.

If the workstation does not meet the above criteria, do the following steps to unmount and remount the px data drives.

- (1) rlogin as the **root** user to the suspect workstation.
- (2)

```
umount /px1data /px2data
mount -a
```

df (Use output to recheck steps a, b and c above.)
exit (Back to PX2.)

If errors still occur, call the NCF for assistance.

4. From **PX2** as **root**, run the install Linux software script. (Sample output and error information are shown in the Script Log Output, page A2-1.)

```
cd /mnt/cdrom
./installPXLXOB3 (This takes about an 1 hour...but slower systems could take
                  2 hours.)
exit
```

NOTE: 1. The script output may pause for up to 5 minutes after each of the following messages, however, the script is still running:
"installing awips/ops" or
"- Make new directories in /awips/fxa"

NOTE: 2. When you see the following, ignore it:
/data/fixq/data/htdocs/ldadMon/bin/help.pl: No such file or directory

NOTE: 3. If you see the following messages, do not ignore them, call the install support person:

1. ***tar (child): px2data/localization.gz: cannot open:stale NFS file handle***
2. ***tar (child): Error is not recoverable:exiting now***
3. ***Fail over of px2f to px1 failed - install call NCF!!!***
4. ***bin/cp:readomg***
'/mnt/cdrom/awips/fxa/fin/ldadWish:Om[it/output error
5. ***Relocating px2apps. Error: failed:Service px2apps not relocated.***

5. From PX2 as root, run the following:

```
clustat
```

As shown in the sample output below, ensure the following displays in the Service Status section:

- a. **px1apps** is running (owned) on **px1-xxxx** and
- b. **px2apps** is running on **px2-xxxx** (xxxx is your site id).

```

===== S e r v i c e   S t a t u s =====
Service      Status      Owner      Last          Monitor      Restart
-----      -
px1apps      started    px1-nhow   18:02:10 Feb 21    0            0
px2apps      started    px2-nhow   18:12:03 Feb 21    0            0
    
```

NOTE: If 5.a and 5.b are not both true, there is a problem. **Call the NCF/NGIT OB3 install support person.**

- 6. Review the script output file **/local/install/installPXLXOB3.out**.

NOTE:

- A. Sites must be extra careful! Do not proceed without ensuring that errors 1-4 mentioned in step 4, NOTE 3 are not found in the ".out" file. If you see any of these, call the NCF/NGIT OB3 install support person before you proceed. [Issues associated with error 5 (from NOTE 3) was taken care of in step 5.]
- B. In addition, verify to ensure that no unexpected errors (such as "Text file busy", "fail", "error", etc.) were encountered.

If no errors occurred, proceed to PART 3. Otherwise, contact the NCF.

PART 3: Install OB3 CP Software

Automatically Saved and Restored information:

No files will be backed up.

1. From **PX2** as **root**, install OB3 CP Software. (Sample output and error information are shown in the Script Log Output, page A3-1.)

```
script -a -f /local/install/installCP_OB3.out
cd /mnt/cdrom
./installCP_OB3          (takes 5 minutes)
exit
```

NOTE: If the following message displays, ignore it:

```
/awips/bin/mc_sbn_modem_dvb: Text file busy
```

2. Review the script output file, “/local/install/installCP_OB3.out,” to ensure that no unexpected errors were encountered during the installation.

If no errors occurred, proceed to PART 4, otherwise contact the NCF.

PART 4: Install OB3 Archiver Software

Automatically Saved and Restored Information:

At WFOs, the current Archive Setup will be saved off on the AX with an "orig" extension in /awips/archiver/arch_root/config. There are 8 files.

This applies to both RFCs and WFOs.

1. From **PX2** as **root**, run the "installAX_OB3" script to install the Archiver software. (Sample output and error information are shown in the Script Log Output, page A4-1.)

NOTE: This loads the default configuration.

```
script -a -f /local/install/installAXOB3.out
```

```
cd /mnt/cdrom
```

```
./installAX_OB3 (This step can take up to 5 minutes.)
```

```
exit
```

2. Review the script output file, "/local/install/installAXOB3.out," to ensure that no unexpected errors were encountered during the installation.
3. The OB2 version of the archive setup files are stored in /awips/archiver/arch_root/config with a "orig" extension. If you customized any of the 8 archive setup files, you will need to merge site specific changes back into the OB3 version of the archive setup file

If no errors occurred, proceed to PART 5, otherwise contact the NCF.

PART 5: Install OB3 LDAD Software

Automatically Saved and Restored Information:

The files mentioned in Attachment A, part A will be replaced in OB3. The ROB2 versions of those files will be saved off to /px2data/BACKUPLDADOB2 by the installLDADOB3 script.

- NOTE:**
1. Non-operational sites that do not have an LDAD can skip Part 5 and proceed to Part 6.
 2. Attachment A contains a list of LDAD files that will be installed and activated during the OB3 upgrade.

1. Do the following:
 - a. Prevent ASOS dialing into LDAD during OB3 by turning off the dial in phone lines on the LDAD.
 - b. If you have any interfaces to LDAD, stop these, as well.
2. Login to the **LS1** as **root** and verify that there are no LDAD applications running in the "/usr/local" partition. To do this, do the following:
rlogin ls1
 - a. Stop all local software running at your site. This could include programs such as ldm, samba and the dissemination server.
 - (1) A typical way that many sites stop samba is to use the vi editor and edit the /etc/inetd.conf file and comment out the 3 lines that contain: smbd, nmbd, and swat. To do this, place a # at the beginning of these 3 lines. After doing this, run the following command:

inetd -c

Also do the following:

ps -ef | grep -i smbd

and kill any smbd processes that are still running.

- (2) To stop ldm, the following are examples of what various sites use:

```
su - ldad          (some sites use ldm instead of ldad)
ldmadmin stop
exit
```

Central Region uses:

```
su - ldm
cd /usr/local/ldm/runtime/bin
./ldmadmin.in stop
exit
```

- (3) To stop the dissemination server, the following is an example of what various sites use:

```
su - ldad
/ldad/bin/Dserver stop
exit
```

- (4) Any other local application programs.

- b. Disable any crons which start these applications (e.g., root, LDAD).

After all processes are killed, enter the **exit** command to log out of LS1 and **return to PX2**.

3. From **PX2** as **root**, run the "installLDADOB3" script to install the LDAD software: (Sample output and error information are shown in the Script Log Output, page A5-1.)

```
script -a -f /local/install/installLDADOB3.out
cd /mnt/cdrom
./installLDADOB3          (This will take from 5 to 10 minutes.)
```

See the following note as the script runs.

NOTE: If the screen cannot scroll, resize the window.
--

4. After the script ends, type the following:

```
exit
```

5. Review the script output file, "/local/install/installLDADOB3.out," to ensure that no unexpected errors (such as "Text file busy", "fail", "error," etc.) were encountered.

If no errors occurred, proceed to PART 6, otherwise contact the NCF.

