



Raytheon

AWIPS Operational Build 7.1: Final Release Notes

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AWIPS OB7.1 Final Release Notes

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1.0 D2D/TEXT/OTHER APPLICATIONS

1.1 Radar

- For all-tilts displays, the four arrow keys on the keypad now control the motion up and down or forward and back in time, without using the shift key. Once you have set the mode of motion (vertical or time), the Page Up/Page Down keys will start and adjust loop speed. To switch from vertical to time mode or from time to vertical mode, press the desired arrow key function.
- This table compares key press functions between OB6 and OB7.

Button	OB6 function	OB7 function
up arrow	speed up loop	step upward through all tilts for the currently displayed time
down arrow	slow down loop	step downward through all tilts for the currently displayed time
left arrow	step backward through all frames ignoring any tilt considerations	step backward in time through all frames with the currently displayed tilt
right arrow	step forward through all frames ignoring any tilt considerations	step forward in time through all frames with the currently displayed tilt
shift up arrow	step upward through all tilts for the currently displayed time	no function
shift down arrow	step downward through all tilts for the currently displayed time	no function
shift left arrow	step backward in time through all frames with the currently displayed tilt	step backward through all frames ignoring any tilt considerations
shift right arrow	step forward in time through all frames with the currently displayed tilt	step forward through all frames ignoring any tilt considerations
Page Up	no function	speed up loop
Page Down	no function	slow down loop
Notes	OB6	OB7
	If one has a standard loop loaded (that is, not an all tilts or a space load from the Volume Browser) the left and right arrows do the same thing regardless of	With this new mapping, if one accidentally (or out of habit) uses the unshifted up/down arrows for the standard product case, one will end up

<p>whether they are shifted or not. This is not because the key mappings are any different for space load versus non-space load, but rather because a standard loop has in effect one tilt.</p> <p>Also, when looping is turned on, the behavior of D-2D is sensitive to which key step function was used last. The default functionality is to loop, ignoring tilt considerations. If one uses the shift up/down, then looping will result in a loop of only frames for that time. If one uses the shift left/right, then looping will result in a loop of only frames of that tilt. Clearing restores everything to the default. One result of this is that using the shift up/down on a standard product and then turning on the loop results in a very uninteresting loop—it just stays on that time.</p>	<p>with one of the aforementioned uninteresting loops until the step forward/backward keys are used again.</p> <p>The default looping behavior immediately after loading is still to loop, ignoring any tilt considerations until one of the unshifted arrow keys is used. Otherwise, the same consideration as in OB6 applies: The form of looping depends on whether one has used the left/right or up/down arrows prior to starting the loop.</p>
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Note: There are a number of options from which to choose. Some of these options include a text overlay, a graphical overlay, or a small graphic that is part of each image.

- Plan-view and perspective displays of winds are available from radars in your Regional area. These are found on the Upper Air menu, in a new Radar section.
- A suite of snowfall products is available on the kxxx ► Precip submenu. These include One Hour Snow Water Eq (OSW), One Hour Snow Depth (OSD), Storm Total Snow Water (SSW), Storm Total Snow Depth (SSD), User Selectable Snow Water Eq (USW), and User Sel Snow Depth (USD). All are available for request (OTR, RMR), and the first four can be added to an RPS list.
- Alert Request now includes two new monitoring categories: *Vol MDA Strength Rank* and *Fcst MDA Strength Rank*.
- The display of Digital VIL (DVL) now reacts to the scaling coefficients that come with the data. This will be more significant when ORPG 9 comes out; for now, the effect is to increase the coverage of low-VIL areas.
- Three new range-unfolding VCPs are available in the RPS list editor application. They are. KXXX.storm.VCP211, KXXX.storm.VCP212, KXXX.storm.VCP221. In addition, unused VCP 112 has been removed. The RPS lists will contain the same products and elevation angles as the RPS lists for VCP 11, 12, and 21.

1.2 System for Convection Analysis and Nowcasting (SCAN)

- SAFESEAS localizations are governed in part by config files that specify the localization site. For this DCS, the config files were changed to reference KEY (in place of EYW) to allow the Key West forecast office to run SAFESEAS with its new KEY identifier. These files can be changed with no new compilation.

1.3 System on AWIPS for Forecasting and Evaluation of Seas and Lakes (SAFSEAS)

- MAROAB added to data type list.

