
AWIPS SYSTEM MODIFICATION NOTE 8, Rev A (for Electronic Systems Analysts)

Maintenance Logistics & Acquisition Division

W/OPS1: FJZ

SUBJECT : AWIPS Preprocessor Installation Procedure

PURPOSE : To provide preprocessor installation procedures for sites performing the initial installation of the preprocessor in the AS2 rack.

AUTHORIZATION : The authority for this patch modification note is Request for Change AA320

EQUIPMENT AFFECTED : Advanced Weather Interactive Processing System (AWIPS) at sites listed in attachment G.

SITES AFFECTED : See attachment G.

PARTS REQUIRED : Northrop Grumman Information Technology, Inc (NGIT) will ship all required parts to the sites. Sites will receive 3 boxes.

MODIFICATION PROCUREMENT : None

TOOLS REQUIRED : Standard site tool kit, Xyplex tool, spare monitor, keyboard, and mouse.

TEST EQUIPMENT REQUIRED : None

EFFECT ON OTHER: INSTRUCTIONS : AWIPS System Modification Note 4, 5, and 8. File this note in EHB-13, Series II, section 5.1. AWIPS System Modification Note 8, Revision A supersedes AWIPS Modification Note 8.

VERIFICATION STATEMENT : This modification was tested at the National Weather Service Headquarters NMTR, Silver Spring, MD (SLVM2).

TIME REQUIRED : 2 working days

TECHNICAL SUPPORT : For questions or problems regarding these installation instructions please contact Franz J.G. Zichy at 301-713-1833 x128. For any other questions, please contact the NCF at 301-713-9344.

INTRODUCTION

Two Linux Servers (PX1 and PX2) are added to off-load processing from the existing Data Servers (DSs) and to improve overall data flow performance. The addition of the PX1 and PX2 Linux Servers increases server performance by moving the Satellite, Grib, and Bufr Ingest to the new servers. Refer to exhibit 1 Linux Preprocessor Hardware.

DEVICE CONFIGURATION

The two Dell PowerEdge Linux PX devices are connected through separate SCSI cables to a single Dell PowerVault mass storage unit. Each of the PX devices have an internal PERC/3 RAID card. The redundant array of independent disks (RAID) card has its own CPU, memory, and battery backup to ensure data integrity in the event of a hardware failure. The SCSI cables from each of these internal RAID cards are connected to one of two internal EMM (Enclosure Management Module) cards in the back of the mass storage unit. These EMM cards control data flow to the mass storage device. The mass storage unit is set up with two RAID arrays (also known as containers or logical drives) with four physical drives in each RAID array. The RAID arrays are RAID level 5 with the data and parity disks striped across all drives. Although the parity disk reduces the number of available data disks by one, it helps ensure data integrity.

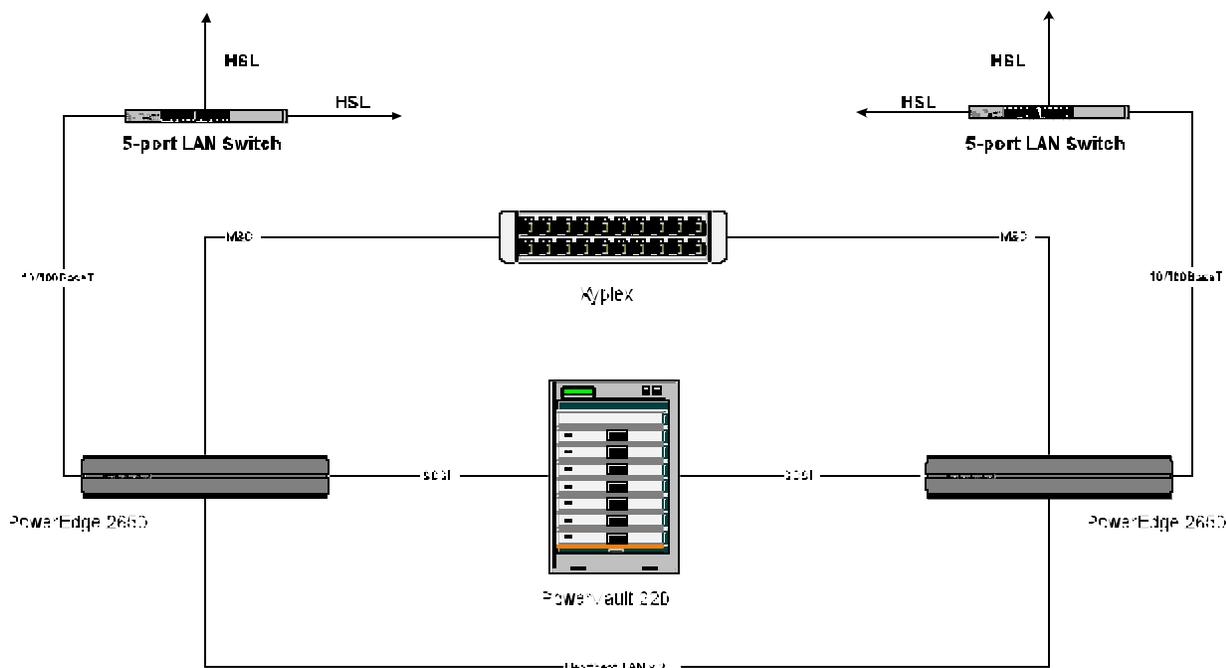


Exhibit 1

The PowerVault mass storage unit is configured and controlled via the PERC/3 RAID cards' onboard software. At this time, access to the software is available during a PX reboot. Dell provides a Windows utility to control the PowerVault while the PX is on line, but the utility has not yet been tested. The RAID cards are in a "cluster mode configuration. Any configuration changes to the mass storage unit configuration on one of the RAID cards is sent to the other card. If one of the PX devices is down when changes are made to the other card, a warning message during the boot process displays that a configuration mismatch has been found. The operator will be required to bring up the management software to reread the mass storage disk configuration. For more information on the preprocessor configuration, refer to the AWIPS System Manager's Manual for OB1.

NOTE: Installation Guidelines

- ESAs are asked to schedule the Preprocessor (PX) installations with their AWIPS regional focal points
- AWIPS regional focal points are asked to coordinate the PX installation using Netscape calendar set aside for AWIPS software upgrades The attached document provides instructions on how to access:

<http://calendar.netscape.com>
- NCF/NGIT upgrade support is available from 7AM to 7PM EDT, Monday through Thursday.
- OCONUS sites requiring installation assistance outside the set support hours on Thursdays must coordinate with the NCF a day in advance.
- A maximum number of 3 sites per day will be upgraded in the AWIPS time-frame noted above.
- Review the complete modification note before performing the installation.
- If any of the installation instructions require further clarification, call the NCF.
- Sites must coordinate the PX installation with their regional or NCEP Center AWIPS focal point. COMT, the Training Center, systems at WSH, and the OSF should schedule their upgrade with franz.zichy@noaa.gov at WSH or schedule themselves using the calendar feature on Netscape set aside for AWIPS software upgrades.

GENERAL

NOTE: This procedure applies only to VRH, GUM, NHCR and WNAR.

Call the NCF before performing this installation. Read each step **thoroughly** before performing a procedure.

During the PX Activation Procedure in part G data ingest will be down for approximately 30 minutes. The communications processor will continue to spool data. Once the preprocessor is activated and data ingest is restarted, AWIPS completes the ingest, decode, and store of the spooled data. Do not perform part E if severe weather is anticipated in the next 7 hours. Parts A through D may be performed at any time.

NOTE: This modification may be split up in to two portions without detriment to data ingest or AWIPS performance. The installation may be performed as follows:

- Day 1 ⇒ Sections A - D
- Day 2 ⇒ Sections E - I

A. AWIPS AS2 Rack Preparation Procedure

Call the NCF before performing this procedure. Read each step **thoroughly** before performing a procedure.

1. Remove the blank panels from the upper half of the AS2 rack. The 1.75 in. formed panel above the AS may be left in place (figure 1).
2. Remove the power strips (and mounting hardware) from the rack and lay them aside (figure 2). Except for the fan, **do not** unplug any of the devices from the power strips.

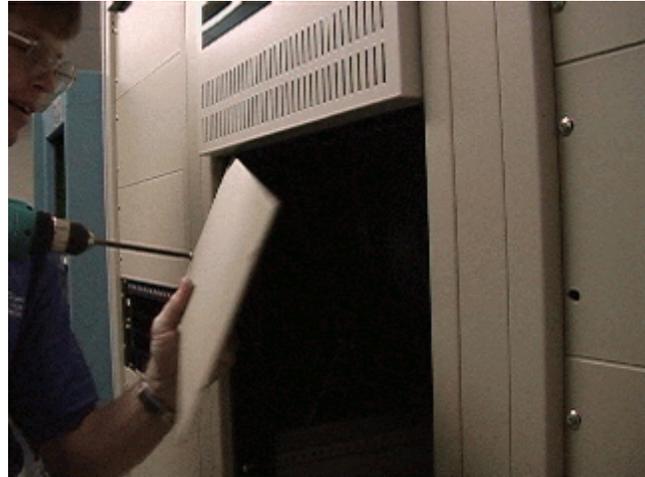


Figure 1

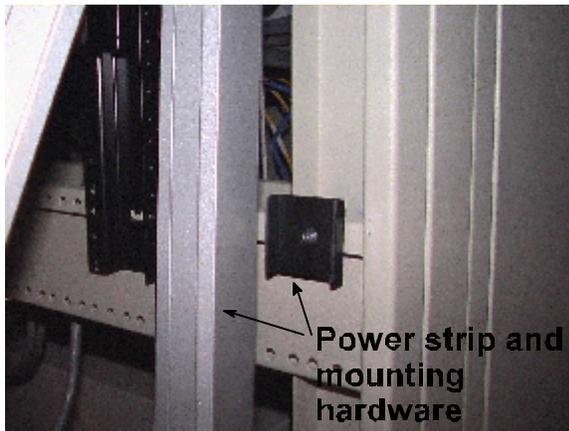


Figure 2

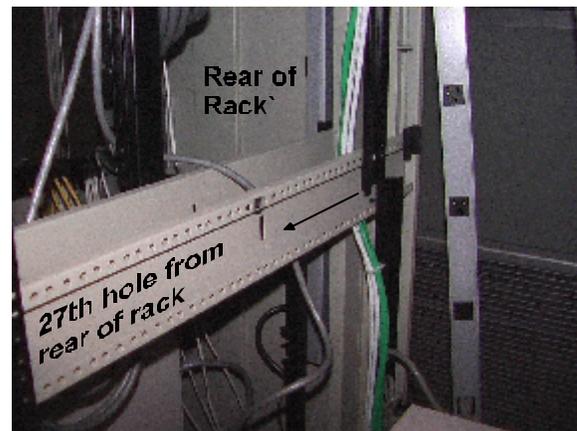


Figure 3

3. Install new capture nuts over the 27th hole (approximately 16 inches) from the rear of the rack, along the top rail of the center side-brace and top rail of the top side-brace (figure 3).

4. Mount the new set of vertical mounting rails (provided) to the rack side braces. Mount the rails in the same manner as the existing rear vertical rails, with the group of four holes toward the top of the rack and the top screw in the 2nd slot from top. Ensure the rails are at the forward most limit of the adjustment slots (figure 4).

This completes the AS2 rack preparation procedure.



Figure 4

B. Preprocessor Installation Procedure

1. Install capture nuts over the 28th hole below the Modem Nest on the front, center and rear vertical mounting rails.
2. Attach the shelf to the capture nuts.
3. Locate the preprocessor (PX) slide rails and remove the colored “shipping” tape.
4. Using 2 people, attach the PX 2 slide rails to the vertical rack rails by inserting screws into the front and rear mounting plate at the 16th and 21st hole below the modem nest. Do not fully tighten the screws at this time.
5. Install the PX 1 slide rails directly above the PX2 slide rails. Insert the screws into the front and rear mounting plates at the 10th and 15th holes. Do not fully tighten the screws at this time.
6. Install capture nuts over the 7th hole below the Modem Nest on the front and center vertical mounting rails.
7. Attach the black L-shaped mounting rails to the capture nuts using the top row of mounting slots. Ensure that the rails are at the forward most limit of the adjustment slots and that there is 5.25 inches of clearance between the bottom of L-shaped mounting rails and the Modem Nest. It may be necessary to loosen the Modem Nest’s screws and push it upwards, in order to gain the necessary clearance.
8. Fully extend the PX2 slide rails insuring that they securely latch in the extended position.