PART 6: OB3 MSAS Script

Automatically Saved and Restored Files:

MSAS files listed in Attachment A, part B will be updated. The replaced files will be saved to /data/fxa/BACKUPMSASOB2.

1. From **PX2** as **root**, run the "installMSASOB3" script
(Sample output and error information are shown in the Script Log Output, page A6-1.)

```
script -a -f /local/install/installMSASOB3.out  
cd /mnt/cdrom  
./installMSASOB3          (Takes about 3 minutes to run)
```

2. After the script ends, type:
exit
3. Review the script output file, "/local/install/installMSASOB3.out," to ensure that no unexpected errors (such as "Text file busy", "fail", "error," etc.) were encountered during the installation. If you see "**Not Dumped**" messages, ignore them.

If no errors occurred, proceed to PART 7, otherwise contact the NCF.

PART 7: OB3 Pre-Install Script

Automatically Saved and Restored Information

No files will be backed up.

1. From **PX2** as **root**, run the “preinstallOB3” script:
(Sample output and error information are shown in the Script Log Output, page A7-1.)

NOTE: The data ingest stops when the preinstallOB3 script begins.

```
script -a -f /local/install/preinstallOB3.out  
  
cd /mnt/cdrom  
  
./preinstall_OB3      (Generally takes 1 to 2 hours to complete.)
```

See the following notes.

NOTE: 1. This step can take from 30 to 60 minutes at some sites, and up to 2 hours at others. The script will shut down all processes, clean up some old files, and install new freeware.

NOTE: 2. If the following message displays, ignore it:
/sbin/init.d/hdpdecode[87]: 29842 Bus error (coredump)

NOTE: 3. The following messages cannot be ignored. If they display, call the NCF. For a “**rcp command**” with files being copied to the “**/usr/local/**” subdirectory, if you see the message “**no such file or directory**” or “**no space left on device**” you **cannot ignore it**. See the log output file page A7-1 for more information on what to do.

2. After the script ends, do the following:
 - a. Type:
exit

- b. Review the script output file, `/local/install/preinstallOB3.out`, to ensure that no unexpected errors (such as: "Text file busy", "fail", "error", "Device busy", and "no such file or directory," etc.) were encountered during the installation.
3. **All sites** need to ensure that no stray processes are running on DS1, DS2, AS1, AS2, and the Workstations:
- a. On **DS1** as **root**, run the "check_process" script that was automatically created in Part 1. Type the following:

```
cd /home/ncfuser
./check_process > check_process.out
```

NOTE: This will take approximately 45 seconds to complete.

- b. View the `/home/ncfuser/check_process.out` file to ensure that there are no stray processes running (which were not killed by the "preinstallOB3" script run in step 1). If a stray process is detected, use `kill <pid>` or, if necessary, `kill -9 <pid>` to kill it (where `<pid>` is the process ID). See (3) and (4), below, for some acceptable processes.
 - (1) If, however, the following "oper" process is running:


```
/awips/hydroapps/whfs/standard/bin/process_dpafiles
```

 kill it by typing: `/sbin/init.d/hdpdecode stop`
 - (2) If the "x400mta" process is running (where `<site>` is the site ID in lower case):


```
x400mta -d/usr/x400mail <site>
```

 kill it by typing: `/awips/ops/bin/x400mta_stop`
 - (3) For this upgrade, all fxa processes will still be running on PX1 and PX2. This is acceptable.
 - (4) If the following displays on a Linux machine, ignore it. However, if it is on an HP machine, kill the process.


```
/awips/fxa/bin/ctrlCpu
```
4. If necessary, rerun the check_process script in step 3 until all applicable processes have been stopped.

If no errors occurred, proceed to PART 8, otherwise contact the NCF.

PART 8: Install OB3 LAPS Software

Automatically Saved and Restored Information:

No files will be backed up.

NOTE: PBP, HFO, GUM, SJU and all RFC sites can skip all of Part 8 (steps 1 through 3).

1. From **PX2** as **root**, run the "installLAPS_OB3" script to install the LAPS software. (Sample output and error information are shown in the Script Log Output, page A8-1.)

```
script -a -f /local/install/installLAPSOB3.out
```

```
cd /mnt/cdrom
```

```
./installLAPS_OB3 (This step can take around 5 minutes.)
```

2. After the script ends, type:

```
exit
```

3. Review the script output file, "/local/install/installLAPSOB3.out," to ensure that no unexpected errors (such as "Text file busy", "fail", "error") were encountered during the installation.

If no errors occurred, proceed to PART 9, otherwise contact the NCF.

PART 9: Install OB3 Hydrology Software

Automatically Saved and Restored information:

For RFC sites only, there will be several installation options where the RFC can choose whether to keep their existing pre-OB3 software or to install the OB3 software. If the RFC chooses to keep their existing pre-OB3 software, it will be saved off temporarily and then restored automatically by the OB3 installation process.

1. From **PX2** as **root**, perform the following commands:

```
cd /  
fuser -k /mnt/cdrom  
eject cdrom
```

2. Remove the first CD and insert the "OH" CD into the CD-ROM Drive on PX2.

```
mount /mnt/cdrom
```

3. From **PX2** as **root**, run the "installOH_OB3" script to install OH software. (Sample output/error information are shown in the Script Log Output for **WFO** see page A9 -1 to A9-5; **RFC** see A9-6 to A9-12.)

```
script -a -f /local/install/installOHOB3.out  
cd /mnt/cdrom  
./installOH_OB3
```

NOTE: This step takes approximately 10 minutes for a WFO site, and from 25 minutes to an hour for an RFC site.

4. **This step applies to RFC systems only.**

- a. If the following error message displays, ignore it:

tar: cannot stat <file type>

- b. The following questions will be asked several times. Respond **y** or **n** for each one.

Did the above command complete without error (i.e., no space left) (y/n)?

- c. There will be several installation questions with options (listed below) in which the RFC must choose whether to keep their existing OHD software or install the OB3 OHD package. For the following questions, the term "saved off version" pertains to the site files that were saved off earlier by this script.

CAUTION

If you answer “y” below, this means the RFC wants to have their Pre-OB3 version put back onto their system and “n” means the RFC wants to keep the newly installed OB3 software which is R24.0.

Do you want to replace Linux nwsrfs with saved off version (y/n)
Do you want to replace Linux ffg with saved off version (y/n)
Do you want to replace Linux verify with saved off version (y/n)
Do you want to replace Linux xdat, xnav, and xsets with saved off version (y/n)

NOTE: All RFC type systems will see the following HP questions:
--

Do you want to replace HP grib with saved off version (y/n)
Do you want to replace HP nwsrfs with saved off version (y/n)
Do you want to replace HP ffg with saved off version (y/n)
Do you want to replace HP send_rfc with saved off version (y/n)
Do you want to replace HP verify with saved off version (y/n)
Do you want to replace HP xdat, xnav, and xsets with saved off version(y/n)

5. After the script ends, do the following:
 - a. Type the stop script command.
exit
 - b. Review the script output file, “/local/install/installIOHOB3.out”, to ensure that no unexpected errors (such as “Text file busy”, “fail”, “error”) were encountered during the installation.
6. Un-mount the “OH” CD using the “umount” command:
 - a. Ensure in all open windows, that the current directory is not “cdrom.”
 - b. Type the following:
cd /
eject cdrom
7. Remove the current “OH” CD from the CD-ROM drive on PX2.
8. Continuing as **root** on **PX2**, insert the “**ADAPT, HP WFO-A, NMAP, NGIT UX**” CD into the CD-ROM drive on the PX2 and run the “mount” command to mount the disc:
mount /mnt/cdrom

If no errors occurred, proceed to PART 10, otherwise contact the NCF.