1.4 Volume Browser/Grid Products

- Time series, including the meteogram, now include labels on the y-axis to identify the displayed parameter.
- You can now sample the data in a time series.
- Radar data are now available in the VB for use in cross-sections. This feature allows you to display cross-sections of radar reflectivity or velocity along specified baselines. The radar to use is identified by placing the Home location. Other fields available include plan views of Z, V, and column max reflectivity.
- A new grid source, GriddedMOS, gives you access to gridded MOS data. Fields include max/min temps, 6/12h PoP, 3/6/12h thunderstorm prob, and 24h snowfall, and are found on the Volume Browser window on a new **Sfc/2D►MDL MOS**. This dataset is now included (as MOSGuide) in the Grid Data monitor page.

1.5 Localization

- WSFO logic removed in localization.
- In makeWWAtables.csh there is logic that supports making GELTs based on the old WSFO forecast areas. All that logic will be stripped out as it is no longer needed and just makes makeWWAtables.csh more complicated than it needs to be.

1.6 Local Storm Report

- The LSR GUI now initially shows blank default selections for the event type and report source, and shows an error dialogue when an event type and/or report source are not manually selected by the user.
- When you place the LSR GUI in Monitor Mode (effectively having the Event Log update regularly in order to display the desired, most current event list) it will respond immediately after new events are saved to netCDF (which happens upon transmission). No need to provide a re-fetch time interval.

1.7 GFE

- This OB7.1 version of GFESuite contains both bug fixes and enhancements. Enhancements consist of data items, regional change requests, directive changes, and infrastructure improvements.
- New data items include Gridded MOS, NCDC/PRISM climate data, OPC and TAFB Offshore Gridded Wave guidance (data available in OB7.2 timeframe), and renaming of Eta to NAM.
- Regional request items include the SRF formatter and CWF 24hr period labels options.
- Many directive changes are included in this release. Highlights are CWF upgrade headlines for tropical events, nighttime Pops addition to the SFT, VTEC hazard information in the AFM/PFM, temperature phrasing in the ZFP, cloud category changes for ZFP/AFM/PFM, and FFA wording improvements.
- Infrastructure improvements include changes to MakeHazard, diagnostics for bad weather/discrete keys, conversion routines for Key West (EYW to KEY), spell checker enhancements, and support for Sky/PoP/Wx local effects.
- The installation of GFE has changed to separate out the climate, topo, and map shapefiles from the GFE CORE install. [**Note:** This means that sites are now responsible for maintaining their shapefiles.]
- Numerous bug fixes are included in this release; refer to the release notes details for further information.
- This version of GFESuite moves the installation and the ifpServer to dx4. A minor change makes the OB7.1 GFESuite compatible with the new expanded format of the Call To Actions file, which is introduced in OB7.2.
- See GFE “News You Must Use” (<http://www-md.fsl.noaa.gov/eft/AWIPS/ob7.1a/onlinehelp/README.html#important>) for important information on installation/configuration issues.
- See GFE Release notes (http://www-md.fsl.noaa.gov/eft/AWIPS/ob7.1b/onlinehelp/CHANGES_OB71ab.html) for more detail on OB7.1 enhancements.

1.8 Infrastructure

- Keypad loop speed adjustment moves from the up/down arrows to the Page Up/Page Down buttons. **Caution:** If you hit the up or down arrow in a standard (not all-tilts) display, looping and stepping are disabled until you hit either the left or right arrow.
- The maximum frame count has been increased to 64.
- Combined-image displays have been improved by removing the valid time for non-forecast products and removing the date string (time is kept) from the left-side legend. In particular, this makes all-tilts radar legends more usable.

1.9 Time Zone Changes

- Time Zone Name Change for Guam (Deployed in OB7.1 to no more than 2 sites). This involved changing the Time Zone name from Local Standard Time (LST) to Chamorro Standard Time (CHST) for two sites: WFO GUM Tiyan, Guam and WFO HFO Honolulu, Hawaii.
- Time Zone Changes for Indiana (Deployed prior to OB7.1 to no more than 12 sites). The purpose of this change was that in 2005, the Indiana State Legislature voted that the entire state would observe DST starting on April 2, 2006 at 2:00 a.m. There were some counties already observing DST but there were other counties observing EST but did not observe DST. These counties will now observe DST on April 2, 2006 at 2:00 a.m. Some made the switch from EST to EDT. Others made the request to the U. S. Department of Transportation to switch from the Eastern Time Zone to the Central Time Zone. On January 18, 2006, the U.S. Department of Transportation made a decision regarding which counties in Indiana were moving to the Central Time Zone. The 8 counties moving from EST and will observe CST and CDT are: Pulaski and Starke in North West Indiana and Davies, Dubois, Knox, Martin, Perry, and Pike in South West Indiana. This was deployed as the Indiana Daylight Savings Time (DST) Emergency Release OB6.0.1 to 12 sites. The sites affected include sites that have County Warning Areas in Indiana – WFOs PAH, ILN, IWX, LMK, IND, & LOT; sites that have Primary Backup responsibility for Indiana Counties – WFOs JKL & ILX; and sites that have Secondary Backup responsibility for Indiana Counties – WFOs SGF, MKX, CLE, & GRR.
- Key West Identifier Change (Deployed prior to OB7.1 to Key West and four backup sites). The purpose of this change was that in spring 2006 the Key West WFO moved its location from the Key West Airport to a new building located on 1315 White Street in Key West, Florida. This caused the Key West WFO to change its identifier name from EYW to KEY. This was deployed as the Key West Location Identifier Change Emergency Release OB6.0.2 to 5 sites. The sites impacted by this change include the seven neighboring or backup WFOs that are responsible for the backup or inter-site coordination with the Key West WFO. These backup sites are: WFOs MFL, SJU, MLB, TBW, JAX, TAE, & EHU. WFOs SJU, TBW, & TAE did not install this Emergency Release.