9. Using two people, lift the PX2, and beginning with the rear-most slots, slide the shoulder nuts (on the side of the chassis) into the rails slots. After all the shoulder nuts are in their appropriate slots and the PX is sitting on the mounting rails, push rearward on the unit to latch it into the rails.
10. Release the rail lock mechanisms by pushing up on the green levers on the outer sides of the slide rails, carefully slide the PX2 chassis into the rack until the rear of the chassis is at the center vertical rail position. Tighten the slide-rail mounting screws left "snug" in Step 4 and then finish sliding the chassis into the rack and secure it with the fasteners on the lower corners of the front panel.
11. Repeat Steps 8 through 10 for PX1.
12. Using 2 people, install the PowerVault (mass storage) on the L-shaped mounting rails and secure it with the thumb screws on the lower corners.

This completes the preprocessor installation procedure.

C. Preprocessor Cabling Procedure

1. Stack the 10/100BaseT 5-Port Switches (PX/SW 1 and 2) on the shelf in the AS2 rack (figure 5).
2. Install the LA1CW112, LA1CW113, LA1CW116, and LA1CW117 cables (NWS5113) between the AS2 and DS1 rack.
3. For WFOs, install the LA1CW118 and LA1CW119 cables (NWS5195) between the AS2 and AS1 rack. For RFCs and National Center 'RFC' systems install these cables between the AS2 rack and the AS1 rack of the collocated WFO.

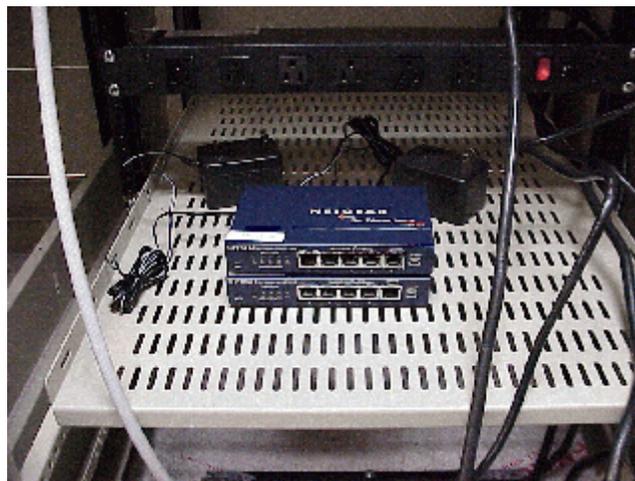


Figure 5

4. Connect the DS1 ends of the LA1CW112, LA1CW113, LA1CW116, and LA1CW117 cables (NWS5113) to the appropriate ports on the High-Speed LAN switches (HSL/SWs) in DS1 (see table 1).

Table 1

AS2 Rack		Cable Number	DS1 Rack	
PX/SW 1	Port 1	LA1CW112	HSL/SW 1	Port 21
PX/SW 2	Port 1	LA1CW113	HSL/SW 1	Port 22
PX/SW 1	Port 2	LA1CW116	HSL/SW 2	Port 21
PX/SW 2	Port 2	LA1CW117	HSL/SW 2	Port 22

5. Connect the other ends of LA1CW112, LA1CW113, LA1CW116, and LA1CW117 cables (NWS5113) to the appropriate ports on the preprocessor switches (PX/SWs) in AS2 (see table 1).
6. For WFOs, connect the RJ-45 end of the LA1CW118 and LA1CW119 cables (NWS5195) to Xyplex ports 3 and 4 in the AS1 rack. For RFCs and National Center 'RFC' systems, connect the RJ-45 end of the LA1CW118 and LA1CW119 cables (NWS5195) to ports 28 and 29 of the **WFO Xyplex** (attachment E)
7. Connect the DB-9 ends of the LA1CW118 and LA1CW119 cables (NWS5195) to the Serial 1 port of the appropriate preprocessor in the AS2 rack.
8. Connect the appropriate ends of the LA1CW108 and LA1CW109 cables (NWS5115) to

Port 4 of PX/SW1 and PX/SW2.

9. Connect the other ends of the LA1CW108 and LA1CW109 cables (NWS5115) to the Gb LAN interface Port 1 of PX1 and PX2.
10. Attach PX1AW1 (NWS3641) between Gb LAN interface Port 2 on PX1 and Gb LAN interface Port 2 on PX2.
11. Attach PX1BW1 (NWS5193) between the left-hand SCSI port on the PowerVault (figure 6) and the left-most port of the SCSI Adapter Card in PX1.
12. Attach PX1BW2 (NWS5193) between the right-hand SCSI port on the PowerVault (figure 6) and the left-most port of the SCSI Adapter Card in PX2.
13. Connect the appropriate ends of the LA1CW120 and LA1CW121 cables (NWS5115) to Port 3 of PX/SW1 and PX/SW2.
14. Connect the other ends of the LA1CW120 and LA1CW121 cables (NWS5115) to the ERA Management ports on PX1 and PX2.
15. Connect the PX1AW2 cable (NWS5372) between Serial Port 2 on PX1 and Serial Port 2 on PX2. Note all PX connections in figure 7.



Figure 6

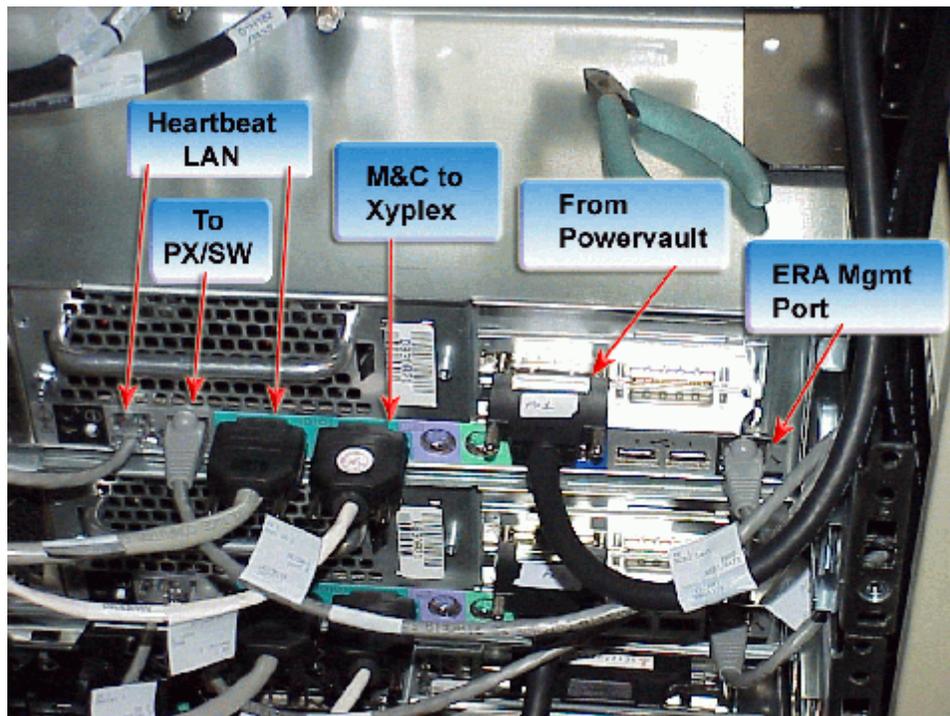


Figure 7

This completes the preprocessor cabling procedure.

D. Preprocessors Power Up Procedure

1. Install horizontal power strip at the top of the upper-rear rail [(figure 8) Black Box power strip shown; sites will use Tripp-Lite].
2. Install the second horizontal power strip to the bottom of the upper rear rail by inserting screws in the mounting ears at the 22nd and 24th holes below the modem nest.
3. Plug the preprocessor power cord into the receptacle on PX1. Do not plug PX1 into the power strip.



Figure 8

4. Plug the preprocessor power cord into the receptacle on PX2. Do not plug PX2 into the power strip.
5. Plug the left side power supply on the PowerVault into receptacle one on power strip 1.
6. Plug the right side power supply on the PowerVault into receptacle one on power strip 2.

NOTE: If the circuit for the AS2 rack was terminated in a “quad box,” the new power strips may be plugged into the open outlets and the existing power strips removed at the completion of this section.

7. Plug the fan into receptacle five of power strip 1.
8. Remove the plug for the Modem Nest from its vertical power strip and plug it into receptacle four (counting from left to right) of power strip 1.
9. Disconnect the left vertical power strip from the underfloor circuit box and discard it.
10. Plug power strip 1 into the same outlet that the left vertical power strip was removed from.
11. Call the NCF and request they move the AS2 processes to AS1 and shut down AS2.
12. While the NCF is shutting down AS2, complete the following two steps.
13. Plug PX/SW 1 into receptacle 2 on power strip 1.
14. Plug PX/SW 2 into receptacle 2 on power strip 2.

Table 2

Power Strip	Receptacle	Device
1	1	LS PS PowerVault
1	2	PX/SW1
1	4	Modem Nest
1	5	Fan
1	6	PX1 (At initial installation, Do not plug in)
2	1	RS PS PowerVault
2	2	PX/SW2
2	4	AS2
2	6	PX2 (At initial installation, Do not plug in)

15. When AS2 is shut down, unplug it from its vertical power strip and disconnect the right vertical power strip from the underfloor circuit box.
16. Plug power strip 2 into the outlet from which the right vertical power strip was removed and plug AS2 into receptacle four of horizontal power strip 2.
17. Power on AS2 and have the NCF restore the AS2 processes.
18. "Dress" the PX cables and power cords in order to allow full and unrestricted extension of the chassis.
19. Apply power to the PowerVault (figure 9).

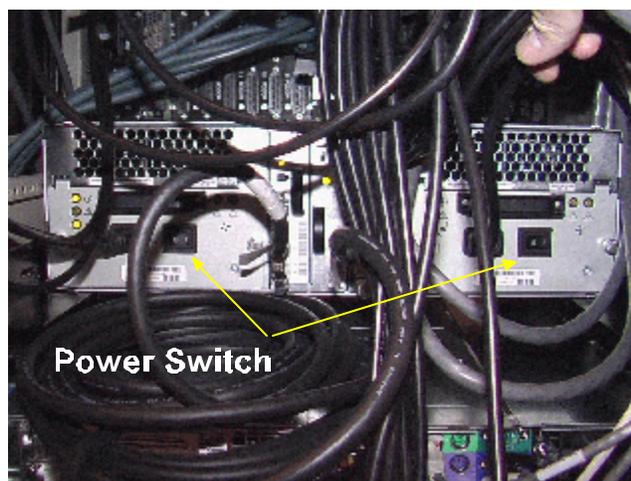


Figure 9

20. After AS2 has been returned to operation, locate the Xyplex tool (figure 10).
21. If this site is not a National Center RFC System, at the `Xyplex>` prompt issue the following commands:

```
Xyplex> set priv system
Xyplex>> def port 3 from port 1
Xyplex>> def port 4 from port 1
Xyplex>> def port 3 telnet remote
port 2300
Xyplex>> def port 4 telnet remote
port 2400
```



Figure 10

If this site is a National Center RFC system, at the `Xyplex>` prompt of the WFO system's Xyplex Terminal issue the following commands:

```
Xyplex>> def port 28 from port 1
Xyplex>> def port 29 from port 1
Xyplex>> def port 28 telnet remote port 4800
Xyplex>> def port 29 telnet remote port 4900
```

22. After approximately 1 minute, issue the following command:

```
Xyplex>> init delay 0
```

If the message “-198- WARNING - changed configuration has not been saved” is displayed, wait a few moments and reissue the `init delay 0` command.

23. After the Console and lights on the front of the Xyplex have stopped flashing, pull the Xyplex card out of the front of the unit. With the Xyplex tool, turn write-protection off (figure 11). This allows the new configuration to be saved to the flash card during the initialization in the next step. Push the card back into the unit.