PART 10: Install OB3 ADAPT Software

Automatically Saved and Restored information:

No files will be backed up.

NOTE: RFCs can skip all of Part 10 (steps 1 through 3).

1. From **PX2** as **root**, run the "installADAPT_OB3" script to install the ADAPT software. (Sample output and error information are shown in the Script Log Output, page A10-1.)

```
script -a -f /local/install/installADAPTOB3.out
```

```
cd /mnt/cdrom
```

```
./installADAPT_OB3 (This step can take from 5 to 20 minutes.)
```

- NOTE:**
1. The installation script will check the site type and automatically skip this ADAPT installation for the RFC sites. The RFC sites should then go directly to Part 11.
 2. If the following error message displays, there is a problem. Call the NCF.
Error in line 1 This is an error that cannot be ignored.
 3. The following error message **can** be ignored:
RAISE EXCEPTION -746, 0, "Attempt to delete internal WWA Counters."

2. After the script ends, type:

```
exit
```

3. Review the script output file, "/local/install/installADAPTOB3out," to ensure that no unexpected errors (such as "Text file busy", "fail", "error") were encountered during the installation.

If no errors occurred, proceed to PART 11, otherwise contact the NCF.

PART 11: Install OB3 NMAP Software

Automatically Saved and Restored information:

The oldest version of NMAP (located in \$NMAP_DIR/old) will be removed. The current version will be moved to \$NMAP_DIR/old. The OB3 version will be installed in \$NMAP_DIR/current.

NOTE: Only the following sites should install NMAP.
ACR, AFC, AFG, AJK, ALR, BCQ, EHU, FWR, GUM, HFO, KRF, MFL, MSR, NHCR, NHCW, NHDA, NHOR, NHOW, ORN, PBP, RHA, SJU, SPCW, TAR, TIR, TUA, VHW, VRH, VUY, WNAW, WNOR, WNOW, WNAR.

All other sites should skip to part 12.

1. **All sites, except those listed in the box above, should skip to part 12.**

From **PX2** as **root**, run the "installNMAP_OB3" script to install NMAP software (Sample output and error information are shown in the Script Log Output, page A11-1.)

```
script -a -f /local/install/installNMAPOB3.out
cd /mnt/cdrom
./installNMAP_OB3 (Takes 10-20 minutes.)
```

Installing NMAP version 5.6.m... (This will sit here for about 10 minutes)

2. After the script ends, do the following:
 - a. Type the stop script command.
exit
 - b. Review the script output file, "/local/install/installNMAPOB3.out", to ensure that no unexpected errors (such as "Text file busy", "fail", "error") were encountered during the installation.

If no errors occurred, proceed to Part 12, otherwise contact the NCF.

PART 12: Install OB3 FXA/System Software

Automatically Saved and Restored Information:

No files will be backed up.

1. From **PX2** as **root**, run the "install_OB3" script to install the FXA/System software:
(Sample output and error information are shown in the Script Log Output, page A12-1.)

- a. Type the following:

```
script -a -f /local/install/installOB3.out
```

```
cd /mnt/cdrom
```

```
./install_OB3          (This will take 1 to 2 hours to complete.)
```

After starting the install_OB3 script, see the notes below. **Do not attempt to start D2D until after Part 13, step 1, is complete.**

NOTE:

1. If the screen cannot scroll during the install, resize the window and this will fix the problem.

2. If the following message displays, ignore it:

```
cmhaltpkg:  Script failed with 2: dsswap can be restarted on a different
             node
```

3. When a **laps localization** is run, **the screen will sit** with the following message for a while. Don't worry about this.

```
Running /awips/laps/etc/localize_domain.pl
```

```
.....
```

```
.....
```

```
                /localize_domain.log.
```

4. Some prompts for input from the user may display. Ignore these messages. **The script will provide all needed input.**

5. Sites do not need to restart data ingest or the SIMFACTS.

- b. While the script runs, examine the script either by examining the screen output or using the tail command. Do this to ensure no unexpected errors occur/occurred.

2. After the "install_OB3" script ends, do the following:

- a. Type:

```
exit
```

- b. Review the script output file, "/local/install/installOB3.out," to ensure that no unexpected errors (such as "Text file busy", "fail", "error") were encountered during the installation.
3. Restart the application programs and site created applications that were stopped earlier during the pre-install portions of the upgrade. Also restart crons which start these applications (e.g., LDAD). For example:

we suggest that you look at the LDAD cron to ensure it has all site-specific entries and that you stop and restart it.

- a. **rlogin ls1**

- (1) Restart all local software running including ldm and samba, if it runs at your site. Use normal startup procedures.

- (a) A typical way that many sites restart samba is to use the vi editor and edit the /etc/inetd.conf file and remove the comments from the 3 lines that contain: smbd, nmbd, and swat. To do this, remove the # at the beginning of these 3 lines. After doing this, run the following command:

```
inetd -c
```

- (b) To start ldm:

```
su - ldad (some sites use ldm instead of ldad)
ldmadmin start
exit
```

Central Region uses:

```
su - ldm
cd /usr/local/ldm/runtime/bin
./ldmadmin.in start
exit
```

- (c) To start the dissemination server, the following is an example of what various sites use:

```
su - ldad
/ldad/bin/Dserver start
exit
```

- (d) Any other local software applications.

- (2) Restart any other locally added crons or national ones that start local application programs previously killed by hand. For example, for the LDAD cron, ensure it has all site-specific changes, then stop and restart it.

- b. After all processes are started, enter the **exit** command to log out of the LS1 and **return to PX2**.

If no errors occurred, proceed to PART 13, otherwise contact the NCF.

PART 13: OB3 Post Install Script

Automatically Saved and Restored information:

Nothing will be saved off.

1. From **PX2** as **root**, run the post install script:
(Sample output and error information are shown in the Script Log Output, page A13-1.)

```
script -a -f /local/install/postinstallOB3.out
cd /mnt/cdrom
./postinstall_OB3          (See notes below.)
```

- NOTE:**
- 1: Some prompts for input from the user may display. Ignore these messages. The script provides all needed input.
 - 2: This step takes about **5 to 10 minutes** depending on the number of workstations. The script initializes the software inventory.
 - 3: **For RFC systems**, the DPA decoder may be managed differently from site to site. The RFC site should verify that their “**site-specific**” DPA decoder setup is running. If the DPA decoder is not running, manually restart it.
 - 4: If the following displays, ignore it:
The ITO Message Interceptor doesn't run.
 5. **Do not proceed to step 2 or beyond, until the script above has completed!**

2. Once the script ends, the system is operational. Start D2Ds at this time. However, note that some applications such as AvnFPS and radar meteorology procedures will not be functional until after Part 14, step 1.