1.10 Decommission DS

- Port Dial-Up Radar, LDAD capability, MHS, GFE (New Chat Server Client). (Refer Section :Processes 4.3.)

1.11 RSA Modifications

- Tabular text application.
- LDAD storage changes to accommodate more frequent reports.
- Time Series changes to ordinate (y-axis) labeling.

1.12 Fog Monitor

The Fog Monitor is a decision-assistance tool that uses several expert-system algorithms to evaluate infrared and visible satellite data for indications of fog. A background processor on px1 will evaluate the satellite data and produce output files for D-2D to display as a detailed map image. A simple extension table will also pop up, giving a county/zone-wide synopsis of the worst-case fog scenarios. By default, the Fog Monitor's coverage area will include the home County Warning Area (CWA), all adjoining CWAs, and any coastal marine zones of the monitored forecast offices. These areas are defined in an installed configuration file. **This file was altered to allow the Key West WFO to run the application following its EYW to KEY site identifier change.**

1.13 Satellite

A new POES Imagery section is added to the Satellite menu, containing selectors for IR Window Visible, 3.7 μ and 11-3.7 μ products. These are viewable on the Regional, State(s), and WFO scales.

1.14 Tools

A new option has been added to the Tools menu: Range Rings. This option shows adjustable range rings around the various launch pads and data towers on the main display.

1.15 NWRWAVES

NWRWAVES Setup Utility

From the NWRWAVES Setup Utility, you can modify the list of available products that appear on the **Filter** menu of the NWRWAVES Browser. On the Summary Message/Misc Settings tab, in the NWRWAVES Browser Settings section, you select the product types and/or WFOs that users are allowed to filter. For additional information, see the NWRWAVES Installation and Configuration document.

NWRWAVES Browser

There is a new Creation Time on the **Sort** menu of the NWRWAVES Browser. With this option you can sort the CRS messages by the date they were added.

The Editor option that was formerly located on the **Options** menu has been removed because of corruption issues related to CRS messages. The baseline NWR Browser editor is now the only editor called by NWRWAVES.

2.0 WATCH WARNING ADVISORY (WWA)

- Remove WWA from the D2D.

3.0 HYDROLOGY

3.1 HydroView/MPE

- Integration of Local QPE tools into national baseline

The OHD HydroView/MPE application had been modified for Build OB7 to incorporate features currently found in a set of local software known as DailyQC. The DailyQC application is a local application currently being used by Western Region RFCs in their daily operations to perform quality control of precipitation and temperature data, along with freezing level data. Some of its functionality exists already in the Multi-sensor Precipitation Estimation (MPE) application. The DQC capabilities extend beyond MPE in its use of temperature and freezing level data and its more comprehensive method for tracking quality control edits of precipitation data. It also includes enhanced user tools for analyzing and manipulating station precipitation reports. The resulting precipitation estimate data serve as critical input to the RFC and WFO river forecast models.

The DailyQC functionality will be released in stages during OB7.x. For OB7.1, the existing HydroView/MPE application will be separated into two applications: HydroView and MPE. Also, the data processing infrastructure will be modified to process and store, but not use, 6- and 24-hour precipitation data. The OB7.1 MPE application will contain a revamped menu interface containing the DailyQC options; however, these options will not be selectable. In OB7.2, plans are to make the options selectable, and provide support for integrating the quality control model. The User Interface document mentioned later details the OB7.1 changes to the HydroView/MPE application.