Figure 11

24. Reboot the Xyplex.

```
Xyplex> set priv system
Xyplex>> init delay 0
```

25. After the Console and Card lights on the front of the Xyplex have stopped flashing, pull the Xyplex card out of the front of the unit. With the Xyplex tool, turn write-protection back on (Figure 12).

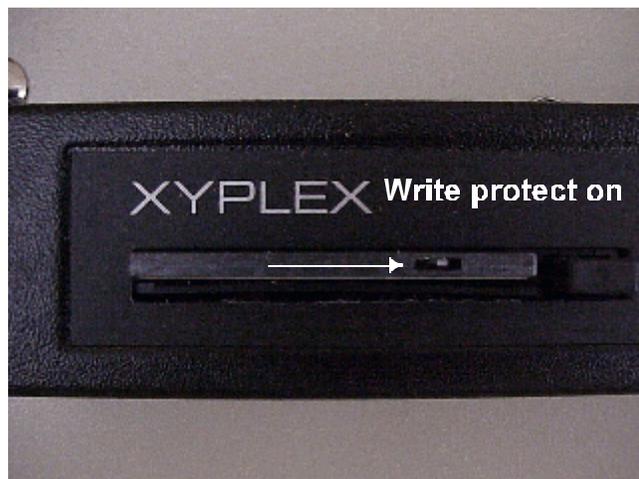


Figure 12

26. Log in to the Xyplex terminal and establish a console connection for PX1 under menu item *Server* by typing (for WFOs and collocated WFOs):

```
Xyplex> con xyplex1:2300
Xyplex> con xyplex1:2400
```

For RFCs (connected to ports 28 and 29 on the WFO side)

```
Xyplex> con xyplex1:4800
Xyplex> con xyplex1:4900
```

NOTE: Console access to the PX cannot be established since the PX is not yet powered up. However, the Xyplex console should indicate the connection is established.

27. Connect a monitor and keyboard to PX1 to observe the boot process.
28. Plug the PX1 into receptacle six (counting from left to right) of power strip 1 and power on the PX. After the SCSI device check, press **<ctrl-M>** to run the configuration utility (figure 13).
- Press any key to continue
 - Select menu item 1, **Configure**.
 - Select **View/Add Configuration**.
 - The disks should be mapped to RAID A00-00 to A00-03 and RAID A01-00 to A01-03 with 4 disks in each RAID array. Arrow down to view the complete RAID array.

e. Press **<Esc>** 3 times to exit out of the menus.

f. Answer **Yes** when asked to exit the configuration.

g. Press **<Ctrl-Alt-Delete>** to reboot the device.

h. Observe the boot process. The boot process takes approximately 4 minutes before the AT appears on the Xyplex console and an additional 45 seconds before the `px1-<sid>` login prompt appears.

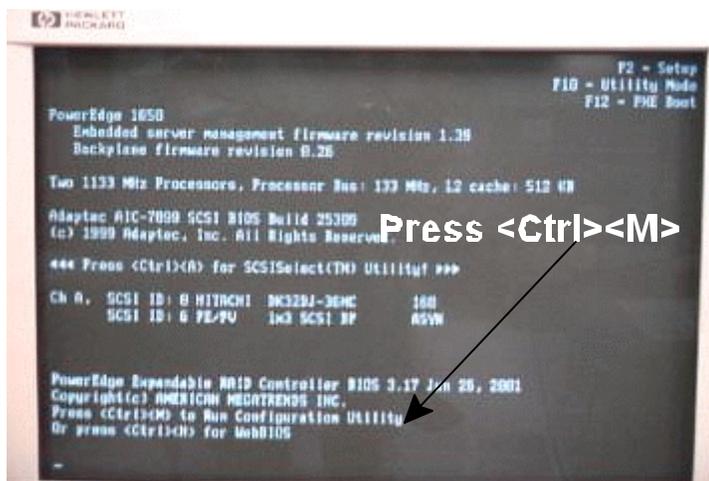


Figure 13

29. If PX1 beeps after power up, contact the NCF.

30. Repeat Steps 26 through 29 for PX2 (plug PX2 into receptacle six of power strip 2).

This completes the preprocessor power up procedure.

Note: This is a good stopping point for day one. The next sections must be completed sequentially and may be continued on day two .

E. Configure NIS Procedure

This procedure adds PX1 and PX2 to the list of NIS slave servers.

- NOTE:**
1. This procedure may cause NIS to hang devices using DS1 as their master. The devices will take approximately 1 minute to bind to another server.
 2. Inform the forecasters the workstation performance will slow during this section.
 3. The script used in this procedure may hang several times. This is because the NIS client software is rebinding to a new NIS server. **Do not interrupt the script if it appears to hang.** The script will eventually continue. The script will display the message "Done" followed by the system prompt when it is finished.

1. Log in to DS1 as root and type the following commands to reconfigure NIS on ds1, ds2, as1, as2, px1, and px2:

```
cd /home/awipsadm/install
script -a /home/ncfuser/px_nis.out
./px_nis.sh
```

Observe for errors and report them to the NCF. Compare the output to Attachment D.

2. When the script ends, type:

```
exit
```

This completes the NIS configuration procedure.

F. PX Software Installation Procedure

The software installation does not affect AWIPS ingest. Verify the LX1 D2D is working correctly and the directories `/home` and `/awips/dev` are below 90 percent capacity before proceeding (this script copies `/awips/fixa` from LX1 and DS1). This part takes approximately 20 minutes to complete.

NOTE: Log in to one of the workstations as `root`. **Do not** log in as `awipsusr`.

1. Log in to DS1 as `root` and create `/awips/fixa` on the PXs by typing:

```
cd /home/awipsadm/install/PX
tar -xf PX-Install1522-tar
cd PX
script -a /home/ncfuser/InstallPX-install.out
./InstallPX.sh install
```

Observe for listed errors and report them to the NCF. Compare the output to attachment A.

2. In the event an error must be resolved, type `exit` to end the script, troubleshoot the problem with the NCF, and restart the script by repeating the commands in step 2.
3. When the script ends type:

```
exit
```

This completes the PX software installation procedure.

G. PX Activation Procedure

This procedure activates the PXs, moves Grib, Satellite, and BUFR ingest from DSs and AS1 to the PXs. This part takes approximately 2 ½ hours to complete. D2D can be restarted after approximately 30 minutes (see step 6).

1. Log out of all workstations (WSs and LXs), X-terminals, and PCs using fxa processes.

NOTE: Log in to one of the workstations as <code>root</code> . Do not log in as <code>awipsusr</code> .

2. At the logged in workstation, ensure no processes exist in `/data/local` and `/data/fxa`. Perform the necessary action to eliminate the processes.

```
fuser /data/local
```

and

```
fuser /data/fxa
```

3. On the workstation, continue as `root` and type the following to activate the PXs:

```
rlogin ds1 -l root
cd /home/awipsadm/install/PX
script -a /home/ncfuser/InstallPX-activate.out
./InstallPX.sh activate
```

Observe for listed errors and report them to the NCF. Compare the output to attachment B. The communications processor continues to spool ingest data. Once the PX is activated and data ingest is restarted, AWIPS completes the ingest, decode, and store of the spooled data.

4. The following message will appear:

```
ERROR CONDITION EXISTS!!
DO YOU WANT TO OVER-RIDE (yes/no) - >
```

Answer **yes** to continue, answer **no** to stop the script, clean up the directories, and stop processes. (Suggestion: answer **yes** for data ingest errors, and report to the NCF).

5. The following message will appear:

```
DO you want to continue? (Yes or no) - ->yes
```

6. Once the following message appears, log the workstations back in and restart D2D.

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!  INGEST RESTORED - Wed Jul 17 17:57:01 GMT 2002  !!
!!          PLEASE RESTART ALL D2Ds          !!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

7. When the script ends, type:

```
cmmodpkg -e as1swap as2swap          (to reenale package switching)
cmviewcl                            (to check that all packages are enabled)

cd /home/awipsadm/install
./Post522PX.sh

exit
```

8. Reconfigure the AX by typing the following commands:

Note: The site MUST have at least R5.2.2.1 installed.

```
rlogin ax -l root
script -a -f /local/install/configure-AXmount.PX.out
telnet ds1 (as root)
cd /home/awipsadm/install
./configure-AXmounts.sh
exit
exit
exit
```

9. Once the installation is complete, call the NCF and have them verify all devices are operating normally.

This completes the PX activation procedure.

H. Priming the PXs for Fail-Over Procedure

Perform the following steps before implementing the fail-over procedure.

1. Log in to PX1 as **root** and enable PX fail-over by creating a null `ping.lock` file in the `/etc/cluster` directory. The root password for the PX is **de11pw**. Type:

```
touch /etc/cluster/ping.lock
```

2. In the equipment room connect the monitor and keyboard to the PX being rebooted.
3. Perform a **reboot** command to reboot PX1.
4. Check the display for any **[FAILED]** messages while the PX boots.
5. At the login prompt, wait for 1 minute before logging in as **root**.
6. Verify all cluster daemons are running by typing:

```
ps -ef | grep clu
```

A sample output follows:

```
root      1804      1  0  2002 ?          00:00:30 cluquorumd
root      1807      1  0  2002 ?          00:02:32 /sbin/clusvcmgrd
root      1809      1  0  2002 ?          00:02:02 /sbin/clupowerd
root      1811      1  0  2002 ttyS1       00:00:58 /sbin/cluhbd
root      1814      1  0  2002 ?          01:03:31 /sbin/clumibd
root      1816      1  0  2002 ?          00:00:00 /sbin/clurmtabd
root      1818      1  0  2002 ?          00:01:15 /sbin/cluscand
root      13850    1809  0  Jan20 ?          00:00:00 /sbin/clupowerd
```

7. Run **clustat** to verify the PX is recognized as up and available and to ensure `px1apps` are owned by PX2 (exhibit 2):
8. If the failover did not succeed, or if errors were displayed, reboot PX1 and repeat steps 2 through 7.
9. Once network connectivity is established (ping the other PX, the DSs, CPs, etc.) remove the `ping.lock` file by typing:

```
rm /etc/cluster/ping.lock
```

```

Cluster Status Monitor (awips)                                16:41:58

Cluster alias: Not Configured

===== M e m b e r   S t a t u s   =====

Member          Status      Node Id    Power Switch
-----
px1-pqr         Up         0          Good
px2-pqr         Up         1          Good

===== H e a r t b e a t   S t a t u s   =====

Name                Type          Status
-----
px1-beat    <--> px2-beat    network    ONLINE
/dev/tty/S1 <--> /dev/ttyS1  serial     ONLINE

===== S e r v i c e   S t a t u s   =====

Service          Status      Owner          Last          Monitor  Restart
-----
px1apps         started    px2-pqr        23:50:48 Aug 23  0        0
px2apps         started    px2-pqr        23:17:49 Aug 23  0        0

```

Exhibit 2

10. Run `cluadmin -- service relocate px1apps (or px2apps)` to relocate the failed package back to the primary PX. If the relocate procedure fails, repeat step 2-11.
11. Run `clustat` to verify the PX is up and available and to ensure px1apps are owned by PX1 (exhibit 3).
12. Repeat for PX2.
13. In the event of a failed PX, follow the procedures in attachment C, step 7 to swap back from a failed PX.

This completes the PX priming procedure.

Cluster Status Monitor (awips) 16:41:58

Cluster alias: Not Configured

===== M e m b e r S t a t u s =====

Member	Status	Node Id	Power Switch
px1-pqr	Up	0	Good
px2-pqr	Up	1	Good

===== H e a r t b e a t S t a t u s =====

Name	Type	Status
px1-beat	<--> px2-beat	network ONLINE
/dev/ttyS1	<--> /dev/ttyS1	serial ONLINE

===== S e r v i c e S t a t u s =====

Service	Status	Owner	Last Transition	Monitor Interval	Restart Count
pxlapps	started	px1-pqr	00:10:48 Aug 24	0	0

Exhibit 3

I. Complete the Installation

1. Replace blank panels. Beginning above the 1.75" formed panel and working upward, attach one 3.5" blank panel (removed earlier), if required one 7" blank panel (removed earlier), and one 1.75" blank panel (included in the field modification kit).
2. Attach the bezels (face plates) to the PX devices (servers and mass storage).
3. Change the root password of PX1 and PX2.
4. Call the NCF and tell them that the PX install is complete at your site.