Sites should start the Netscape System Monitoring Window to examine the following processes and ensure the system is operational:

Data server ingest processes,
Application server ingest processes,
LDAD processes, and
AWIPS data status

- NOTE:** The Netscape Window may take 10 minutes or more to get updated. If after a reasonable time you see a problem, call the NCF.

3. Once the script ends, do the following:

a. Type:

exit

b. Review the script output file, "/local/install/postinstallOB3.out", to ensure that no unexpected errors (such as "Text file busy", "fail", "error") were encountered.

c. If in Part 1, the dial-in phone lines to ASOS were turned off, reconnect them. Similarly, as needed, ensure LDAD interfaces, if touched in Part 1, are reconnected.

d. If a **CWSU** Linux box connection to your AWIPS was provided and unplugged the wire from Port 16 on the waveswitch as directed in Part 1, step 5, **don't forget to reconnect it.**

e. Check and add the IP of the CWSU back to the '/etc/hosts.allow' file of the workstation it is piggybacked to since hosts.allow was updated.

4. Merge site changes into crontabs:

If some crontabs were replaced, don't just substitute the old ones back in! Instead, merge site specific changes into the new ones. Some baseline crontabs were replaced in OB3 to improve performance. If the site specific changes are not merged into the new crontabs, the improvement introduced in OB3 will be lost! In addition, ensure that any changes made to crontabs are done appropriately or there will be problems with failovers and server reboots.

Check to see if volume browser customized changes need to be recovered.

5. Restore customized menus on the Linux workstations. If customized changes to /awips/fxa/awipsusr/.gnome/awipsStartupMenu or /awips/fxa/data/awipsStartCmds.*.conf were made and saved off prior to the installation, merge those changes back into the current files at this time.

6. Non-operational WFOs (i.e., Regional Sites, National Centers, etc):

The FXA cron is set to have HWR and Climate products sent out over the WAN. Modify the crontab and edit out these processes. To accomplish this do the following:

On **DS1** as user **fxa**:

a. Type:

crontab -e (To edit the fxa cron.)

b. Search for the HWR and climate sections and comment out the commands.

- c. Copy the edited cron to the cmcluster directory:

On **DS1** as user **root**:

```
cd /etc/cmcluster/crons/fxa
cp -p ds1.dsswap ds1.dsswap.baseline
cp -p ds2.dsswap ds2.dsswap.baseline
cp /var/spool/cron/crontabs/fxa ds1.dsswap
cp /var/spool/cron/crontabs/fxa ds2.dsswap
chown root:sys ds*.dsswap
chmod 555 ds*.dsswap
rcp -p ds*.dsswap ds2:/etc/cmcluster/crons/fxa
remsh ds2 "chown root:sys
/etc/cmcluster/crons/fxa/ds*.dsswap"
remsh ds2 "chmod 555 /etc/cmcluster/crons/fxa/ds*.dsswap"
```

7. A new radarDataMenus.template was delivered in OB3. If you customized your old template, add your customized changes into the new one and place it in the appropriate customization subdirectory.

8. **All Offices need to do the ORPG DPA file conversion**

After the files are installed, execute a script to do the one-time convert of the decoded ORPG DPA (Digital Precipitation Array) files from their existing "big"-endian files to "little"-endian to support the new OB3 convention for OHD software.

To do this, on **DS1** as user **oper**, type the following command:

```
/awips/hydroapps/precip_proc/bin/run_endconv
```

While the conversion script runs, log messages will be displayed to the screen. This process will also write these messages to a log file, which is located at:

```
/awips/hydroapps/precip_proc/local/data/stage1_error/run_endconv.log
```

The log information should say:

Processing xxx where xxx is the name of each file that is converted.

No files found... However, if there are no files to convert, a message starting as shown will appear.

9. **For RFC systems only:**

- a. As user **oper**, start the RFC specific oper cron. Also, ensure your shefdecoder is running.
- b. Additional items for RFC sites to check out:
 - (1) If not running, start the DPA radar product decoding process according to standard RFC procedures (varies among the RFCs).
 - (2) If not running, install the "oper" user crontab according to standard RFC procedures (varies among the RFCs).

- (3) Make sure that each user environment gets created as in earlier releases so that:
 - (a) The APPS_DEFAULTS, APPS_DEFAULTS_USER, and APPS_DEFAULTS_SITE environment variables are set. APPS_DEFAULTS must be /awips/hydroapps/.Apps_defaults.
 - (b) The following directories are in the users PATH
/awips/hydroapps/rfc/nwsrfs/ofs/scripts
/awips/hydroapps/public/bin
 - (c) The “fun” function is set up upon login. This can be done by running:
./awips/hydroapps/public/bin/fun when the user logs in or creates a new window.
- (4) RFCs need to check permissions as follows.
 - (a) On DS1, check the permissions for the directories under **/awips/hydroapps/rfc/verify/output**. These should be 775.
If the permissions are not correct, fix them. Since subdirectories under “output” varies from site to site, list the subdirectories first. Next, substitute the appropriate directory name (<directory name>) and do the following:

```
cd /awips/hydroapps/rfc/verify/output  
chmod 775 <directory name>
```
 - (b) On DS1, check the permissions for the directories under **/awips/hydroapps/rfc/verify/input/verify**. These should be 775.
If the permissions are not correct, fix them. Since subdirectories under “verify” varies from site to site, list the subdirectories first. Next, substitute the appropriate directory name (<directory name>) and do the following:

```
cd /awips/hydroapps/rfc/verify/input/verify  
chmod 775 <directory name>
```
10. Un-mount the “ADAPT, HP WFO-A, NMAP, NGIT UX” CD using following command:
 - a. Ensure in all open windows, that the current directory is not “cdrom”
 - b. Type the following as **root** on **PX2**:

```
cd /  
eject cdrom
```
11. Remove the current “ADAPT, HP WFO-A, NMAP, NGIT UX” CD from the CD-ROM drive on PX2.

If no errors occurred, you may proceed to Part 14, Otherwise contact the NCF.

PART 14: OB3 After-Install Procedures

The following procedures **MUST** all be completed as part of the OB3 upgrade. Procedures 1-4 must be run on the day of the install, if applicable. Procedure 5 must be done before you go into backup mode.

