
AWIPS SOFTWARE INSTALLATION INSTRUCTION NOTE 49

(for Electronics Systems Analysts)

Maintenance, Logistics, and Acquisition Division

W/OPS12: JCS

SUBJECT: Maintenance Release OB3.2

PURPOSE: To provide installation instructions for Maintenance Release OB3.2.

AFFECTED SITES: All AWIPS sites must install this maintenance release.

PREINSTALLATION REQUIREMENTS: AWIPS Software Release OB3.1 must be installed.

AUTHORIZATION: The authority for this modification note is Request for Change AC145. Originator tracking number: MROB3_SEC_A100580

SECURITY LEVEL: root

ESTIMATED TIME REQUIRED: Approximately 90 to 120 minutes, depends on the number of workstations.

EFFECT ON OTHER INSTRUCTIONS: File this note in EHB-13, Section 3.1. Discard all previous software installation instructions, prior to Build OB1 (AWIPS Software Installation Instruction Note 37) in section 3.1.

VERIFICATION STATEMENT: The Maintenance Release OB3.2 installation procedures were tested and verified at Silver Spring, MD (NMT systems), Taunton, MA (BOX), Charleston, SC (CHS), Wilmington, OH (ILN), Newport, NC (MHX), Knoxville, TN (MRX), Shreveport, LA (SHV).

TECHNICAL SUPPORT: For questions or problems regarding these installation instructions or installing this release, please contact the NCF at 301-713-9344.

IMPORTANT: If WFOs in the CONUS or regional headquarters do not install this release by August 31, 2004, the LAMP guidance and the NGM MOS depictables in D2D will not be produced in AWIPS.

MROB3.2 Patch Summary

1. Add additional levels for CONUS211 GFS (AVN), extend to 168 hrs (DR_12873).
2. LSR: incorrect lat/lon when editing an event. SCAN: Misleading text in Unwarned County window. LSR spotter name entry not clearing properly. Wrong backup PIL being used for the backup site (DRS 13705, 13789, 13849, 14480).
3. CZ mosaic defaults to 4km product for site's dedicated radar (DR_13909).
4. FFMP: VGB bug. FFMP: Service Backup localizations causing basins to be shifted (DRS 14049, 14292).
5. CLI: Time in climate product has an "m" (DR_13680).
6. HWR: Wind speed calculations incorrect in certain situations (DR_14123).
7. Contours are wrong for 250mb heights for any model (DR_14126).
8. PX Bios and NIC firmware Update (DR_14134).
9. Computations with lat/lon grids on NH and NAmr scales fail (DR_14136).
10. Problem with MDCRS plots (DR_14231).
11. LAPS: deriv.exe is hanging (DR_14234).
12. LAPS processes taking up AS2 CPU at OB3 Beta sites (DR_14235).
13. TOC will be disseminating the NGM MOS bufr files differently in the future (DR_14254).
14. AWIPS menu should be updated for IFPS16 (DR_14355).
15. WarnGen creating a new polygon after toggling counties intermittently fails (DR_14526).
16. fxaAnnounce sounds lock up D2D while the sound is playing (DR_14530).

ROB3.2 Detailed Description:

1. Add additional levels for CONUS211 GFS (AVN), extend to 168 hrs (DR_12873).

Currently the AVN 211 grids only go out thru 120 hour forecasts. The patch allows for storage of forecast grids out to 168 hours. This involves adding new forecast times to the avn211.cdl. The other additions are several new levels for existing parameters (Relative Humidity, Temp, U + V Wind Components, + Height) to support GFE.

2. LSR: incorrect lat/lon when editing an event. SCAN: Misleading text in Unwarned County window. LSR spotter name entry is not clearing properly. Wrong backup PIL being used for the backup site (DRs 13705, 13789, 13849, 14480).
 - Currently, in the LSR GUI, if the user edits an event, the initial lat/lon is the lat/lon of the referenced city, not taking into consideration the distance and direction of the event from that city. It should use the lat/lon of the city and the distance/direction to provide the lat/lon of the event and provide the correct county and state for that correct lat/lon.
 - In SCAN, there is some misleading text in the Unwarned County window that is significant enough for us to try to fix it ASAP.
 - If the user saves an event with a source of "Trained Spotter," and if the next event is also a Trained Spotter, the first keystroke will yield the previous match, not the current match. This can cause an undetected incorrect event location.
 - The LSR GUI is using the wrong PIL for backup LSR products.
3. CZ mosaic defaults to 4km product for site's dedicated radar (DR_13909).