This completes the installation procedure.

REPORTING MODIFICATION

Report the completed modification using the Engineering Management Reporting System (EMRS) according to the instructions in the NWS Instruction 30-2104, Maintenance Documentation, Part 4, and Appendix F. A sample EMRS report is included as an attachment. As an additional guide, use the information in the table below.

Block #	Block Type	Information
5	Description	Install two Linux Pre-Processors I.A.W. AWIPS Modification Note 8A
7	Equipment Code	AWIPS
8	Serial Number	001
15	Comments	Serial number LINUX PX 1: _____ Serial number LINUX PX 2: _____
17a	Mod. No.	8A

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Attachment A - PX Software Install Output Sample
Attachment B - PX Activation Output Sample
Attachment C - AWIPS Linux Pre-Processor (PX) Operating Information
Attachment D - NIS Configuration Output Sample
Attachment E - High Speed LAN (HP Procurve) Port Assignments
Attachment F - WFO and RFC Xyplex Port Assignments
Attachment G - List of Affected Sites
Attachment H - Sample A-26 Form

Attachment A**PX Software Install Output Sample**

```
Script started on Wed Jul 17 17:18:14 2002
dsl-nmtr:root:1450# ./InstallPX.sh install
```

```
Running ./InstallPX.sh install - Wed Jul 17 17:18:29 GMT 2002
```

```
Running System checkout
```

```
checking that lx1 has a recent display log
```

```
lx1 is accessible and seems to have been used recently
```

```
checking that the datamonitor detects that the site is receiving data:
```

```
grid data detected
```

```
sat data detected
```

```
point data detected
```

```
checking that the datamonitor detects processes running:
```

```
all processes are running according to the data monitor
```

```
checking that /etc/hosts contains px1, px1f, px2 and px2f
```

```
checking that all machines are pingable:
```

```
ping test to px1 passes
```

```
ping test to px2 passes
```

```
ping test to dsl passes
```

```
ping test to ds2 passes
```

```
ping test to as1 passes
```

```
ping test to as2 passes
```

```
ping test to wsl-nmtr passes
```

```
ping test to ws2-nmtr passes
```

```
ping test to lx1-nmtr passes
```

```
ping test to hub1-nmtr passes
```

```
ping test to hub2-nmtr passes
```

```
ping test to cpsbn1 passes
```

```
ping test to cpsbn2 passes
```

```
checking that no packages are in a failed over state:
```

```
all swap packages are running on their primary
```

```
checking that root remsh works to all machines and that home is accessible:
```

```
remsh test of px1 passes
```

```
remsh test of px2 passes
```

```
remsh test of dsl passes
```

```
remsh test of ds2 passes
```

```
remsh test of as1 passes
```

```
remsh test of as2 passes
```

```
remsh test of wsl-nmtr passes
```

```
remsh test of ws2-nmtr passes
```

```
remsh test of lx1-nmtr passes
```

```
checking that /px1data and /px2data are accessible:
```

```
checking that the necessary files are accessible:
```

```
System check out complete.
```

```
Installing PX files:
```

```
Updating /etc/hosts.equiv and .rhosts files
```

```
adding px1, px2, px1f and px2f to as1:/etc/hosts.equiv
```

```
adding px1, px2, px1f and px2f to as1:/.rhosts
```

```
adding px1, px2, px1f and px2f to as1:/awips/fxa/.rhosts
```

```

adding px1, px2, px1f and px2f to as1:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to as1:/awips/fxa/textdemo/.rhosts
adding px1, px2, px1f and px2f to as2:/etc/hosts.equiv
adding px1, px2, px1f and px2f to as2:/.rhosts
adding px1, px2, px1f and px2f to as2:/awips/fxa/.rhosts
adding px1, px2, px1f and px2f to as2:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to as2:/awips/fxa/textdemo/.rhosts
adding px1, px2, px1f and px2f to ds1:/etc/hosts.equiv
adding px1, px2, px1f and px2f to ds1:/.rhosts
adding px1, px2, px1f and px2f to ds1:/awips/fxa/.rhosts
adding px1, px2, px1f and px2f to ds1:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to ds1:/awips/fxa/textdemo/.rhosts
adding px1, px2, px1f and px2f to ds2:/etc/hosts.equiv
adding px1, px2, px1f and px2f to ds2:/.rhosts
adding px1, px2, px1f and px2f to ds2:/awips/fxa/.rhosts
adding px1, px2, px1f and px2f to ds2:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to ds2:/awips/fxa/textdemo/.rhosts
adding px1, px2, px1f and px2f to ws1-nmtr:/etc/hosts.equiv
adding px1, px2, px1f and px2f to ws1-nmtr:/.rhosts
adding px1, px2, px1f and px2f to ws1-nmtr:/awips/fxa/.rhosts
adding px1, px2, px1f and px2f to ws1-nmtr:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to ws1-nmtr:/awips/fxa/textdemo/.rhosts
adding px1, px2, px1f and px2f to ws2-nmtr:/etc/hosts.equiv
adding px1, px2, px1f and px2f to ws2-nmtr:/.rhosts
adding px1, px2, px1f and px2f to ws2-nmtr:/awips/fxa/.rhosts
adding px1, px2, px1f and px2f to ws2-nmtr:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to ws2-nmtr:/awips/fxa/textdemo/.rhosts
adding px1, px2, px1f and px2f to lx1-nmtr:/etc/hosts.equiv
adding px1, px2, px1f and px2f to lx1-nmtr:/root/.rhosts
adding px1, px2, px1f and px2f to lx1-nmtr:/awips/fxa/.rhosts
adding px1, px2, px1f and px2f to lx1-nmtr:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to cpsbn1:/etc/hosts.equiv
adding px1, px2, px1f and px2f to cpsbn1:/root/.rhosts
adding px1, px2, px1f and px2f to cpsbn2:/etc/hosts.equiv
adding px1, px2, px1f and px2f to cpsbn2:/root/.rhosts
Getting files from LX and DS to populate PX /awips/fxa directory
allowing px1 to export /awips/ldad
creating /PXfxatmp mount
    px1:/awips/ldad on ds1
    px1:/awips/ldad on lx1
creating tar of LX /awips/fxa
untaring AWIPS-FXA-LX.tar
    RECORDING FILES put in px1:/awips/fxa from lx to
/home/ncfuser/InstallPX.log.200207171718
removing /awips/ldad/AWIPS-FXA-LX.tar
creating tar of DS /awips/fxa
untaring AWIPS-FXA-DS.tar
removing /awips/ldad/AWIPS-FXA-DS.tar
umounting /PXfxatmp and remove it
    from ds1
    from lx1
unexporting px1:/awips/ldad
running Remove_non_text_files.sh /awips/ldad/awips/fxa
    RECORDING results of Remove_non_text_files.sh in
/home/ncfuser/InstallPX.log.200207171718
tarring DS-non-text-file
untarring DS-non-text-file

```

```
RECORDING FILES in px1:/awips/fxa from DS to
/home/ncfuser/InstallPX.log.200207171718
Installing PX files from 5.2.2 PX release (not causing activation)
  installing ipc.config
  installing server binaries
copying px1:/awips/fxa to px2:/awips/fxa (using cp and tar)
  tarring px1:/awips/fxa
  untarring px1:/awips/fxa
RESULTING PX /awips/fxa files in px1:/awips/ldad/PX_FXA.tar
creating px1:/awips/fxa/.environs.px1-nmtr and px1:/awips/fxa/.environs
creating px2:/awips/fxa/.environs.px2-nmtr and px2:/awips/fxa/.environs
creating directories on px1f:/px1data and px2f:/px2data
copying grid template files to px1f:/px1data
copying point template files to px2f:/px2data

Updating Release_ID

PX FILES HAVE BEEN PUT IN PLACE
'./InstallPX.sh activate' will need to be run to use the PXs

./InstallPX.sh install COMPLETE -- Wed Jul 17 17:32:41 GMT 2002

dsl-nmtr:root:1455# exit

script done on Wed Jul 17 17:36:05 2002
```

Attachment B**PX Activation Output Sample**

Script started on Mon Feb 10 20:58:37 2003
ds1-nhor:root:227# ./InstallPX.sh activate

Running ./InstallPX.sh activate - Mon Feb 10 20:59:03 GMT 2003

Running System checkout

checking that lx1 has a recent display log

lx1 is accessible and seems to have been used recently

checking that the datamonitor detects that the site is receiving data:

grid data detected

sat data detected

point data detected

checking that the datamonitor detects processes running:

WARNING : The data monitor does not report all processes as being "UP"!
found in as1f:/awips/fxa/htdocs/dataMon/processSummary.html

[IGNORE]

ERROR : Activation may not be run since a data ingest problem may exist!
CALL THE NCF!!

[IGNORE]

ERROR CONDITION EXISTS!!
DO YOU WANT TO OVER-RIDE?
(yes/no)->
yes

checking that /etc/hosts contains px1, px1f, px2 and px2f

checking that all machines are pingable:

ping test to px1 passes

ping test to px2 passes

ping test to ds1 passes

ping test to ds2 passes

ping test to as1 passes

ping test to as2 passes

ping test to ws1-nhor passes

ping test to ws2-nhor passes

ping test to ws3-nhor passes

ping test to ws4-nhor passes

ping test to ws5-nhor passes

ping test to ws6-nhor passes

ping test to ws7-nhor passes

ping test to lx1-nhor passes
ping test to lx2-nhor passes
ping test to hub1-nhor passes
ping test to hub2-nhor passes
ping test to cpsbn1 passes
ping test to cpsbn2 passes
checking that no packages are in a failed over state:
all swap packages are running on their primary
checking that root remsh works to all machines and that home is accessible:

remsh test of px1 passes
remsh test of px2 passes
remsh test of ds1 passes
remsh test of ds2 passes
remsh test of as1 passes
remsh test of as2 passes
remsh test of ws1-nhor passes
remsh test of ws2-nhor passes
remsh test of ws3-nhor passes
remsh test of ws4-nhor passes
remsh test of ws5-nhor passes
remsh test of ws6-nhor passes
remsh test of ws7-nhor passes
remsh test of lx1-nhor passes
remsh test of lx2-nhor passes
checking that /px1data and /px2data are accessible:
checking that the necessary files are accessible:
System check out complete.

Running PX ACTIVATION - Mon Feb 10 21:00:21 GMT 2003

checking ws1-nhor for awipsusr, textdemo, or fxa processes
checking ws1-nhor for awipsusr, textdemo, or fxa processes
checking ws2-nhor for awipsusr, textdemo, or fxa processes
checking ws3-nhor for awipsusr, textdemo, or fxa processes
checking ws4-nhor for awipsusr, textdemo, or fxa processes
checking ws5-nhor for awipsusr, textdemo, or fxa processes
checking ws6-nhor for awipsusr, textdemo, or fxa processes
checking ws7-nhor for awipsusr, textdemo, or fxa processes
checking lx1-nhor for awipsusr, textdemo, or fxa processes
checking lx2-nhor for awipsusr, textdemo, or fxa processes

WARNING : THIS SCRIPT WILL NEED TO KILL PROCESSES

It will kill fxa, textdemo and awipsusr processes:
FOR ws1-nhor

```
##### FOR ws2-nhor #####
##### FOR ws3-nhor #####
##### FOR ws4-nhor #####
##### FOR ws5-nhor #####
##### FOR ws6-nhor #####
##### FOR ws7-nhor #####
##### FOR lx1-nhor #####
##### FOR lx2-nhor #####
```

A detailed list is in /tmp/Processes_to_kill200302102059.tmp

DO you want to continue? (yes or no) -->yes

RUNNING ACTIVATION

Relocating pxXapps to ensure exports are correct
 locating px1apps. Relocating px2apps. Making sure that px1apps is running
 px1 and px2apps is running on px2
 locating px1apps.