1. Miscellaneous Post install procedures
2. LDAD Post Install Procedure
3. OH Post Install Procedure
4. Maintenance Release(s) for OB3
5. Rerun Localization for your backup sites
6. Users of XNOW may want to fix a spell check bug (optional)
7. Modifying WarnGen templates to create segmented products (optional)
8. Making additional changes to Radar Depict Keys (optional)
9. Secure a Good LDAD Backup

Procedure 9 needs to be done...but not on the day of the upgrade. It can be **done within a week or so after the rest of the install.**

1. Miscellaneous Post install procedures (should do on day of upgrade)

- a. **WFO systems only.** The binaries that AvnFPS 2.0 uses in OB3 are different than what they were in OB2. Therefore, a script needs to be run to convert to the new binaries. This script was delivered with the AvnFPS 2.0 package.

These steps must be completed before AvnFPS can be run.

On **DS1** as **root**:

```
cd /data/local/avnfps
./upgradeAVNFPS2.0.OB3.sh $(pwd)/AVNFPS2.0.OB3delta.tar.gz
```

From the GUI, restart the AVNFPS servers.

- b. The number of OSB products needs to be reduced from 12 to 2 in order to save database space. This step takes up to 30 minutes to complete depending on the number of products in the fxatext database.

On **DS1** as **root**:

```
cd /home/awipsadm/scripts
./change_versions.sh OSB 2
```

- c. **Run setupSSHkeys script.** It is possible that some of the ssh keys were altered during the install of OB3. Run the following script to realign the keys.

From **PX1** as **root**, issue the following commands:

```
script -a -f /local/install/alignSSHkeys.out
cd /home/awipsadm/ssh
./setupSSHkeys.sh
exit
```

After this script is complete, secure shell should be useable between workstations and servers as awipsusr, fxa, etc. However, for security reasons, the root user will not be allowed secure shell access between workstations.

- d. **Restore and convert meteorology procedures with radar products.** The two scripts that were run in Part 0, step 14, saved a copy of your OB2 procedures and the OB2 depict keys. The patchBackUpProcs script will use this information along with the newly delivered OB3 depict keys to create a new set of procedures with the converted depict keys. However, those procedures will not be activated at this point. These newly converted procedures will be given the name of **bu___forecaster** where *forecaster* represents each forecaster's user name for their set of procedures.

From **LX1** as **awipsusr**, issue the following commands:

```
script -a -f /local/install/postRadarpatch.out
/awips/fxa/bin/patchBackUpProcs -c
/awips/fxa/bin/selectProcs b
```

The selectProcs script toggles the pointer to which set of procedures the workstation uses. The 'b' argument says that you want the **bu___forecaster** procedures to be active on LX1.

Launch a D2D on **LX1** and verify that the procedures look ok. Once they have been verified, run the installPatchedProcs script. This script will swap the procedure locations for all of the workstations, i.e., the **bu___forecaster** will now have the old OB2 procedures and **forecaster** will have the new OB3 procedures at all workstations.

```
/awips/fxa/bin/installPatchedProcs
```

If an error displays saying the procedures have already been swapped, rerun the installPatchedProcs command with a 'r' argument. In other words:

```
/awips/fxa/bin/installPatchedProcs r
```

Verify that the other workstations have the correct procedures. If someone has the procedures open already on another workstation, they will only need to switch users to load the new procedures instead of having to exit the whole D2D.

Since the procedures on LX1 are still pointing to the backup procedures (bu___forecaster), run the selectProcs command without the 'b' argument to point

LX1 back to the correct procedures:

```
/awips/fxa/bin/selectProcs  
exit          (exits the postRadarpatch script)
```

e. **OB3 WWA Updates** (Operational WFOs)

Updates to a number of existing templates were delivered in OB3. As mentioned in Part 0, step 8, most of those updates were fixes to bugs found in the OB2 templates or were updates due to new directives. Sites that have customized their OB2 templates may have already discovered the bugs and/or made the directive changes themselves. However, your WWA focal point should verify that all of those changes are in your site's customized files as soon as possible after the upgrade.

In addition, there are new templates in OB3 that your WWA focal may wish to customize. Do this as time permits.

Information on the new and updated templates can be found at:

<http://www.nws.noaa.gov/mdl/wwa/docs/OB3/WWA-OB3-NEW.pdf>

- f. Check local application programs that use perl. Note that perl was updated from 5.61 to 5.8. Therefore, if any of your local applications have /usr/local/perl5.6/bin referenced, you should update it to the static path of /usr/local/perl/bin/perl.
- g. Radar check. Ensure that radar products are not only received locally, but that they are also are being sent out over the WAN. At one beta site this was a problem. Sites can monitor the external receipt of radar products by going to the following web site.

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

If products are not received call your install support person.

- h. Check the netscape bookmarks on the LX workstations.

The bookmarks such as NDFD were missing on the netscape monitor at some beta sites. Your old bookmarks will be stored as:

/awips/fxa/awipsusr/.netscape/bookmarks.html.old

The new bookmarks will be stored as:

/awips/fxa/awipsusr/.netscape/bookmarks.html

- i. Merge your old bookmarks into the new bookmarks file.

2. LDAD Post Install Procedures (must be done on day of upgrade):

If the baseline OB3 files listed in Attachment A section A are acceptable, because you did not make customized changes to any of them, you can skip the rest of this section.

After installing OB3, as needed, merge site-specific changes from your ROB2 version of these or other files listed in Attachment A section A into the new ROB3 files. Follow steps a through e, below, to perform the changes and activate the modifications.

- a. Login to DS1 as user **ldad**.
(Note that for ls1 files, you will need to login to ls1 as the ldad user).
(Note that for AS1 files, you need to login to AS1 as the ldad user).
- b. As needed, merge your customized changes from the ROB2 file into the OB3 file. The "diff" command may help you find the changes. Use the vi editor to merge in these changes:

```
vi /awips/fxa/ldad/data/example.pl
```

- c. Copy the updated OB3 file to DS2 to ensure that you don't have problems during fail-overs. (Note: for ls1 files, don't copy to ds2.) (Note: Locally edited files on DS1 [AS1], should be copied to DS2 [AS2]).
- d. Repeat the steps above, for other activated files which need customized changes merged into them.
- e. Once modifications have been made, do the following to restart LDAD:

```
cd /awips/fxa/ldad/bin  
stopLDAD.sh  
startLDAD.csh
```

3. OH Post install Procedures (must be done on day of upgrade)

WFOs and RFCs:

- a. Create new geographic binary files required by HydroView/MPE. Go to [Attachment B](#) for information on the steps required to this.
- b. Adjust file retention criteria for the Multi-sensor Precipitation Estimator files if needed in order to reduce disk space usage. These file accumulate for each hour and the number of days of retained data may need to be reduced. This problem was noted in AWIPS testing for the Alaska sites. If sites are already running MPE operations and are not having disk-space problems, there is probably no need to adjust the retention criteria.

If there is a need to adjust the retention, then edit the script `/awips/hydroapps/precip_proc/bin/purge_mpe_files`. This file uses the "find" command to find old files; to adjust the retention period, adjust the "mtime ##" line accordingly. This number is in units of days, and is offset by 1, so

that a ## value of 1 really implies retention of 2 days. To reduce the retention criteria, decrease this number.