- WHFS HydroView Mapper Enhancement

The full “Mapper” functionality is a two-application system for displaying station data on a geographic display. The first application extracts and pre-processes observed data from the database into data files, and the second application displays the data. The current WFO Hydrologic Forecast System (WHFS) “Point Data Control” (PDC) feature in the HydroView application provides much of this ability already. The Mapper design approach provides the ability to display data in a more responsive manner as well as the ability to “time-step” through point data.

The pre-processing (i.e., extraction/derivation) step allows the data to be displayed quickly because it avoids the WHFS HydroView need for re-querying the database each time a request is made. Mapper also has the ability to “time-step” through data – e.g., to show hourly data for one hour, or the previous hour, with a single user mouse click.

The release of this functionality will be performed in stages.

For OB7.1, the existing PDC functionality will be preserved and the HydroView user interface has undergone some modifications as follows:

~ New Filtering Features:

- Allows Multiple type/source filtering (instead of just single).
- Allows Value Filtering with operators (instead of just suppress zeros).
- Allows Elevation Filtering with operators.

~ New Annotated Display:

- Can display elevations of location and SHEF "parameter codes" (PEDTS) associated with value.

~ Rearranged PDC Window Layout:

- No functional changes implied by this change.

The OB7.1 PDC will not support the new Mapper time-step mode because we are still working on performance improvements for extracting the required precipitation data.

Note: For OB7.2, the data extraction pre-processor will be completed and the full station data display will be functional. Where appropriate, information is identified in the following sections as being relevant to OB7.1, OB7.2, or both.

Adaptation to OB7 COTS changes:

- ~ Assorted minor bug fixes including the restored ability to properly restart the SHEF decoder from the HydroBase application.
- ~ The ability to store and manage low water (i.e., drought) impact statements in the HydroBase application.
- ~ The ability to perform alert/alarm against lower limit thresholds, to complement the existing upper limit exceedance thresholds.

3.2 RiverPro

- Improved ability to specify and manage the display of flow-based flood impact statements in RiverPro, beyond the existing traditional stage-based impacts.

3.3 Hydro-VTEC

- Minor RiverPro enhancement for OB7.1 for hydro-VTEC.

3.4 RFC

- All applications have been ported to PostgreSQL and to the new RHEL 3 operating system.

3.5 WHFS/IHFS DATABASE

- Transition of the OHD HSEB software from using an Informix DBMS on HP-UX servers to using a PostgreSQL DBMS on Linux workstations. Also, IHFS_DB has been converted from Informix to PostgreSQL, and all the application software has been converted to access the PostgreSQL database.
- SHEFdecoder and db_purge has been installed.

4.0 SYSTEM

4.1 Crons

The major cron changes are:

- Reconfigure all the processes on dx1, dx2, dx3, dx4, px1 and px2.
- Remove nwrWatchDog.sh from DS1 and added to DX1.
- msg_cleanup and arch_cleanup_mhs added to DX1.
- Activate the radar cron jobs listed below on DX2.

```
# Scheduled radar distribution
25,55 * * * * fxa csh -c '${FXA_HOME}/bin/startRadarDist.pl RCM >& /dev/null'
17,34 * * * * fxa csh -c '${FXA_HOME}/bin/startRadarDist.pl THP >& /dev/null'

# Scheduled radar requests to the RadarServer
23,53 * * * * fxa csh -c '${FXA_HOME}/bin/sendOTR.sh 74 >& /dev/null'
15 * * * * fxa csh -c '${FXA_HOME}/bin/sendOTR.sh 79 >& /dev/null'
35 * * * * fxa csh -c '${FXA_HOME}/bin/waitUpTo.pl 600 >& /dev/null' ; csh -c
'${FXA_HOME}/bin/sendOTR.sh 136 >& /dev/null'
5 0,8,16 * * * * fxa csh -c '${FXA_HOME}/bin/waitUpTo.pl 600 >& /dev/null' ; csh -c
'${FXA_HOME}/bin/sendOTR.sh 152 >& /dev/null'
1 0,6,12,18 * * * * fxa csh -c '${FXA_HOME}/bin/sendOTR.cfc.sh >& /dev/null'

# send radar precipitation bias table data to ORPG via the RadarServer
26,46 * * * * fxa csh -c '${FXA_HOME}/bin/sendEnvData.pl'
```