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!! STOPPING INGEST TO ACTIVATE - Mon Feb 10 21:18:56 GMT 2003 !!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

ACTIVATING CPs

Installing cpfiles: **[If this step takes longer than 10 minutes, Call NCF]**
 - cpsbn1
 Installing cpfiles: **[If this step takes longer than 10 minutes, Call NCF]**
 - cpsbn2
 restarting cpsbn1
 restarting cpsbn2

TO VIEW OUTPUT OF START/STOP SCRIPTS USE:

```
tail -f on /home/ncfuser/InstallPX.log.200302102059 #or
tail -f /etc/cmcluster/as[12]swap/*.log
```

```
Stopping Ingest on DS1
Stopping Ingest on AS1
Stopping Ingest on AS2
Updating ds1
- directories
- links
  sat
  badSatellite
  Grid
  img
```

point/model
ispan/bufr/modelSoundings
point/GOES
ispan/bufr/GOESSoundings

Since /data/fxa is being recreated the SITE WILL NEED TO RESTART D2D!

Updating as1

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on as1!
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

Updating as2

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on as2!
- /etc/fstab
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

Updating ws1-nhor

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on ws1-nhor!
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

tar: data/fxa/scripts: symbolic link failed: File exists

tar: data/fxa/textWSwork: symbolic link failed: File exists

Updating ws2-nhor

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on ws2-nhor!
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

tar: data/fxa/scripts: symbolic link failed: File exists

tar: data/fxa/textWSwork: symbolic link failed: File exists

Updating ws3-nhor

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on ws3-nhor!
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

ds1-nhor:ncfuser:149\$ su -

- the new /data/fxa with links to /dsdata, /px1data and /px2data

tar: data/fxa/textWSwork: symbolic link failed: File exists

Updating ws4-nhor

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on ws4-nhor!

see /home/ncfuser/InstallPX.log.200302102059 for processes killed

- /etc/fstab
- the new /data/fga with links to /dsdata, /px1data and /px2data

tar: data/fga/textWSwork: symbolic link failed: File exists

Updating ws5-nhor

- directories (mount points)
- stopping all fga, awipsusr, and textdemo processes on ws5-nhor!
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fga with links to /dsdata, /px1data and /px2data

Updating ws6-nhor

- directories (mount points)
- stopping all fga, awipsusr, and textdemo processes on ws6-nhor!
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fga with links to /dsdata, /px1data and /px2data

tar: data/fga/textWSwork: symbolic link failed: File exists

Updating ws7-nhor

- directories (mount points)
- stopping all fga, awipsusr, and textdemo processes on ws7-nhor!
- stopping all fga, awipsusr, and textdemo processes on ws7-nhor!
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fga with links to /dsdata, /px1data and /px2data

Updating lx1-nhor

- directories (mount points)
- stopping all fga, awipsusr, and textdemo processes on lx1-nhor!
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fga with links to /dsdata, /px1data and /px2data

Updating lx2-nhor

- directories (mount points)
- stopping all fga, awipsusr, and textdemo processes on lx2-nhor!
- /etc/fstab
- the new /data/fga with links to /dsdata, /px1data and /px2data

Creating /data/fga on the Preprocessors!

Updating mc.sg.fstab:

- on as1
- on as2
- on ds1
- on ds2

Putting new PX files in place

- correcting ping.sh

```
- correcting ping.sh
  for px1
  for px2
/awips/fxa/bin/startBufDriver
/awips/fxa/bin/restartNotificationServer
/awips/fxa/bin/startBufDriver
/awips/fxa/bin/restartNotificationServer
/awips/fxa/data/localization/nationalData/ipc.config
/data/fxa/data/fxa_monitor/monitorProcesses.txt
/awips/fxa/bin/fxa-data.purge.px
/awips/fxa/bin/ingest.crontab.px1
/awips/fxa/bin/ingest.crontab.px2
/awips/fxa/bin/master.purge.px
/awips/fxa/bin/killProc
/awips/fxa/bin/startIngest.px1
/awips/fxa/bin/startIngest.px2
/awips/fxa/bin/stopIngest.px
/awips/fxa/bin/stopIngest.px1
/awips/fxa/bin/stopIngest.px2
/etc/cluster/px1 apps
/etc/cluster/px2 apps
/awips/fxa/data/gribParameters0-127.txt
/awips/fxa/data/gribPDSextension.txt
/awips/fxa/data/scour.conf.px
/awips/fxa/data/acqTimingParam.txt
/awips/fxa/data/acqTimingParam.txt
/awips/fxa/bin/ingest.crontab.px1
/awips/fxa/bin/ingest.crontab.px2
/awips/fxa/bin/master.purge.px
/awips/fxa/bin/killProc
/awips/fxa/bin/startIngest.px1
/awips/fxa/bin/startIngest.px2
/awips/fxa/bin/stopIngest.px
/awips/fxa/bin/stopIngest.px1
/awips/fxa/bin/stopIngest.px2
/etc/cluster/px1 apps
/etc/cluster/px2 apps
/awips/fxa/bin/fxa-data.purge.px
/awips/fxa/data/gribParameters0-127.txt
/awips/fxa/data/gribPDSextension.txt
/awips/fxa/data/scour.conf.px
/awips/fxa/data/acqTimingParam.txt
Updating startIngest.ds1, fxa-data.purge, and scour.conf.ds
  commenting out lines the contain: 'Grib', 'Sat', 'TIG', 'YTQA', and 'YEIA'
```

- on ds1
- on ds2
- on as1
- on as2

RESTARTNG INGEST!

TO VIEW OUTPUT OF START/STOP SCRIPTS USE:

```
tail -f on /home/ncfuser/InstallPX.log.200302102059 #or
tail -f /etc/cmcluster/as[12]swap/*.log
```

starting PX processes!

on px1

on px2

Starting ingest on as1!

Starting ingest on as2!

Starting ingest on ds1!

putting resolv.conf in place

cp: cannot stat `/etc/resolv.conf.save': No such file or directory

cp: cannot stat `/etc/resolv.conf.save': No such file or directory

putting cleantmp in place and activating

Updating Release_ID

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!! INGEST RESTORED - Mon Feb 10 22:08:12 GMT 2003 !!
!! PLEASE RESTART ALL D2Ds !!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

Copying data to new directories on PreProcessors.

- sat
- Grid
- img
- model
- modelSoundings
- GOES
- GOESSoundings

Removing the old files from /data/fxa.

from /data/fxa/sat.PrePX Grid.PrePX img.PrePX point/model.PrePX ispan/bufr
/modelSoundings.PrePX point/GOES.PrePX ispan/bufr/GOESSoundings.PrePX

PX1 and PX2 ARE NOW PART OF AWIPS INGEST

./InstallPX.sh activate COMPLETE -- Mon Feb 10 23:25:36 GMT 2003

ds1-nhor:root:261# exit

script done on Mon Feb 10 23:26:00 2003

Attachment C

AWIPS Linux Pre-Processor (PX) Operating Information

The following information is presented to facilitate understanding of how the PXs work and the effect they might have on running local applications.

1. Mounts:

`/px1data` and `/px2data` should be mounted on DS, AS1, AS2, WSs, and LXs. Use `umount` and `mount` to remount these nfs mounts.

`ds : /data/fga` should be mounted as `/dsdata` (not `/data/fga` as before) on AS1, AS2, WSs, LXs, PX1, and PX2.

On PXs:

Check mounts (df):

```
[root@px1-xxx fga]# df
Filesystem          1k-blocks      Used Available Use% Mounted on
/dev/sda5            1004024      270160    682860   29% /
/dev/sda1             46636       17496     26732   40% /boot
none                 513272         0     513272   0% /dev/shm
/dev/sda7            497829       8277     463850   2% /tmp
/dev/sda2            6048352    2061044   3680068   36% /usr
/dev/sda6            1004024     224816     728204   24% /var
/dev/sda8            5044156     393272   4394652   9% /awips/fga
/dev/sda9            1011928     425120   535404   45% /awips/ldad
/dev/sda10           1011928      16412     944112   2% /awips/laps
/dev/sda11           248895       50470     185575   22% /awips/ops
/dev/sda12           2016016     119404   1794200   7% /data/logs
/dev/sdb2            25205284    3385480   20539424  15% /px1data
ds-xxxx:/data/fga    5427200     4144640   1239096   77% /dsdata
ds-xxxx:/data/fga_local
                    1228800      627168     591776   52% /data/fga_local
ds-tbdw:/home        471040      212296     243760   47% /home
```

Check for `ds:/home` mounted on `/home`, `ds : /data/fga` mounted on `/dsdata`, `ds : /data/fga_local` mounted on `/data/fga_local`. Use should not be over 90% for any file system. `/px1data` should be on `px1f` and `/px2data` should be on `px2f`.

2. Processes:

Grib and satellite processes are now running on `px1f` and the `BufrDriver` is now running on `px2f`.

The logs on px1f and px2f are the same as any other server:

/data/logs/fxa/<date>.

The restart scripts are the same as on the servers.

On px1f, the start script is /awips/fxa/bin/startIngest.px1

On px2f, the start script is /awips/fxa/bin/startIngest.px2

The stop scripts are stopIngest.px1 and stopIngest.px2.

px1f and px2f running the correct processes:

```
rlogin px1f
ps -efw|grep fxa
```

```
fxa /awips/fxa/bin/acqserver 1800 (1-5)
fxa /awips/fxa/bin/CommsRouter COMMS_ROUTER
fxa /awips/fxa/bin/CommsRouter GRID_ROUTER
fxa /awips/fxa/bin/DataController COMMS_ROUTER SatelliteController.config
fxa /awips/fxa/bin/DataController GRID_ROUTER GribController.config
fxa /awips/fxa/bin/DataController GRID_ROUTER GribImgController.config
fxa /awips/fxa/bin/GribDecoder
fxa /awips/fxa/bin/GribImgDecoder
fxa /awips/fxa/bin/Satdecoder
```

The logs for the processes:

For fxa processes, the logs are found just like any other server in /data/logs/fxa/<YYYYMMDD>

For the swap packages (px1apps and px2apps), the logs are /data/logs/px1apps,
/data/logs/px2apps on each PX.

The start scripts log to /data/logs/startIngest.px1 and /data/logs/startIngest.px2 on each PX.

3. Data flow:

To verify data is being sent to the PXs use the following:

As **root**, log into cpsbn1 (and/or cpsbn2):

```
acq_stats -m5
cpsbn1-tbdr [pid=733] update/refresh(0/30 sec) GMT Wed Jul 10 22:33:31 2002
                                                Start [Wed Jul 10 22:33:31]
--> shmem_region[5] _____

Status client link/group/hosts 0/All/All sem_cnt= 1/ 1 (1=nonwait)
  host      client dist out      last_time      last_#      total
  id name    pid  hdr typ      conn  xfr(I/A/F)  prod buff    prod buff
  0 ds-tbdr   32743  0 acq   n/a    n/a      0W  0      0  0
  0 ds-tbdr   32703* 0 acq   n/a    n/a      0W  0      0  0
  1 px1f-tbdr 32711* 0 acq   n/a    n/a      0W  0      0  0
  1 px1f-tbdr 32719* 0 acq   n/a    n/a      0W  0      0  0
  1 px1f-tbdr 32727* 0 acq   n/a    n/a      0W  0      0  0
  2 px2f-tbdr 32735* 0 acq   n/a    n/a      0W  0      0  0
```

If px1fs or px2f does not appear, correct:

/awips/data/acq_send_parms.sbn and/or restart processes on the cp.

To check acq_send_parms.sbn, run the following on the cp:

```
[root@cpsbn1-tbdr /root]# grep px /awips/data/acq_send_parms.sbn
HOST[1]=px1f-$$SITE_IDENTIFIER
HOST[2]=px2f-$$SITE_IDENTIFIER
[root@cpsbn1-tbdr /root]#
```

If the same lines listed above (SITE_IDENTIFIER is spelled out exactly) do not appear, try running the following from the ds:

```
rcp:/home/awipsadm/install/PX/PXacq_send_parms.sbn \
cpsbnX:awips/data/acq_send_parms.sbn
```

then run the following on that cp as root:

```
/awips/bin/stop_cpsbn_all
/awips/bin/start_cpsbn_all
```

This restarts the processes on the CP

If acq_stats fails to run (possibly due to a segmentation fault), reboot the CP with the problem then once the CP has restarted, try acq_stats again.