RFCs Only:

- a. Review the .profiles for all user accounts to check that they do not set the DISPLAY variable.
- b. A new /awips/hydroapps/precip_proc/Run_DecodeDPA script was provided under the name Run_DecodeDPA.OB3. The changes with respect to the baseline version for OB2 is that it had the "amirunning" script commented out and the error handling updated and improved. Some RFC use a Run_DecodeDPA script which they have modified to address local configurations. RFCs should review the script for differences with their current script, and make the applicable changes, or use the OB3 baseline script by renaming the Run_DecodeDPA.OB3 to Run_DecodeDPA.

- c. On DS1 as root, execute the following commands to create a link for the ESPVS resources file. To do these commands you will need to log in as root.

```
cd /usr/lib/X11/app-defaults
ln -s /awips/hydroapps/lx/rfc/nwsrfs/ens/app-defaults/espvs.res espvs
```

4. **Maintenance Releases for OB3 (should be done on day of upgrade)**

This is a reminder that maintenance releases to OB3 should be installed on the day of the upgrade, if appropriate.

The web page with AWIPS software and Maintenance Release information is found at:

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

5. **Rerun Localization for your backup sites (do as soon as possible)**

The LocalizationDataSets directory for your backup sites was deleted during the OB3 upgrade. Therefore, you will need to run a localization for all backup sites in which you use WarnGen and WWA before you can use backup mode.

6. **Users of XNOW may need to upgrade to fix the spell checker. (optional).**

Due to the OB3 upgrade to ispell, a patch is needed for users of XNOW in order for the spell checking functionality to work properly after OB3 is installed. If you have not already done so, obtain the XNOW patch at the following website:

<http://www.srh.noaa.gov/ama/xnow>

7. **Modifying WarnGen templates to create segmented products (optional)**

There is a feature in WarnGen (available since OB2.2) that will allow the user to issue a product in a single segmented format. Multiple segments will not work in WarnGen, but a single segment in the proper segmented format works. In order to do multiple segments,

you will have to use WWA. Attachment "e" has instructions on how to issue a single segment SPS in WarnGen.

8. **Making Additional Changes to Radar Depict Keys or color tables (optional)**

Due to major changes in the organization of radar tables, custom color curves were likely modified during the upgrade. If you decide to make changes to the current radar color curves or radar depict keys, you should first obtain detailed information on how to do this. Access a file called **Radar Localization** on the AWIPS Netscape browser. This file has been updated from the OB2 version. The direct address is:

<http://px1f/localDOC/localization/radarLocalization.html>

9. **Secure a Good LDAD Backup (can be done a week or so after the upgrade)**

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. We suggest that this 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/AWIPSystemAdminNotes.htm>

Attachment A - ROB2 LDAD, EMDS, and MSAS Files Overwritten in Parts 5 and 6

Section A contains the ROB2 files that will be overwritten with OB3 versions during Part 5 when we install the OB3 LDAD and EMDS software.

Section B contains the ROB2 files that will be overwritten in Part 6 when the OB3 version of the MSAS software is installed.

A. The EMDS and LDAD files being updated in OB3:

Before being replaced in Part 5, the ROB2 version of the LDAD files will be backed up to /px2data/BACKUPLDADOB2. EMDS files, on the other hand, will be backed up to the directory where they reside with an extension of ".preOB3."

The EMDS files being updated (all on LS1):

```
ldad/classes/display/AboutHelpDlg.class
ldad/classes/display/AboutLDAD.class
ldad/classes/hmllib/common/LogFilter.class
ldad/classes/hmserve/ingest/GridFactorMill.class
ldad/classes/hmserve/ingest/ObsFactorMill.class
ldad/classes/ifp/data/Parm.class
ldad/classes/ifp/init/IFPFileWriter.class
ldad/classes/ifp/init/IFPReader$Header.class
ldad/classes/ldadapp/obs/BoxContains.class
ldad/classes/ldadapp/text/Alert.class
ldad/classes/ldadapp/text/AlertReader.class
ldad/webDissemSrc/ArrowPainter.java
ldad/webDissemSrc/BVec.java
ldad/webDissemSrc/display/AboutHelpDlg.java
ldad/webDissemSrc/display/AboutLDAD.java
ldad/webDissemSrc/hmserve/ingest/GridFactorMill.java
ldad/webDissemSrc/hmserve/ingest/ObsFactorMill.java
ldad/webDissemSrc/ifp/data/Parm.java
ldad/webDissemSrc/IFPFileWriter.java
ldad/webDissemSrc/ifp/init/IFPFileWriter.java
ldad/webDissemSrc/IFPReader.java
ldad/webDissemSrc/ldadapp/obs/BoxContains.java
ldad/webDissemSrc/ldadapp/text/Alert.java
ldad/webDissemSrc/ldadapp/text/AlertReader.java
ldad/webDissemSrc/Log.java
```

As shown below, the following are LDAD files being replaced on the ASs, DSs, and LSs.

```
as:/awips/fxa/htdocs/cgi-bin/edit_file.pl
as:/awips/fxa/htdocs/cgi-bin/start_process.pl
as:/awips/fxa/htdocs/ldadMon/bin/MakePROCpage
as:/awips/fxa/htdocs/ldadMon/bin/MakeSUMMpage
as:/awips/fxa/htdocs/ldadMon/conf/ldadAdmin.conf-default
as:/awips/fxa/htdocs/ldadMon/conf/proc_internal.conf
as:/awips/fxa/htdocs/ldadMon/conf/summary.conf
as:/awips/fxa/ldad/bin/cleanMsg
ds:/awips/fxa/ldad/bin/CO_serv
ds:/awips/fxa/ldad/bin/check_reply
ds:/awips/fxa/ldad/bin/cleanMsg
ds:/awips/fxa/ldad/bin/faxSender.csh
ds:/awips/fxa/ldad/bin/listener
ds:/awips/fxa/ldad/bin/preprocessROSA.pl
ds:/awips/fxa/ldad/bin/startLDAD.csh
ds:/awips/fxa/ldad/bin/stopLDAD.sh
ds:/awips/fxa/ldad/bin/stopWatchDogProcesses.sh
ds:/awips/fxa/ldad/bin/tell_co
ds:/awips/fxa/ldad/data/gwtest_2_coll_sess
ds:/awips/fxa/ldad/data/gwtest_dissem_sess
ds:/awips/fxa/ldad/data/logPref
ls:/ldad/bin/CO_serv
ls:/ldad/bin/MakePROCpage
ls:/ldad/bin/check_reply
ls:/ldad/bin/cleanMsg
ls:/ldad/bin/newLDADdataNotification
ls:/ldad/bin/rb
ls:/ldad/bin/rc
ls:/ldad/bin/rx
ls:/ldad/bin/rz
ls:/ldad/bin/sb
ls:/ldad/bin/suaReceiver
ls:/ldad/bin/sx
ls:/ldad/bin/sz
ls:/ldad/bin/tell_co
ls:/ldad/bin/zcommandi
ls:/ldad/bin/zcommand
ls:/ldad/data/logPref
```

B. The following MSAS files will be updated (replaced) in OB3:

The MSAS files being updated in OB3 are executables because of a gcc rebuild. The ROB2 version of the replaced files will be saved to /data/fxa/BACKUPMSASOB2.