When the Mosaic Composite Reflectivity is selected for display, the site's own dedicated radar defaults to the 4km CZ product instead of the 1km. The surrounding radars display the 1km CZ product. At CHS, the 4km products were removed from the /data/fixa/radar/kclx directory and the display updated with the 1km product. Once a new 4km product came in, the display then updated with the new 4km product.
4. FFMP: VGB bug. FFMP: Service Backup localizations causing basins to be shifted (DRS 14049, 14292).
 - FFMP has a bug erroneously identifying a Virtual Gage Basin (VGB) as a regular basin, which results in erroneously high rate data. This bug only exists at about half of the WFOs.
 - If a WFO localizes, using different ingest and local site variables, FFMP lookups can be improperly overwritten.
5. CLI: Time in climate product has an "m" (DR_13680).

After performing a Linux upgrade, the times in the climate product have an "m" in them, i.e., m2:00. This does not occur when the time has 4 digits in it, i.e., 10:00.

6. HWR: Wind speed calculations incorrect in certain situations (DR_14123).
- Wind speed calculations are incorrect if the HWR is set up to report land station winds in knots or marine station winds in mph.
 - There is a mistake in a python file that converts m/s to mph. The change made as part of DR 13580 partially resolved the problem, but the field identified another path that was not covered as part of that DR.

7. Contours are wrong for 250 mb heights for any model (DR_14126).
- On an OB3 system, when you pull up the 250MB heights for any model, it displays contours every 60dm. it should display them every 6dm like the 200mb and the 300mb.

8. PX Bios and NIC firmware Update (DR_14134)

In order to improve performance between the PXs and the PowerVault Raid, the BIOS update needs to be installed on the PXs. Also, a NIC Firmware updated is needed in order to fix a problem with the Ethernet ports on the PX occasionally losing connectivity.

9. Computations with lat/lon grids on NH and NAmers scales fail (DR_14136).
- In OB3, one of the new VB functions added was computed CAPE. Since this involved doing heavy duty computations for a whole 3D volume, code was also added in OB3 to horizontally restrict the area of the native grid over which computations are done. Previously, this would only apply to cross sections and time-heights.
 - The logic, initially written for these computations, prevents derived fields (like thickness or mean heights) for ensembles on the North American and Hemispheric scales. Derived fields for ECMWF and UKMO grids on those scales are inefficient.

10. Problem with MDCRS plots (DR_14231).

When plotting the planview ACARS/MDCRS data, Boise WFO (BOI) has several hours a day when aircraft are ascending/descending into the local airport. MDCRS sounding, and the ACARS/MDCRS sounding availability chart never puts a "+" near BOI.

11. LAPS: deriv.exe is hanging (DR_14234).

The deriv.exe process hangs a few times per day. Idle time goes to zero. The last things in the logs are sometimes stations at the end of the "Comparing precip types to the obs section."

12. LAPS processes taking up AS2 CPU at OB3 Beta sites (DR_14235).

The number of ITO alarms has increased from approximately 20-40 in OB2 to nearly 300 with the introduction of OB3 beta testing.

13. TOC will be disseminating the NGM MOS bufr files differently in the future (DR_14254).

In the future, the TOC will be disseminating the NGM BUFR MOS messages differently. The content of the messages is not changing, but the segmentation used is. The current LAMP code that decodes the BUFR MOS messages will fail when decoding the new messages because of this segmentation of the messages. LAMP requires proper decoding of these messages to produce the LAMP guidance, and also to produce the NGM MOS depictable plot files used to view the NGM MOS plot data in D2D. If the messages are disseminated in the future without this code change, LAMP guidance and the NGM MOS depictables in D2D will not be produced.

14. AWIPS menu should be updated for IFPS16 (DR_14355).

In IFPS16.Final, the IFPS Master Menu will no longer be fielded. This patch will add AWIPS Menu options to launch GFE and IFPS Service Backup. The IFPS Master Menu option will be removed once all offices have installed IFPS16.