A rare but possible problem could occur with ipc.config. Check whether

/data/fxa/nationalData/ipc.config lists px1f for GRIB_ROUTER:

```
ds1-tbdr:root:154# grep ROUTER /data/fxa/nationalData/ipc.config
"COMMS_ROUTER",          "ds",          "12001",\
"GRID_ROUTER",          "px1f",        "12002",\
"LDAD_ROUTER",          "ds",          "15001",\
ds1-tbdr:root:155#
```

On px1 and px2 /awips/fxa/data/localization/nationalData/ipc.config should contain localhost for GRIB_ROUTER and COMMS_ROUTER:

```
[root@px1-tbdr root]# grep ROUTER \
/awips/fxa/data/localization/nationalData/ipc.config
"COMMS_ROUTER",          "localhost",   "12001",\
"GRID_ROUTER",          "localhost",   "12002",\
"LDAD_ROUTER",          "ds",          "15001",\
[root@px1-tbdr root]#
```

4. Links

Check /data/fxa links (ls -ld):

For PXs:

```
/data/fxa/Grid -> /px1data/Grid
/data/fxa/img -> /px1data/img
/data/fxa/sat -> /px1data/sat
/data/fxa/ispan/bufr/modelSoundings -> /px2data/ispan/bufr/modelSoundings
/data/fxa/point/model -> /px2data/point/model
```

```

/data/fxa/tmp/grid -> /pxldata/tmp/grid
/data/fxa/tmp/image -> /pxldata/tmp/image
/data/fxa/tmp/img -> /pxldata/tmp/img
/data/fxa/tmp/point -> /px2data/tmp/point

```

For ASs, WSSs, LXs:

```

/data/fxa/Grid -> /pxldata/Grid
/data/fxa/img -> /pxldata/img
/data/fxa/sat -> /pxldata/sat
/data/fxa/ispan/bufr/modelSoundings -> /px2data/ispan/bufr/modelSoundings
/data/fxa/point/model -> /px2data/point/model
/data/fxa/tmp/grid -> /dsdata/tmp/grid
/data/fxa/tmp/image -> /dsdata/tmp/image
/data/fxa/tmp/img -> /dsdata/tmp/img
/data/fxa/tmp/point -> /dsdata/tmp/point

```

For DSs:

```

/data/fxa/Grid -> /pxldata/Grid
/data/fxa/badRadar -> /data/fxa_local/badRadar
/data/fxa/badSatellite -> /pxldata/badSatellite
/data/fxa/img -> /pxldata/img
/data/fxa/ispan/bufr/modelSoundings -> /px2data/ispan/bufr/modelSoundings
/data/fxa/point/model -> /px2data/point/model
/data/fxa/radar -> /data/fxa_local/radar
/data/fxa/sat -> /pxldata/sat
/data/fxa/tmp/radar -> /data/fxa_local/tmp

```

For reference, the following lists all links in /data/fxa for each machine type (created by running find

/data/fxa -type l):

DS:

```

/data/fxa/Grid -> /pxldata/Grid
/data/fxa/badRadar -> /data/fxa_local/badRadar
/data/fxa/badSatellite -> /pxldata/badSatellite
/data/fxa/img -> /pxldata/img
/data/fxa/ispan/bufr/modelSoundings -> /px2data/ispan/bufr/modelSoundings
/data/fxa/laps -> /data/fxa_local/laps
/data/fxa/point/model -> /px2data/point/model
/data/fxa/radar -> /data/fxa_local/radar
/data/fxa/sat -> /pxldata/sat
/data/fxa/tmp/radar -> /data/fxa_local/tmp
/data/fxa/userPrefs -> /data/fxa/procs

```

AS,WS,LX:

```

/data/fxa/Grid -> /pxldata/Grid
/data/fxa/LDAD -> /dsdata/LDAD
/data/fxa/afos -> /dsdata/afos
/data/fxa/archive -> /dsdata/archive
/data/fxa/badRadar -> /dsdata/badRadar
/data/fxa/badSatellite -> /pxldata/badSatellite
/data/fxa/badText -> /dsdata/badText
/data/fxa/customFiles -> /dsdata/customFiles
/data/fxa/data -> /dsdata/data
/data/fxa/dgm -> /dsdata/dgm
/data/fxa/eLog -> /dsdata/eLog
/data/fxa/img -> /pxldata/img

```

```
/data/fxa/ispan/badBinLightning -> /dsdata/ispan/badBinLightning
/data/fxa/ispan/badModelBufR -> /dsdata/ispan/badModelBufR
/data/fxa/ispan/badProfiler -> /dsdata/ispan/badProfiler
/data/fxa/ispan/badRAOB -> /dsdata/ispan/badRAOB
/data/fxa/ispan/binLightning -> /dsdata/ispan/binLightning
/data/fxa/ispan/bufr/AVN -> /dsdata/ispan/bufr/AVN
/data/fxa/ispan/bufr/HPC -> /dsdata/ispan/bufr/HPC
/data/fxa/ispan/bufr/MRF -> /dsdata/ispan/bufr/MRF
/data/fxa/ispan/bufr/NGM -> /dsdata/ispan/bufr/NGM
/data/fxa/ispan/bufr/modelSoundings -> /px2data/ispan/bufr/modelSoundings
/data/fxa/ispan/bufr/profiler -> /dsdata/ispan/bufr/profiler
/data/fxa/ispan/bufr/raob -> /dsdata/ispan/bufr/raob
/data/fxa/ispan/hdp -> /dsdata/ispan/hdp
/data/fxa/ispan/hydro -> /dsdata/ispan/hydro
/data/fxa/ispan/ufr -> /dsdata/ispan/ufr
/data/fxa/laps -> /dsdata/laps
/data/fxa/ldadScheduler -> /dsdata/ldadScheduler
/data/fxa/mhs -> /dsdata/mhs
/data/fxa/nationalData -> /dsdata/nationalData
/data/fxa/nowrad -> /dsdata/nowrad
/data/fxa/nwr -> /dsdata/nwr
/data/fxa/nwrs -> /dsdata/nwrs
/data/fxa/point/GOES -> /dsdata/point/GOES
/data/fxa/point/acars -> /dsdata/point/acars
/data/fxa/point/aircraft -> /dsdata/point/aircraft
/data/fxa/point/binLightning -> /dsdata/point/binLightning
/data/fxa/point/lamp -> /dsdata/point/lamp
/data/fxa/point/lightning -> /dsdata/point/lightning
/data/fxa/point/localdata -> /dsdata/point/localdata
/data/fxa/point/maritime -> /dsdata/point/maritime
/data/fxa/point/metar -> /dsdata/point/metar
/data/fxa/point/model -> /px2data/point/model
/data/fxa/point/mos -> /dsdata/point/mos
/data/fxa/point/profiler -> /dsdata/point/profiler
/data/fxa/point/raob -> /dsdata/point/raob
/data/fxa/procs -> /dsdata/procs
/data/fxa/radar -> /dsdata/radar
/data/fxa/redbook -> /dsdata/redbook
/data/fxa/rps-lists -> /dsdata/rps-lists
/data/fxa/sat -> /px1data/sat
/data/fxa/scripts -> /dsdata/scripts
/data/fxa/siteConfig -> /dsdata/siteConfig
/data/fxa/textWSwork -> /dsdata/textWSwork
/data/fxa/tmp/graphic -> /dsdata/tmp/graphic
/data/fxa/tmp/grid -> /dsdata/tmp/grid
/data/fxa/tmp/image -> /dsdata/tmp/image
/data/fxa/tmp/img -> /dsdata/tmp/img
/data/fxa/tmp/other -> /dsdata/tmp/other
/data/fxa/tmp/point -> /dsdata/tmp/point
/data/fxa/tmp/radar -> /data/fxa_local/tmp
/data/fxa/tmp/text -> /dsdata/tmp/text
/data/fxa/trigger -> /dsdata/trigger
/data/fxa/tstorm -> /dsdata/tstorm
/data/fxa/userPrefs -> /dsdata/userPrefs
/data/fxa/userSkewTs -> /dsdata/userSkewTs
/data/fxa/verification -> /dsdata/verification
```

```
/data/fxa/workFiles -> /dsdata/workFiles
```

PX:

```
/data/fxa/afos -> /dsdata/afos
/data/fxa/archive -> /dsdata/archive
/data/fxa/badRadar -> /dsdata/badRadar
/data/fxa/badSatellite -> /pxldata/badSatellite
/data/fxa/badText -> /dsdata/badText
/data/fxa/customFiles -> /dsdata/customFiles
/data/fxa/data -> /dsdata/data
/data/fxa/dgm -> /dsdata/dgm
/data/fxa/eLog -> /dsdata/eLog
/data/fxa/Grid -> /pxldata/Grid
/data/fxa/img -> /pxldata/img
/data/fxa/ispan/badBinLightning -> /dsdata/ispan/badBinLightning
/data/fxa/ispan/badModelBufr -> /dsdata/ispan/badModelBufr
/data/fxa/ispan/badProfiler -> /dsdata/ispan/badProfiler
/data/fxa/ispan/badRAOB -> /dsdata/ispan/badRAOB
/data/fxa/ispan/binLightning -> /dsdata/ispan/binLightning
/data/fxa/ispan/bufr/AVN -> /dsdata/ispan/bufr/AVN
/data/fxa/ispan/bufr/HPC -> /dsdata/ispan/bufr/HPC
/data/fxa/ispan/bufr/modelSoundings -> /px2data/ispan/bufr/modelSoundings
/data/fxa/ispan/bufr/MRF -> /dsdata/ispan/bufr/MRF
/data/fxa/ispan/bufr/NGM -> /dsdata/ispan/bufr/NGM
/data/fxa/ispan/bufr/profiler -> /dsdata/ispan/bufr/profiler
/data/fxa/ispan/bufr/raob -> /dsdata/ispan/bufr/raob
/data/fxa/ispan/hdp -> /dsdata/ispan/hdp
/data/fxa/ispan/hydro -> /dsdata/ispan/hydro
/data/fxa/ispan/ufr -> /dsdata/ispan/ufr
/data/fxa/laps -> /dsdata/laps
/data/fxa/LDAD -> /dsdata/LDAD
/data/fxa/ldadScheduler -> /dsdata/ldadScheduler
/data/fxa/mhs -> /dsdata/mhs
/data/fxa/nationalData -> /dsdata/nationalData
/data/fxa/nowrad -> /dsdata/nowrad
/data/fxa/nwr -> /dsdata/nwr
/data/fxa/nwrs -> /dsdata/nwrs
/data/fxa/point/acars -> /dsdata/point/acars
/data/fxa/point/aircraft -> /dsdata/point/aircraft
/data/fxa/point/binLightning -> /dsdata/point/binLightning
/data/fxa/point/GOES -> /dsdata/point/GOES
/data/fxa/point/lamp -> /dsdata/point/lamp
/data/fxa/point/lightning -> /dsdata/point/lightning
/data/fxa/point/localdata -> /dsdata/point/localdata
/data/fxa/point/maritime -> /dsdata/point/maritime
/data/fxa/point/metar -> /dsdata/point/metar
/data/fxa/point/model -> /px2data/point/model
/data/fxa/point/mos -> /dsdata/point/mos
/data/fxa/point/profiler -> /dsdata/point/profiler
/data/fxa/point/raob -> /dsdata/point/raob
/data/fxa/procs -> /dsdata/procs
/data/fxa/radar -> /dsdata/radar
/data/fxa/redbook -> /dsdata/redbook
/data/fxa/rps-lists -> /dsdata/rps-lists
/data/fxa/sat -> /pxldata/sat
```

```

/data/fxa/scripts -> /dsdata/scripts
/data/fxa/siteConfig -> /dsdata/siteConfig
/data/fxa/textWSwork -> /dsdata/textWSwork
/data/fxa/tmp/graphic -> /dsdata/tmp/graphic
/data/fxa/tmp/grid -> /px1data/tmp/grid
/data/fxa/tmp/image -> /px1data/tmp/image
/data/fxa/tmp/img -> /px1data/tmp/img
/data/fxa/tmp/other -> /dsdata/tmp/other
/data/fxa/tmp/point -> /px2data/tmp/point
/data/fxa/tmp/radar -> /data/fxa_local/tmp
/data/fxa/tmp/text -> /dsdata/tmp/text
/data/fxa/trigger -> /dsdata/trigger
/data/fxa/tstorm -> /dsdata/tstorm
/data/fxa/userPrefs -> /dsdata/userPrefs
/data/fxa/userSkewTs -> /dsdata/userSkewTs
/data/fxa/verification -> /dsdata/verification
/data/fxa/workFiles/asyncProdScheduler -> /dsdata/workFiles/asyncProdScheduler
/data/fxa/workFiles/fax -> /dsdata/workFiles/fax
/data/fxa/workFiles/logViewer -> /dsdata/workFiles/logViewer
/data/fxa/workFiles/nwr -> /dsdata/workFiles/nwr
/data/fxa/workFiles/nwws -> /dsdata/workFiles/nwws
/data/fxa/workFiles/radar -> /dsdata/workFiles/radar
/data/fxa/workFiles/wanMsgHandling -> /dsdata/workFiles/wanMsgHandling