4.2 Freeware/COTS Software

apache (httpd)	2.0.52
a2ps	4.13b
apache-ant	Deleted
binutils	2.15.92
dgrib (GRIB2 decoder)	1.67
expect	5.42
gcc	3.4.4
gdlb	2.0.28
ImageMagick	6.0.7
j2re	1.4.2_02 to 5 (numbering change)
j2sdk	1.4.2_02 to 5 (numbering change)
java	1.4.2_02 to 5 (numbering change)
java-sdk	1.4.2_02 to 5 (numbering change)
linux	rhel4u2 (2.6.x)
openmotif	2.1.30, 2.2.3
netcdf	3.6.0p1
netscape	retired (using native browser)
openssh	3.9p1-8
openssl	0.9.7a-43

pgadmin III (new)	1.2.1
plotutils	plotutils
postgresql	7.4.8
python	2.4.1
Numeric python	24
Perl Add-Ons	
ChartDirector	4.0
DBD-Pg	1.43
DBI	1.4.8
Digest::MD5	2.33
HTML:Parser	3.35
Libwww-perl	5.79
SignalHandler	2.34
Test-simple	
XML-Parser (was with OHD code)	2.34
XML-Simple	2.14
Netcdf	2.14

4.3 Processes

- The following Decoders and the Data Controllers have moved from DX1 to DX3
 - ~ BinLightning
 - ~ Satellite
 - ~ Grib
 - ~ Maritime
 - ~ WarnDB
 - ~ StdDB
 - ~ Collective
 - ~ BufMosDecoder
 - ~ Raob
 - ~ Aircraft
 - ~ Profiler
 - ~ Redbook
 - ~ Metar
 - ~ Synoptic
 - ~ RAMOS.
- CommsRouter, SSMI driver, BufDrivers (model, goes, acars, poes-quikscat, hdw) have moved from DX1 to DX3.
- DialServer, RMR_Server, ORPGCommsMgr, nwrtrans.pl have moved from DS1 to DX2.

- textNotificationServer, notificationServer, purgeProcess are moved from PX1 to DX1.
- MhsRequestServer, MhsServer and nwrTrans.pl moved from DS1 to DX1.
- RadarStorage, RadarServer, RadarMsgHandler, RadarTextDecoder, HandleGeneric, ORPG*Mgr, RMRserver, DialServer, metar2Shef, Dpgather are moved from DX1 to DX2.
- ldadServer, listener(ldad), pollForData.pl (ldad), watchDogInternal.sh (ldad) moved from DS1 to PX2.
- The normal number of acqserver process running on DX3 is about 17. **Note:** This has been moved from DX1 to DX3.
- IFPS/GFE runs on DX4.

4.4 Purging

- The text trigger replacement functionality in AWIPS is being gradually replaced with a new function that accepts text notifications for products from either the SBN or the text database. This function, called NotifyTextProd, was originally written for GFE to satisfy its requirements to get text products from the SBN into IFPS. To satisfy the AWIPS requirement, NotifyTextProd was modified to accept not only text notifications from the SBN via the CommsRouter, but also notifications from the textNotificationServer when text products are written to the text database.
- In OB5, a new program for handling purging came on line, and there are new data structures that control how this purger works. Current plans are to phase this new purger in. In OB5, metars, radar, and grids were implemented. OB6 added purging of satellite images and redbook graphics with the new purger. The new purger now includes logic that will prevent it from attempting to purge any directory referred to in the file \$FXA_HOME/bin/fxa-data.purge, and it will also attempt to use default purge parameters if necessary to purge any valid data key that points to a directory not in either the new or old purger's tables. **Everything should be moved over to the new purger in OB7.1**

The new purger is a persistent process. Instead of waking up on a schedule and generating a huge burst of activity every so often, this new purger is designed to maintain a very constant CPU load, and it informs the notificationServer of what it purges, which helps with notificationServer performance. The new purger is smart enough to ignore directories and non-time-stamped files in normal purge operations, and has a separate mechanism for cleaning up non-time-stamped files. Files named literally 'template' will always be ignored by the non-time-stamped file logic; thus, no extra steps are required to manage template files. The new purger allows for much more sophisticated purging schemes beyond the simple version purging, among them time purging.

4.5 Database Engine and Operating System

- The PostgreSQL DBMS had replaced Informix as the HP-UX DS machines are retired and replaced by the Linux DX machines.
- The Operating System has been upgraded to Red Hat Enterprise Linux 4u2 and the Kernel is upgraded to 2.6.9-37.

4.6 RSA

- Merge RSA functionality into AWIPS OB7.
- New functionality includes:
 - ~ Tabular text application.
 - ~ LDAD storage changes to accommodate more frequent reports.
 - ~ Ordinate (y-axis) labeling on time series.
 - ~ Accommodation for feet and ft AGL in VB height scales.
 - ~ On-the-fly analysis of mesonet data in VB.
 - ~ Radar data avbl in VB for cross sections, etc.
 - ~ Range rings extension.