The MSAS files delivered are:

```
/awips/fxa/ldad/MSAS/bin/asos.exe  
/awips/fxa/ldad/MSAS/bin/qcstats.exe  
/awips/fxa/ldad/MSAS/bin/qcstg1_2.exe  
/awips/fxa/ldad/MSAS/bin/qcstg3.exe  
/awips/fxa/ldad/MSAS/bin/sfcanl.exe  
/awips/fxa/ldad/MSAS/bin/sfchqc.exe  
/awips/fxa/ldad/MSAS/bin/sfcing.exe  
/awips/fxa/ldad/MSAS/bin/sfcncdf.exe  
/awips/fxa/ldad/MSAS/bin/sfcnmc.exe  
/awips/fxa/ldad/MSAS/bin/sfcver.exe
```

Attachment B - Setting up HydroView/MPE Geographic Data Files

The OB3 version of HydroView/MPE has been modified to read much of its geographic overlay information from binary files, rather than from database tables which contain binary format data. These binary files are created from existing ASCII text files which contain the appropriate latitude-longitude information.

For RFCs that have already installed the "OB2plus" version of HydroView/MPE, the creation of the geographic data sets has probably already been complete, and therefore these steps need not be performed.

1. From a Linux workstation as user **oper**, run the following script:

```
/awips/hydroapps/whfs/bin/create_whfs_geodata
```

This script runs other scripts. It runs the **process_geoarea** script for processing the (4) areal data types (basins, counties, zones, reservoirs) and the **process_geoline** script for processing the (4) vector data types (rivers, streams, hiways, roads). Before doing this the **create_whfs_geo_data** script first checks to see if the appropriate text data files are present in the directory:

```
/awips/hydroapps/whfs/local/data/geo
```

If not, the script tries to unload the data from the Informix hydro database tables GeoArea and GeoLine and create the text data files. It then proceeds to process all of the data types into the appropriate database tables and binary files. If both the source text data files or database tables do not contain particular data types, then that data type will not be able to be processed.

2. The user can review the actions of the script by reviewing the log file:

```
/awips/hydroapps/whfs/local/data/log/misc/create_whfs_geodata.log
```

This log file contains messages regarding the overall processing of the **create_whfs_geo_data** script. This script calls the **process_geoarea** script four times, once each for the data types: basins, counties, zones, and reservoirs. It then calls the **process_geoline** script four times, once each for the data types: rivers, streams, hiways, and roads. A log file for each of these script invocations is located at:

```
/awips/hydroapps/whfs/local/data/log/misc/process_geoarea_XXX.log  
where XXX is BASIN, COUNTY, RESRVR, or ZONE
```

```
/awips/hydroapps/whfs/local/data/log/misc/process_geoline_XXX.log  
where XXX is RIVERS, STREAMS, HIWAYS, or ROADS
```

3. When time permits, check that the overlays look correct. To do this, run HydroView/MPE and check that the overlays display properly by selecting the different overlay options.

If overlay data are not displayed and it should be there, check the log files mentioned in Step 2. For additional help, call the NCF and have them contact the WHFS Field Support Group within the Office of Climate, Water and Weather Services/Hydrologic Services Division Support Branch. They can provide a document that explains the entire operations of the geographic data processes.

[Return to Part 14, Procedure 3, step 2](#)

Attachment C - OB3 Freeware and COTS Changes

A. General comments on freeware changes

Usually with each new release of AWIPS there are upgrades with some of the public domain software packages. Sometimes new packages are also included. AWIPS includes freeware in the baseline almost exclusively in support of the national-provided applications. Sites writing local applications can either use the AWIPS provided packages or download their own versions in the directories approved for local installations. Local applications choosing to use the AWIPS provided freeware have to be cognizant of the fact that these versions may change per release.

Sites should be aware of the proposed changes for new AWIPS releases by interacting with the Local Applications Working Group (LAWG). Sites can coordinate with their regional focal point for more information. The AWIPS Software Engineering Group (SwEG) encourages feedback and comments on proposed changes to the freeware baseline.

NOTE: AWIPS currently has a policy of including all its own freeware as a separate installation rather than relying on freeware that might come with the operating environment (OE) even if the versions that AWIPS uses and the OE provides are the same. This is to ensure AWIPS control over the stability of its software environment. With the advent of Linux, stability in the OE might be difficult to achieve given the rapid rate of Linux operating system upgrades and/or RedHat or other vendor OE upgrades. Therefore, AWIPS has opted to include all its own freeware and has instituted a policy for all national baselined software to restrict its use of freeware to the AWIPS provided versions.

OB3 COTS/freeware changes and additions
(all other - existing - freeware rebuilt using gcc 3.2.3)

gcc to v3.2.3	HP and Linux, both build and runtime. On linux, /usr/local/gcc-3.2.3 on HP, /opt/gcc-3.2.3. Both with sym link gcc->gcc-3.2.3.
binutils 2.13.2.1	Linux build and runtime. binutils products live with gcc in /usr/local/gcc
python to v2.2.2	HP and Linux, both build and runtime. Built with blt 2.4u and tkinter interfaces. Includes numerical python 21.3, scientific python 2.2, and Pmw 1.1
udunits to v1.11.7	HP only, both build and runtime (already at 1.11.7 on Linux)
libpng to v1.0.12	HP only, both build and runtime (already at 1.0.12 on Linux)
perl to v5.8	HP and Linux, both build and runtime. Includes netcdf-perl and runtime module addons
swig to v1.3.19	HP and Linux, build only
netCDF to v3.5.0 w/Romberg patch	HP and Linux, both build and runtime
zlib 1.1.4	HP and Linux, both build only
ispell 3.1.20	Linux runtime (already on HP)
sqlcmd v 72	HP and Linux, both runtime
bzip2 1.0.2	HP and Linux, both build only
tktable 2.8	Linux runtime
openssh 3.6.1p1	HP and Linux, both runtime. This was delivered in OB2.2. OB3 version is just a re-compilation with gcc 3.2.3.
openssl 0.9.7b	HP and Linux, both build only. For OB3 version this is just a re-compilation with gcc 3.2.3.
fping-2.4b2 (2.4b2_to)	HP and Linux, both runtime
PGI Fortran v. 4.1	Linux build only

Attachment D - Preserving RPS Lists

In attachment "g" of the OB2 installation instructions, guidance was given on how to preserve customized RPS lists from build to build. However, in OB3, the RPS list format is changing to allow separate RPS lists for each VCP, instead of just one for clear-air and one for storm. In addition, ORPG Build 5 will add two new VCPs (VCP 12 and VCP 121), which will become available once OB3 and ORPG Build 5 are available at your site.