```

5. Directories

Directories in /px1data (from ds1):

```

ds1-tbdr:root:147# lsf /px1data
BACKUPLDAD512/  badText/      lost+found/   procs/        tempNetcdf/
BACKUPLDAD521/  customFiles/  mark/         redbook/      textWSwork/
BACKUPMSAS521/  data/        mhs/         rps-lists/    tmp/
Grid/           dgm/         nationalData/ sat/           trigger/
JUNK/           eLog/        nowrad/      scripts/      tstorm/
afos/           img/         nwr/         siteConfig/   verification/
archive/        ispan/       nwws/        staging/       workFiles/
badSatellite/  ldadScheduler/ point/        temp/
ds1-tbdr:root:148#

```

/px1data/Grid, /px1data/sat, /px1data/img, and /px1data/tmp are the same as expected on a non-PX site's /data/fxa/Grid, /data/fxa/sat, /data/fxa/img, and /data/fxa/tmp (respectively).

Directories in /px2data (from ds1):

```

ds1-tbdr:root:148# lsf /px2data
BACKUPLDAD512/  customFiles/  nationalData/  siteConfig/
BACKUPLDAD521/  data/         nowrad/        staging/
BACKUPMSAS521/  dgm/         nwr/           temp/
Grid/           eLog/        nwws/          tempNetcdf/
JUNK/           img/         point/         textWSwork/
LX-usr-local.tar* ispan/       procs/         tmp/
afos/           ldadScheduler/ redbook/       trigger/
archive/        lost+found/   rps-lists/    tstorm/
badSatellite/  mark/        sat/           verification/

```

```
badText/          mhs/          scripts/         workFiles/
dsl-tbdr:root:149#
```

/px2data/point and /px2data/tmp are the same as expected on a non-PX site's /data/fxa/point and /data/fxa/tmp (respectively).

```
rlogin px2f
ps -efw|grep fxa

fxa /awips/fxa/bin/acqserver 1800 (1-5)
fxa /awips/fxa/bin/BufrDriver
fxa /awips/fxa/bin/CommsRouter COMMS_ROUTER
fxa /awips/fxa/bin/DataController COMMS_ROUTER BufrDriverCont1.config
```

Template files should be in place (though usually missing template files will show up as log errors in the decoders and the notification server):

```
find /data/fxa -type f -name template -follow
```

(Note: Use follow to follow links from /data/fxa/Grid to /px1data/Grid and from /data/fxa/point to /px2data/point)

```
/data/fxa/Grid/FSL/netCDF/LAPS_Grid/LAPS/template
/data/fxa/Grid/FSL/netCDF/MSAS/template
/data/fxa/Grid/SBN/netCDF/NHEM201/AVN/template
/data/fxa/Grid/SBN/netCDF/NHEM201/MRF/template
/data/fxa/Grid/SBN/netCDF/CONUS202/AVN/template
/data/fxa/Grid/SBN/netCDF/CONUS202/MRF/template
/data/fxa/Grid/SBN/netCDF/CONUS202/NGM/template
/data/fxa/Grid/SBN/netCDF/CONUS211/AVN/template
/data/fxa/Grid/SBN/netCDF/CONUS211/Eta/template
/data/fxa/Grid/SBN/netCDF/CONUS211/NGM/template
/data/fxa/Grid/SBN/netCDF/CONUS211/RUC/template
/data/fxa/Grid/SBN/netCDF/CONUS212/Eta/template
/data/fxa/Grid/SBN/netCDF/CONUS212/MesoEta/template
/data/fxa/Grid/SBN/netCDF/CONUS213/AVN/template
/data/fxa/Grid/SBN/netCDF/CONUS213/NGM/template
/data/fxa/Grid/SBN/netCDF/CONUS215/MesoEta/template
/data/fxa/Grid/SBN/netCDF/LATLON/ECMWF/template
/data/fxa/Grid/SBN/netCDF/LATLON/UKMET/template
/data/fxa/Grid/SBN/netCDF/LATLON/ENSEMBLE/template
/data/fxa/Grid/SBN/netCDF/REG233/GWW/template
/data/fxa/Grid/SBN/netCDF/NHEM219/SeaIce/template
/data/fxa/Grid/SBN/netCDF/GRID218/QPF/template
/data/fxa/Grid/SBN/netCDF/GRID236/RUC2/template
/data/fxa/Grid/SBN/netCDF/GRID238/GWW/template
/data/fxa/Grid/TDL/netCDF/LAMP_Grid/LAMP/template
/data/fxa/Grid/TDL/netCDF/LAMP_Grid/QPF/template
/data/fxa/point/raob/netcdf/template
/data/fxa/point/profiler/netcdf/template
/data/fxa/point/maritime/netcdf/template
/data/fxa/point/metar/netcdf/template
/data/fxa/point/model/ETA/netcdf/template
/data/fxa/point/model/AVN/netcdf/template
/data/fxa/point/GOES/netcdf/template
/data/fxa/point/acars/netcdf/template
/data/fxa/point/aircraft/netcdf/template
```

```

/data/fxa/point/synoptic/netcdf/template
/data/fxa/point/LSR/netCDF/template
/data/fxa/point/acarsProfiles/netcdf/template
/data/fxa/LDAD/hydro/netCDF/template
/data/fxa/LDAD/mesonet/netCDF/template
/data/fxa/LDAD/mesonet/qc/template
/data/fxa/LDAD/manual/netCDF/template
/data/fxa/LDAD/sfc_netcdf/template

```

If template files don't exist you may need to rerun the localization command to recreate them (on px1f and px2f as fxa run ./mainScript.csh -dirs -fixGeo)
Missing templates mean the grid for that template will not be created or readable.

On ASs:

Check the directories:

```

asl-tbdr:root:131# bdf
Filesystem      kbytes    used    avail  %used  Mounted on
/dev/vg00/lvol3 102400    29614   68267   30%    /
/dev/vg00/lvol1  47829    19878   23168   46%    /stand
/dev/vg00/lvol6 212992   144696   64380   69%    /var
/dev/vg00/lvol5 512000   341249  160176   68%    /usr
/dev/vg00/lvol7 151552   122248   27561   82%    /usr/local
/dev/vg01/lvol3 593920   498210   89783   85%    /opt
/dev/vg01/lvol6 307200   79744   213731   27%    /data/logs
/dev/vg00/lvol8  20480    1307    18172    7%    /data/co
/dev/vg01/lvol2 204800   55972   139544   29%    /awips/ops
/dev/vg01/lvol5 155648    1141   144858    1%    /awips/laps
/dev/vg01/lvol4 409600   331863   73379   82%    /awips/fxa
/dev/vg00/lvol4  99669    139    89563    0%    /tmp
ds-tbdr:/data/fxa 5427200 2499040 2804832  47%    /dsdata
px1f:/px1data    25205280 3045888 20879016  13%    /px1data
px2f:/px2data    25205280 268936 23655968  1%    /px2data
ds-tbdr:/awips/hydroapps
      4096000 2710736 1321312  67%    /awips/hydroapps
ds-tbdr:/home     2293760 412416 1764616  19%    /home
ds-tbdr:/awips/dev 307200  43008 247744  15%    /awips/dev
ds-tbdr:/data/archive_cache
      409600  1720 382904  0%    /data/archive_cache
ds-tbdr:/data/archive_restore
      614400  30288 548560  5%    /data/archive_restore
ds-tbdr:/data/local
      1013760 366296 607800  38%    /data/local
ds-tbdr:/data/fxa_local
      1228800 340176 849944  29%    /data/fxa_local
ds-tbdr:/awips/gis 1024000 533712 459648  54%    /awips/gis
ds-tbdr:/opt/informix
      1179648 895456 267184  77%    /opt/informix
asl-tbdr:root:132#

```

ds:/data/fxa mounted on /dsdata, px1f:/px1data mounted on /px1data,
px2f:/px2data mounted on /px2data . Use should not be not over 90% for any file system.

Any missing directories need remounting – may need to kill the processes that would use that directory remount and then restart them.

On (for) WS:

Check the directories:

```

ws1-tbdr:root:166# bdf
Filesystem      kbytes    used    avail %used Mounted on
/dev/vg00/lvol3 86016    24031  58335  29% /
/dev/vg00/lvol7 163840   50077  107243  32% /var
/dev/vg00/lvol6 430080  328502  95240  78% /usr
/dev/vg00/lvol4 446464  238880  194654  55% /opt
/dev/vg01/lvol4 102400    7172  89882   7% /data/logs
/dev/vg01/lvol2 102400   37099  61244  38% /awips/ops
/dev/vg01/lvol3 565248  407071  149140  73% /awips/fxa
/dev/vg00/lvol5 79701     134   71596   0% /tmp
ds-tbdr:/awips/gis 1024000  533712  459648  54% /awips/gis
ds-tbdr:/data/fxa_local
1228800  341016  849144  29% /data/fxa_local
ds-tbdr:/data/local
1013760  366296  607800  38% /data/local
ds-tbdr:/data/archive_cache
409600  1720  382904  0% /data/archive_cache
ds-tbdr:/data/archive_restore
614400  30288  548560  5% /data/archive_restore
ds-tbdr:/awips/hydroapps
4096000  2710736  1321312  67% /awips/hydroapps
ds-tbdr:/home
2293760  412416  1764616  19% /home
ds-tbdr:/awips/dev
307200  43008  247744  15% /awips/dev
/dev/vg00/lvol8 151552  124029  25890  83% /usr/local
/dev/vg00/lvol1 47829   15547  27499  36% /stand
ds-tbdr:/data/fxa 5427200  2498808  2805048  47% /dsdata
px1f:/px1data 25205280  3052416  20872480  13% /px1data
px2f:/px2data 25205280  269456  23655448  1% /px2data
ds-tbdr:/opt/langtools
1179648  895456  267184  77% /opt/langtools
ds-tbdr:/opt/fortran
1179648  895456  267184  77% /opt/fortran
ds-tbdr:/opt/informix
1179648  895456  267184  77% /opt/informix
ds-tbdr:/opt/softbench
1179648  895456  267184  77% /opt/softbench
ds-tbdr:/opt/ansic 1179648  895456  267184  77% /opt/ansic
ds-tbdr:/opt/gcc 1179648  895456  267184  77% /opt/gcc
ds-tbdr:/opt/binutils
1179648  895456  267184  77% /opt/binutils
ds-tbdr:/opt/vni 1179648  895456  267184  77% /opt/vni
ds-tbdr:/opt/fortran90
1179648  895456  267184  77% /opt/fortran90
ws1-tbdr:root:167#

```

ds:/data/fxa mounted on /dsdata, px1f:/px1data mounted on /px1data, px2f:/px2data mounted on /px2data . Use should not be over 90% for any file system.