15. WarnGen creating a new polygon after toggling counties intermittently fails (DR_14526).

This bug was introduced in OB3.1. In working on the 3.3 WarnGen tasks a bug was found that will cause creating a new polygon after toggling counties on and off to intermittently fail. When the polygon recreation fails in this manner, it can cause the follow-up functionality and the plotting of Local warnings to fail. The existing code is erroneously subtracting x and y coordinates, where the operation should be strictly among y coordinates.

16. fxaAnnounce sounds lock up D2D while the sound is playing (DR_14530).

When fxaAnnounce runs on a workstation, model independent, and sound is played along with a red banner, it renders D2D inoperable until the sound is finished playing. This has been verified at OB3 and OB2.4 sites. Once the sound is done the user can interact with D2D again.

The solution is to have D2D send the system call ("play soundfile.au &") to the background.

A. Pre-installation Requirements

1. ROB3.1 must be installed.
2. Logout of all the D2D sessions on all workstations, including Text Workstations (if present).

This completes the pre-installation procedure.

B. Maintenance Release Installation Procedure

NOTE: If WFOs in the CONUS or regional headquarters do not install this release by August 31, 2004, the LAMP guidance and the NGM MOS depictables in D2D will not be produced in AWIPS.

1. Installer must log into DS1 as `root` :
`rlogin ds1-<site> -l root`
2. Change to the `/data/local/ROB3.2` directory:
`cd /data/local/ROB3.2`
3. Create a script output log file:
`script -a ROB3.2.out`
4. Uncompress the release bundle
`zcat ROB3.2.tar.Z | tar xvf -`
5. Run the installation script by typing:
`./installROB3.2`
6. No need to script the output any longer:
`./stopscript`

This completes the maintenance release installation procedure. A post installation localization and push script will be done in Part D.

C. Post Installation Checkout Procedure

1. Check for any files that may not have been removed/copied correctly, Type:

```
grep busy ROB3.2.out
```

If there are any 'cannot write: Text file busy' messages, the mentioned files will have to be manually copied or removed.

2. Users can log back into their workstations at this time. However, it is preferable that users wait until Part D is completed before logging in. If users do login at this point, it is recommended that users log out of ALL sessions again and back into their workstation following the completion of Part D. This will enable the latest localization changes to be seen.

NOTE: Part D (PX BIOS Update, Localizations and Push Scripts, and Configure Workstations) can be performed on another day. The procedure takes 1.2 to 1.7 hours to complete.

D. Post Installation Localization

1. PX BIOS and NIC Firmware Update (duration: 45 to 60 minutes)

NOTE: During this procedure, PX1 and PX2 will be rebooted. The pxNapps package will be relocated accordingly to minimize operational downtime.

- On DS1, execute the following commands to update the BIOS and NIC driver on each PX:

```
rlogin ds1 -l root
cd /data/local/ROB3.2
script -a px_updates.out
```

```
./px_bios_bcm_updt.sh px1    This update takes about 15 minute
./px_bios_bcm_chk.sh px1    This check takes up to 5 minute
```

```
./px_bios_bcm_updt.sh px2    This update takes about 15 minute
./px_bios_bcm_chk.sh px2    This check takes up to 5 minute
```

NOTE: **** BE PATIENT!! ***** BE PATIENT!! ** BE PATIENT!!
This script will failover the appropriate pxNapps package, update the PXs' firmware, reboot the PX, and then relocate the pxNapps package back to normal operations.

All questions will be answered by the script. No user input is necessary.

- If the script does not continue past the message "Installing BIOS update on pxN, please wait..." within 2 minutes, then perform the following steps:
 - a. On DS1, <CTRL-C> from the 'px_bios_bcm_updt.sh'
 - b. DO NOT exit the scripted output session
 - c. Power cycle the hung PX server
 - d. After the PX has rebooted, rerun the 'px_bios_bcm_updt.sh' (see above) from the same scripted output session and continue with the procedure.

Note: If the site has any concerns over the execution or results of the above scripts, please contact the NCF and ask for OB3.2 Installation Support.