To prepare for these changes, before the OB3 upgrade duplicate storm and clear-air lists for the current VCPs and place into /data/fxa/customFiles. It was previously advised to save a copy in /awips/fxa/data/localization/LLL directory, but a change was made in OB3 so that one copy can be placed in customFiles instead of having to update each workstation every time a change is made to the RPS lists. The procedure below only saves current lists for VCPs 11, 21, 31 and 32, which preserves current lists after the install is complete.

During the upgrade, the two new RPS lists (for VCP12 and VCP121) will be delivered to your system in /data/fxa/radar/lists. These lists were based on recommendations from the Warning Decision Training Branch to maximize use of the new features in ORPG Build 5. A site will not be able to use these lists until the radar has been upgraded to Build 5. However, once the OB3 installation is complete and ORPG Build 5 becomes available, all further RPS lists may be customized to each different VCP. Remember to put the final copy in /data/fxa/customFiles to preserve those lists in future upgrades.

NOTE: Certain applications require specific radar products on the RPS list to function. To use the application, verify that the following products are in the RPS lists:

FFMP needs DHR

SCAN needs 1km CZ, VIL, Base Reflectivity and would also like STI, TVS, and M

1. Procedure:

- a. Move and rename the clear-air file in the localization directory to add the VCP31 and VCP32 extensions. *LLL is the AWIPS localization identifier for the AWIPS site and RRRR is the 4 letter identifier for the radar.*

```
cd /awips/fxa/data/localization/LLL
mv LLL-RRRR.clear-air /data/fxa/customFiles/RRRR.clear-air.VCP31
mv LLL-RRRR.clear-air /data/fxa/customFiles/RRRR.clear-air.VCP32
```

If the clear-air file is not in the localization directory, the file should be found in /data/fxa/radar/lists. If this is the case, only do a copy instead of move, since a copy is still needed in /data/fxa/radar/lists.

- b. Duplicate the storm file in the localization directory and add the VCP11 and VCP21 extensions. *LLL* is the AWIPS localization identifier for the AWIPS site and *RRRR* is the 4 letter identifier for the radar.

```
mv LLL-RRRR.storm /data/fxa/customFiles/RRRR.storm.VCP11
mv LLL-RRRR.storm /data/fxa/customFiles/RRRR.storm.VCP21
```

If the storm file is not in your localization directory, the file should be found in /data/fxa/radar/lists. If this is the case, only do a copy instead of move, since a copy is still needed in /data/fxa/radar/lists.

Steps a and b need to be done for each RRRR radar in which customized changes are to be saved.

2. Keeping the pre-localization RPS lists accurate after the OB3 upgrade.

If the default RPS lists are **modified** by using the procedure in the System Managers Manual, save a copy of the updated RPS lists to the pre-localization RPS list file.

The System Managers Manual provides instructions for updating the default /data/fxa/radar/lists/RRRR.clear-air.VCPxx and the /data/fxa/radar/lists/RRRR.storm.VCPxx RPS list files using the RPS List Editor. After the default RPS lists are updated, the corresponding /data/fxa/customFiles/RRRR.clear-air.VCPxx and /data/fxa/customFiles/RRRR.storm.VCPxx files should also be updated. The generic format of the copy commands would be:

```
cp -p /data/fxa/radar/lists/RRRR.clear.air.VCPxx \
/data/fxa/customFiles/RRRR.clear-air.VCPxx
cp -p /data/fxa/radar/lists/RRRR.storm.VCPxx \
/data/fxa/customFiles/RRRR.storm.VCPxx
```

Attachment E - Modifying WarnGen for Segmented SPS

There is a new feature in WarnGen that allows the user to issue an SPS in a segmented format. Multiple segments do not work in WarnGen, however, a single segment in the proper segmented format works. In order to do multiple segments, use Watch Warning Advisory (WWA).

1. Make the proper changes to the local template. Below is an example of a WarnGen segmented SPS template. The **highlighted** items are new or changes to the current template. In most typical installations, this file is located in:

/data/fxa/customFiles/CCC/CCC-wwa_sws.preWWA (Where CCC is your office ID.)

NOTE: The <SEGMENTED> line placed anywhere in the template allows WarnGen to generate products that do not have UGCs on the third line.

```
//"Special Weather Statement (zones)"
<SEGMENTED>
<DURATIONS | 10 | 15 | 20 | 25 | 30 | 40 | 45 | 50 | 1:00=default | 2:00
    | 3:00 | 6:00 | 12:00 | 24:00 >
<DEPICT_KEYS|1004>

#include "${CURRENT_CWA}-offtIncl.txt"
ZCZC $$cccValue!SPS$$xxxValue! DEF&
TTAA00 KPBZ <NOW | ddhhmm | gmt>&&

<AUX_INFO |geo_descriptor=1 |wwa_type=4
    |wx_hazard=Non-precipitation
    |specific_hazard=Special Weather Statement
    |issue_prod=$$cccValue!SPS$$xxxValue! >

SPECIAL WEATHER STATEMENT&
#include "${CURRENT_CWA}-headerIncl.txt"
<NOW | header | local >
&&
#include "wwa_zones_ugc.template"
// The following line is for getting zone-based information
&
<AREA | file = wwa_zones | format = simple
    | sort_by =[1] | item_format=[st]- | trail=& >
<NOW | header | local >
&&

...HEADLINE ...
&&
&&
&&
\$\$
```

2. After modifying the template, as user **fxa** run a wwa localization on each workstation.
`/awips/fxa/data/localization/scripts/mainScript.csh +wwa.`
3. If the AWIPS WWA/WarnGen CRS formatters are used, run the localization as in #2 on the ds1. Also verify that the wwaServer is running on the ds1 by issuing the following command:
`ps -ef | grep wwaServer`
4. Restart D2D and test WarnGen by issuing a practice SPS.

The following is an example of the PBZ_wwa_sws.preWWA that Pittsburgh, PA uses.

```

//"Special Weather Statement (zones)"
<SEGMENTED>
<DURATIONS | 10 | 15 | 20 | 25 | 30 | 40 | 45 | 50 | 1:00=default | 2:00
| 3:00 | 6:00 | 12:00 | 24:00 >
<DEPICT_KEYS|1004>

#include "${CURRENT_CWA}-offIncl.txt"
ZCZC $$cccValue!SPS$$xxxValue! DEF&
TTAA00 KPBZ <NOW | ddhhmm | gmt>&&

<AUX_INFO |geo_descriptor=1 |wwa_type=4
|wx_hazard=Non-precipitation
|specific_hazard=Special Weather Statement
|issue_prod=$$cccValue!SPS$$xxxValue! >

SPECIAL WEATHER STATEMENT&
#include "${CURRENT_CWA}-headerIncl.txt"
<NOW | header | local >
&&
#include "wwa_zones_ugc.template"
// The following line is for getting zone-based information
&
<AREA | file = wwa_zones | format = simple
| sort_by =[1] | item_format=[st]- | trail=& >
<NOW | header | local >
&&

...HEADLINE ...
&&
&&
&&
&&
&&
&&
&&
&&
&&
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&&
&&
&&
&&
&&
&&

```