4.7 AVNFPS

- Retire ifpServerWatcher and use GFESuite software as replacement.
- IfpServerWatcher reaches end-of-life in OB7.1.
- Informix product replaced by PostgreSQL in OB7.1.
- Improvements:
 - ~ Improving TWEB Quality Control in AvnFPS 3.2.
 - ~ Enhance Grid Monitoring to Include Ceiling and Visibility Fields in AvnFPS 3.2:
 - Upper sections create a query.
 - Lower sections display data.
 - Improving Climatology Tools in AvnFPS 3.2:
 - ~ General reactions:
 - Query interfaces confusing.
 - Displays sub-optimal.
 - Desire to capture functionality of climatology tables developed by Air Force.
 - Data stored in binary files tuned for performance. Standard format requested.

- Guidance source within AvnFPS as an aid to forecasters in preparing TAFs. This code transforms MOS/LAMP guidance into TAF form to make more readily usable by forecasters.
- AvnFPS to monitor flight categories.
- AvnWatch to monitor ceiling and visibility grids from IFPS.
- Creation of Guidance TAFS.
- Generate Draft Terminal Aerodrome Forecasts (TAF) from the Localized Aviation MOS Program (LAMP) in AvnFPS 3.2.

4.8 IFPS

- Removal of PYTHON.
- PostgreSQL Conversion.

In AWIPS builds up to and including OB5.x, AWIPS applications used Informix as their relational database. In OB6, the Postgres relational database was delivered with AWIPS. As a result, most AWIPS applications were modified in OB6 to use Postgres.

Throughout OB6, IFPS continued to use Informix for two main reasons:

- 1) Up until OB6, IFPS was delivered to AWIPS outside of the normal AWIPS release schedule. The way the IFPS and AWIPS schedules lined up during the OB6 development timeframe, it would have been nearly impossible to convert IFPS to Postgres for OB6.
- 2) More than 20 executables and scripts were expected to become obsolete and were therefore removed in OB7. It made sense to time the Postgres conversion with the software removal in order to prevent unnecessary software development.

As part of OB7.1, the DS machines, which host the Informix server, have been decommissioned. Because of that, it is a requirement that IFPS use Postgres instead of Informix in OB7.1.

4.9 Simple Mail Transfer Protocol (SMTP)

- After OB7.1 is deployed, the migration of the X.400 COTS product to SMTP (Simple Mail Transfer Protocol) will occur. However, to keep the necessary changes to a minimum, and to make the changeover as transparent as possible, many file names remained the same or similar and process names were kept as similar as possible to the previous X.400-based MHS process names. For example, **x400sc** under X.400 became **smtp_send** for SMTP, and **x400rd** under X.400 became **smtp_recv** for SMTP.
- Transition

All sites will be transitioned from X.400 to SMTP after the deployment of OB7.1 is complete. X.400 and SMTP are generally incompatible message protocols due to differences in addressing and mail formats. Mail gateways are the standard method of

translating messages from one form to the other. AWIPS cutover to SMTP should be done only after all sites are at OB7.1.

- Deployment Strategy

OB7.1 deployment has to be completed before SMTP migration occurs. Alpha and Beta testing will be performed at various sites first, and after a successful cutover to SMTP, there will be a national deployment to cutover all sites to SMTP. Deployment is scheduled to begin mid February 2007, lasting for two weeks.

- SMTP Design Change

~ Interface to AWIPS Applications:

- No change to the APIs.
- Msg_send command uses environment variable to determine message disposition.
- New file system for message queue's(/data/mhs instead of data/x400).
- Receiving applications are invoked by the msgrcv_svr on the DX instead of on the DS.

~ Monitor and Control:

- All messages will be logged as with X.400.
- Sendmail logs to /var/log/maillog.
- OVO templates will be deployed to monitor processes and queues.
- Sendmail has an SNMP (agent) MIB which could be used to provide statistics.

~ Performance:

- Sending throughput is roughly 12 msgs/sec for radar-sized messages. This is about the same as X.400.
- Receiving throughput is much higher than 12 msgs/sec. This is much better than X.400.
- WAN data volume is expected to decrease.
- MHS Hub server load is expected to decrease.

4.10 Emergency Releases

- Radar Displacement

The deployment of this release will allow forecasters to be able to issue warnings with the correct location and data.

Some sites have reported that the implementation of ORDA 8.0 has uncovered a defect in the way AWIPS radar data are rendered. When displaying AWIPS radial-based products counterclockwise in D2D, there is an error of approximately 0.5

degree. These products include: Z, V, SRM, DHR, OHP, THP, STP, DSP, ULR, DVL, EET, CLR, and CFC.