- Verify that cluster packages are running on the appropriate PX (i.e., 'px1apps' located on PX1 and 'px2apps' located on PX2). The location of each package (i.e., the Owner of the Service) should match their normal mode location.

```
rlogin px1 -l root
clustat
exit [Exits back to DS1]
```

- Verify that the AWIPS processes have started with each package.

```
remsh px1 "ps -ewf | grep fxa"
remsh px2 "ps -ewf | grep fxa"

./stopscript [Closes scripted output file]
```

2. Localizations and Push Scripts

To enable the updates for item #1 and #7, the following steps need to be performed after the installation:

- On PX2 as user 'fxa', execute the following "forced" localization (duration = 5 minutes). root Localization and push are executed on PX2, not DS1!

```
rlogin px2 -l
su - fxa
cd /awips/fxa/data/localization/scripts
./mainScript.csh f -grids
exit
```

- Upon successful localization, on PX2 as user 'root', execute the following "push" script (duration = 15 to 25 minutes; site-specific based on number of workstations).

```
rlogin px2 -l root
cd /data/local/ROB3.2
script -a -f push_localization_ROB3.2.out
./push_localization_ROB3.2
exit
```

3. Configure Workstations

Note: If the site has any concerns on how to set up and receive Alarm/Alert messages, please contact the NCF.

The Department of Commerce and the Department of Homeland Security (DHS) have agreed to disseminate the DHS non-weather emergency messages over NOAA All Hazards Radio. The product dissemination scenario proceeds as follows.

- The DHS Senior Watch Officer notifies the National Centers for Environmental Prediction (NCEP) Senior Duty Meteorologist (SDM) that a request for transmission of an emergency message is forthcoming.
- Following verification, the SDM transmits the requested message to AWIPS sites as a text message using the AWIPS WAN. The DHS messages header include the following WMO and AWIPS IDs:

WMO ID: NOUS71 KWNO
AWIPS ID: CCCDNMWNO

where CCC is the local site ID.

- The text workstations at AWIPS sites signal the arrival of each DHS message using the text workstation alarm/alert feature. This feature includes a visual and audio alarm.
- WFO personnel follow established procedures to initiate the broadcast of the text of the DHS message on NOAA All Hazards Radio (and on no other medium).
- Sites should ensure that all their text workstations are configured to receive and alert on this product. Refer to the AWIPS User's Manual description at:

http://onestop.noaa3.awips.noaa.gov/awipsdoc/aumob3/4_2_7.htm

If the AWIPS Product ID of the DHS message is not already in the site's alarm list, it should be added using the "New Alarm/Alert Product" dialog box.

REPORTING INSTRUCTIONS

Report the completed software installation 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	Install AWIPS Maintenance Release OB3.2 (patch bundle # MROB3_SEC_A100580)
7	Equipment Code	AWIPS
8	Serial Number	001
15	Comments	Installed Maintenance Release OB3.2 (patch bundle # MROB3_SEC_A100580) I.A.W. AWIPS Software Installation Instruction Note 49.
17a	Mod. No.	S49

A sample EMRS report is provided as attachment A.

Mark S. Paese
Director, Maintenance, Logistics, and Acquisition Division

Attachment A - EMRS Report Sample

Attachment A - Sample EMRS Report

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

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

GENERAL INFORMATION

NEW RECORD WFO* TBW Document No.* TBW40618002

1. Open Date: 06/18/2004 Open Time: 09:00 2. Op Initials: WSH 3. Response Priority: Immediate Low Routine Not Applicable 4. Close Date: 06/18/2004 Close Time: 11:00

5. Maintenance Description: 436 characters left AWIPS
 AWIPS Maintenance Release OB3.2 (patch number MROB3_SEC_A100580)

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				
			2	

MISCELLANEOUS INFORMATION

15. Maintenance Comments: 665 characters left
 Installed AWIPS Maintenance Release OB3.2, I.A.W. AWIPS Software Installation Note 49

16. Tech Initials: GAF

17. SPECIAL PURPOSE REPORTING INFORMATION

a. Mod No.: S49 b. Mod Act/Deact Date: 06/18/2004 c. Block C: d. Trouble Ticket No.: e. Block E:

Commit A26 Place on Hold Copy A26 New A26 Cancel

Done Internet