SMS support was requested to verify a fix for DR 17840 - OB6.1.2: Radar Cell Display Displaced from Actual Cell Location (Ref. OB7.1 DR 17718 & OB7.2 DR 17839) and this fix needs to be applied to all sites prior to the sites installing OB7.1.

Scope. The scope of this release includes two Radar source files being checked in with the Radar fix, the IGC_Process executable being built, the Integrated testing of the fix, the Beta testing of the fix at the ATAN sites, and the deployment of the fix to the OB6.1.1 sites.

Beta Testing at the seven ATAN sites will confirm that the problem has been corrected in the OB6.1.2 baseline. These ATAN sites are:

- ~ WFO AFG, Fairbanks, AK in AR.
- ~ WFO BMX, Birmingham, AL in SR.
- ~ WFO CAR, Caribou, ME in ER.
- ~ WFO CLE, Cleveland, OH in ER.
- ~ WFO DMX, Des Moines, IA in CR.
- ~ WFO JAN, Jackson, MS in SR.
- ~ WFO OKX, New York, NY in ER.

The Radar displacement fix is already in the OB7.1 and OB7.2 baselines.

- **Notification Server**

During severe weather conditions the notificationServer hangs, preventing messages from being sent. SMS support was requested to verify a fix for the notificationServer socket/IPC communication problems. This problem was fixed by a new notificationServer executable and deployed via ATAN 821 to OB6.1 sites for installation.

5.0 NWRWAVES

NWRWaves version 2.6 replaces 2.4 in OB7.1. Major Enhancements include:

- Marine product handling.
- Multiple VTEC lines.
- Split FIPS coding.

NWRWAVES Crontab Usage

```
# Crontab file for starting dx2apps NWRWAVES purge processes.

# Any entry that needs to use ${FXA_HOME} or ${FXA_DATA} should use "csh -c"
# to run the command. The command and any output redirection to a file must
# all be include in single quotes after the "-c". The output redirection
# will then be done by the csh so it must use csh syntax.

# PURGER/SCOUR...
# Run NWRWAVESpurge.sh daily to clean DEBUG LOGS OUTPUT INPUT
# and TEST Directories
45 0 * * * csh -c '/awips/adapt/NWRWAVES/NWRWAVESpurge.sh >& /dev/null'

# Run removeExpiredNWR.sh twice an hour to remove any expired or
# corrupt files from pending and sent side of NWRWAVESBrowser
20,40 * * * * csh -c '/awips/adapt/NWRWAVES/removeExpiredNWR.sh >& /dev/null'

# OTHER NWRWAVES Cron jobs
# Summary Update Script, updateSUMMARY.csh, four times an hour to
# update the summary message
00,15,30,45 * * * * csh -c '/awips/adapt/NWRWAVES/updateSUMMARY.csh >&
/dev/null'

# Run the Pending Directory Check Script, pendingDirCheck, every ten minutes
# to check for old messages in the pending directory
00,10,20,30,40,50 * * * * csh -c '/awips/adapt/NWRWAVES/pendingDirCheck >&
/dev/null'
```

6.0 DR 17863 POST-INSTALL AND PRE-INSTALL NOTES

6.1 Pre-Install

A3.7 GFE Pre-Installation Procedures

1. Check localMapFiles.py file. Starting with OB7.1, map shapefiles are not provided in the GFE installation. The GFE CORE contains an updated BASE/MapFiles.py that points to the latest set of map shapefiles; however, because the latest map data package is not installed, the MapFiles.py will be pointing to incorrect files. The strategy is to preserve the OB6 version of the MapFiles.py by copying it into localMapFiles.py. Your site may want to retrieve the latest map shapefiles from the NOAA1 server at this point because the localMapFiles.py already needs to be updated. If your site updates a map shapefile, the older versions of the shapefile can be removed from /data/maps.

If a localMapFiles.py file exists, make a backup copy of the file.

```
cd /awips/GFESuite/primary/etc/SITE
cp localMapFiles.py localMapFiles.py.bak
```

2. Using etc/BASE/MapFiles.py, copy the following entries to etc/SITE/localMapFiles.py to preserve map file references. This list contains all entries in MapFiles.py with the exception of the comment lines and the special Alaska section. Complete these steps for the localMapFiles.py in both the /awips/GFESuite/primary directory and the /awips/GFESuite/svcbu directory. The entries in localMapFiles.py should be the same for the awips/GFESuite/primary and /awips/GFESuite/svcbu directories.

3. Edit entries in etc/SITE/localMapFiles.py as necessary to ensure that they point to a map shapefile that exists in the GFESuite's data/maps directory. If there are entries in the backed-up localMapFiles.py file, merge them into the new localMapFiles.py file if desired. The entries in the etc/SITE/localMapFiles.py file and the map shapefiles in the /data/maps directory should be the same for both the primary and svcbu directories. The svcbu /data/maps directory may be changed later.

6.2 Post-Install

A.7.4 GFE Post-Installation Information

A.7.4.4 Update GFE map files

During the main install (A.3.7.2, Step 2), map shape files may have been updated in /awips/GFESuite/primary/data/maps. Refer to Attachment D for specific shape file types. Be sure you updated the localMapFiles.py to reflect the new shape files. If you make any additional changes, restart the ifpserver. The older shape files can be removed from the data/maps directory.

A.7.4.5 Service Backup Notes

Once your site has finished modifications to the localMapFiles.py file, export the configuration information to the Central Server.

Send by e-mail your localMapFiles.py file to all of your potential backup sites. Ask the IFPS focal point to compare the localMapFiles.py with the shapefiles they have in /awips/GFESuite/svcbu/data/maps. If the backup site's focal point discovers there are map shapefiles listed in your localMapFiles.py that they don't have, they should request those shapefiles from you. Service Backup will fail unless the localMapFiles.py file and the map shapefiles in /data/maps match.

Before performing service backup for a site, check with the sites you back up to ensure your site has the backup site's shapefiles available in /awips/GFESuite/svcbu/data/maps. If the backup site's shapefiles are not available, you will get this error message when you begin service backup: "WARNING: MAP-RELATED CONFIGURATION ERRORS". If you get this error, the ifpServer log for service backup (DX4:/awips/GFESuite/svcbu/data/logfiles/) will show an error message like the one that follows:

```
17:45:47.490 MapManager.C 338 PROBLEM: ***** MAP BACKGROUND GENERATION  
ERROR - Source Shapefile *****
```

```
Error in generating map #20 Name: ISC_all Basename: Code: Traceback (most recent  
call last):
```

```
File "./ifpServer/ShapeFile.py", line 371, in open
```

```
File "./ifpServer/ShapeFile.py", line 173, in __init__
```

```
File "./ifpServer/ShapeFile.py", line 49, in __init__
```

```
File "./ifpServer/ShapeFile.py", line 57, in open
```

```
File "./ifpServer/ShapeFile.py", line 32, in _open
```

```
exceptions.IOError: /awips/GFESuite/svcbu/data/maps/cm02se05.shp,
```

```
/awips/GFESuite/svcbu/data/maps/cm02se05.shp.gz, or
```

```
/awips/GFESuite/svcbu/data/maps/cm02se05.shp.Z does not exist
```

If this happens, get the missing shapefiles from the site you are backing up and restart the backup ifpServer.

7.0 INSTALLATION

Red Hat Enterprise Linux 4.0 (RHEL4) changed the baseline `/etc/fstab` file to allow for easier mounting of external media devices such as a flash drive. In doing such the default mount points for the internal floppy and dvd/cdrom drive have changed from `/mnt` (OB6.1.x) to `/media` (OB7.1)

The below summarizes the changes, namely lines 15-18 from a RHEL3 `/etc/fstab` were changed to lines 27-30 in a RHEL4 `/etc/fstab`.

15	<code>/dev/cdrom</code>	<code>/mnt/cdrom</code>	<code>udf,iso9660 noauto,owner,kudzu,ro 0 0</code>
16	<code>/dev/cdrom1</code>	<code>/mnt/cdrom1</code>	<code>udf,iso9660 noauto,owner,kudzu,ro 0 0</code>
17	<code>/dev/fd0</code>	<code>/mnt/floppy</code>	<code>auto noauto,owner,kudzu 0 0</code>
18	<code>/dev/hde</code>	<code>/mnt/floppy1</code>	<code>auto noauto,owner,kudzu 0 0</code>
27	<code>/dev/hda</code>	<code>/media/cdrecorder</code>	<code>auto pamconsole,exec,noauto,managed 0 0</code>
28	<code>/dev/hdf</code>	<code>/media/cdrom</code>	<code>auto pamconsole,exec,noauto,managed 0 0</code>
29	<code>/dev/hde</code>	<code>/media/floppy</code>	<code>auto pamconsole,exec,noauto,managed 0 0</code>
30	<code>/dev/fd0</code>	<code>/media/floppy1</code>	<code>auto pamconsole,exec,noauto,managed 0 0</code>

The result of this change is if you need to mount a floppy or cdrom to a workstation, server, or other device running RHEL4 the command to automount is now:

mount /media/floppy

instead of the legacy: `mount /mnt/floppy`

Note that the same convention is used for the dvd/cdrom drive, i.e. **mount /media/cdrom**