Any missing directories need remounting – may need to kill the processes that would use that directory remount and then restart them.

6. StartScripts:

On ds1 and ds2: `/awips/fxa/bin/startIngest.ds1` – grib and sat processes should not be started.

On as1 and as2: `/awips/fxa/bin/startBufDriver` – the bufDriver is should not be started.

On px1f and px2f: `/awips/fxa/bin/startIngest.px1`,
`/awips/fxa/bin/stopIngest.px1`, `/awips/fxa/bin/startIngest.px2`, and
`/awips/fxa/bin/stopIngest.px2` run as fxa to start px processes on each px.

Running the package start script as root on px1f and px2f respectively:

```
/etc/cluster/px1apps start #and /etc/cluster/px1apps stop
/etc/cluster/px2apps start #and /etc/cluster/px2apps stop
```

Check PX cluster status by logging into px1f as root and running:

```
[root@px1-tbdr root]# cluadmin -- cluster status
(Note: clustat runs the same command)
```

```
Cluster Status Monitor (awips) 14:50:44

Cluster alias: Not Configured

===== M e m b e r   S t a t u s =====

Member      Status      Node Id    Power Switch
-----
px1-tbw4    Up          0          Good
px2-tbw4    Up          1          Good

===== H e a r t b e a t   S t a t u s =====

Name                    Type      Status
-----
px1-beat    <--> px2-beat    network  ONLINE
/dev/ttyS1  <--> /dev/ttyS1  serial   ONLINE

===== S e r v i c e   S t a t u s =====

Service      Status  Owner      Last          Monitor  Restart
-----
px1apps      started px1-tbw4   10:27:39 Jan 28  0        0
px2apps      started px2-tbw4   10:26:06 Jan 28  0        0

[root@px1-tbdr root]#
```

7. Swapping Back from a failed PX condition:

- Make sure all physical connections for the PX that failed have been reconnected properly.
- Log into the failed PXs console (usually through the Xyplex).
- Reboot the failed PX.
-
- After the wait, log in and recheck network connectivity. Use ping and remsh to the other PX, the DS and to the CPs. Also make sure a ping works to both AWIPS switches. Once the network connectivity has been assured, enable the ping.sh cron -- by removing the /etc/cluster/ping.lock file (rm /etc/cluster/ping.lock).
- Run clustat to see if the new PX is recognized as being up and available. Run **cluadmin - service relocate pxXapps** to relocate the failed package back to the fixed PX (pxXapps stands for the PXs normal package (px1apps for px1 or px2apps for px2).

8. UNINSTALL the PX Software (5.2.2. ONLY!!!!)

NOTE: The **uninstall** will log out all workstations and kill all awipsusr, fxa, and ifps processes on WSs and LXs.

- Notify forecasters the system will be unavailable for 15 minutes. Log out of all workstations
- Ensure data acquisition is ok, including the data monitor.
- Start Uninstall script; the script output is captured in the InstallPX-uninstall.out file:

```
cd /home/awipsadm/install/PX
script -a /home/ncfuser/InstallPX-uninstall.out
./InstallPX.sh uninstall
```
- At the prompt, type **yes** after the system checkout:
ARE YOU SURE YOU WANT TO UNINSTALL THE PREPROCESSORS? (yes or no) -->**yes**
- Type **Exit** when script is done.
- Type **./checkmounts** in /home/awipsadm/install/PX
- Verify /data/fxa is mounted on all machines as /data/fxa and not /dsdata.
- If /dsdata is still mounted unmount it and remount ds:/data/fxa /data/fxa (you may need to stop some processes to unmount – don't forget to restart them if you are on a server).
- Check cpsbn1:/awips/data/acq_send_parms.sbn (see that px1f is not listed in it)
- Check cpsbn2:/awips/data/acq_send_parms.sbn (see that px1f is not listed in it)

- Check the data acquisition:

As root log into cpsbn1 (or cpsbn2):

```
acq_stats -m5
cpsbn1-tbdr [pid=733] update/refresh(0/30 sec) GMT Wed Jul 10 22:33:31 2002
                                Start [Wed Jul 10 22:33:31]
--> shmем_region[5]
```

```
Status client link/group/hosts 0/All/All sem_cnt= 1/ 1 (1=nonwait)
  host      client dist out      last_time      last_#      total
  id name    pid  hdr typ      conn  xfr(I/A/F)  prod buff      prod buff
0 ds-tbdr   32743 0 acq      n/a      n/a      0W  0      0      0
0 ds-tbdr   32703* 0 acq      n/a      n/a      0W  0      0      0
1 px1f-tbdr 32711* 0 acq      n/a      n/a      0W  0      0      0
1 px1f-tbdr 32719* 0 acq      n/a      n/a      0W  0      0      0
1 px1f-tbdr 32727* 0 acq      n/a      n/a      0W  0      0      0
2 px2f-tbdr 32735* 0 acq      n/a      n/a      0W  0      0      0
```

If you see this, /awips/data/acq_send_parms.sbn may need correction or restart processes on the cp. Try copying /awips/data/acq_send_parms.sbn.PrePX over /awips/data/acq_send_parms.sbn and then run /awips/bin/stop_cpsbn_all and then /awips/bin/start_cpsbn_all.

To check acq_send_parms.sbn run the following on the cp:

```
grep px1f /awips/data/acq_send_parms.sbn
```

There should either be no output since the correct version will not contain px1f or px2f, or the lines reported should be comments (starting with a "#").

```
ipc.config on ds:/data/fxa/nationalData: px1f is not listed for GRIB_ROUTER
ds1: /awips/fxa/bin/startIngest.ds1 (compare it to a non-PX site – sat and Grib
processes should not be commented out)
ds2:/awips/fxa/bin/startIngest.ds2 (compare it to a non-PX site – sat and Grib processes
should not be commented out)
as1: /awips/fxa/bin/startBufDriver (compare it to a non-PX site – this file should start
the BufDriver; not just be an echo statement saying that BufDriver has been relocated to px2f)
```

If any of these files are wrong, check to see if a *.PrePX file exists. If so, this is the pre PX install file that should have been copied back.

PX Uninstall Script Output Sample

```
Script started on Tue Jul 23 13:39:47 2002
ds1-nmtr:root:1685# ./InstallPX.sh uninstall
```

```
Running ./InstallPX.sh uninstall - Tue Jul 23 13:40:09 GMT 2002
```

```
Running System checkout
```

```
checking that lx1 has a recent display log
```

```
lx1 is accessible and seems to have been used recently
```

```
checking that the datamonitor detects that the site is receiving data:
```

```
grid data detected
```

```

sat data detected
point data detected
checking that the datamonitor detects processes running:
  all processes are running according to the data monitor
checking that /etc/hosts contains px1, px1f, px2 and px2f
checking that all machines are pingable:
  ping test to px1 passes
  ping test to px2 passes
  ping test to ds1 passes
  ping test to ds2 passes
  ping test to as1 passes
  ping test to as2 passes
  ping test to ws1-nmtr passes
  ping test to ws2-nmtr passes
  ping test to lx1-nmtr passes
  ping test to hub1-nmtr passes
  ping test to hub2-nmtr passes
  ping test to cpsbn1 passes
  ping test to cpsbn2 passes
checking that no packages are in a failed over state:
  all swap packages are running on their primary
checking that root remsh works to all machines and that home is accessible:
  remsh test of px1 passes
  remsh test of px2 passes
  remsh test of ds1 passes
  remsh test of ds2 passes
  remsh test of as1 passes
  remsh test of as2 passes
  remsh test of ws1-nmtr passes
  remsh test of ws2-nmtr passes
  remsh test of lx1-nmtr passes
checking that /px1data and /px2data are accessible:
checking that the necessary files are accessible:
System check out complete.

```

Running PX uninstall - Tue Jul 23 13:40:29 GMT 2002

ARE YOU SURE YOU WANT TO UNINSTALL THE PREPROCESSORS? (yes or no) --> **yes**

UNInstalling PX files:

```

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!! STOPPING INGEST TO ACTIVATE - Tue Jul 23 13:40:34 GMT 2002 !!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

```

RE-ACTIVATING CPs

Checking that /etc/hosts on cps are correct

- cpsbn1
- cpsbn2

Uninstalling cpfiles:

- cpsbn1

Uninstalling cpfiles:

- cpsbn2

restarting cpsbn1

restarting cpsbn2

TO VIEW OUTPUT OF START/STOP SCRIPTS USE:

```
tail -f on /home/ncfuser/InstallPX.log.200207231340 #or
tail -f /etc/cmcluster/as[12]swap/*.log
```

Stopping Ingest on DS1

Stopping Ingest on AS1

Stopping Ingest on AS2

stopping PX processes!

on px1

on px2

Restoring /etc/hosts.equiv and .rhosts files

restoring as1:/etc/hosts.equiv

restoring as1:./rhosts

restoring as1:/awips/fga/.rhosts

restoring as1:/awips/fga/awipsusr/.rhosts

restoring as1:/awips/fga/textdemo/.rhosts

restoring as2:/etc/hosts.equiv

restoring as2:./rhosts

restoring as2:/awips/fga/.rhosts

restoring as2:/awips/fga/awipsusr/.rhosts

restoring as2:/awips/fga/textdemo/.rhosts

restoring ds1:/etc/hosts.equiv

restoring ds1:./rhosts

restoring ds1:/awips/fga/.rhosts

restoring ds1:/awips/fga/awipsusr/.rhosts

restoring ds1:/awips/fga/textdemo/.rhosts

restoring ds2:/etc/hosts.equiv

restoring ds2:./rhosts

restoring ds2:/awips/fga/.rhosts

restoring ds2:/awips/fga/awipsusr/.rhosts

restoring ds2:/awips/fga/textdemo/.rhosts

restoring ws1-nmtr:/etc/hosts.equiv

restoring ws1-nmtr:./rhosts

restoring ws1-nmtr:/awips/fga/.rhosts

restoring ws1-nmtr:/awips/fga/awipsusr/.rhosts

restoring ws1-nmtr:/awips/fga/textdemo/.rhosts

restoring ws2-nmtr:/etc/hosts.equiv

restoring ws2-nmtr:./rhosts

restoring ws2-nmtr:/awips/fga/.rhosts

restoring ws2-nmtr:/awips/fga/awipsusr/.rhosts

restoring ws2-nmtr:/awips/fga/textdemo/.rhosts

restoring lx1-nmtr:/etc/hosts.equiv

restoring lx1-nmtr:/root/.rhosts

restoring lx1-nmtr:/awips/fga/.rhosts

restoring lx1-nmtr:/awips/fga/awipsusr/.rhosts

restoring cpsbn1:/etc/hosts.equiv

restoring cpsbn1:/root/.rhosts

restoring cpsbn2:/etc/hosts.equiv

restoring cpsbn2:/root/.rhosts

Restoring the ds1

- directories

- links

SITE WILL NEED TO RESTART D2D

Restoring as1

- /etc/fstab

- stopping all fga, awipsusr, and textdemo processes on as1!

- directories (mount points)

Restoring as2

- on ds1
- on ds2
- on as1
- on as2

RESTARTNG INGEST!

TO VIEW OUTPUT OF START/STOP SCRIPTS USE:

```
tail -f on /home/ncfuser/InstallPX.log.200207231340 #or  
tail -f /etc/cmcluster/as[12]swap/*.log
```

Starting ingest on as1!

Starting ingest on as2!

Starting ingest on ds1!

Removing Release_ID

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!  
!! INGEST RESTORED - Tue Jul 23 13:51:47 GMT 2002 !!  
!! PLEASE RESTART ALL D2Ds !!  
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

PX1 and PX2 REMOVED!!!!

PXs ARE NO LONGER PART OF AWIPS INGEST

./InstallPX.sh uninstall COMPLETE -- Tue Jul 23 13:51:47 GMT 2002

ds1-nmtr:root:1686# exit

script done on Tue Jul 23 13:52:19 2002

Attachment D

NIS Configuration Output Sample

```
ds1-<site>:root:274# ./testit
```

```
Adding PX entries to /etc/hosts...
```

```
Reconfiguring NIS Server on ds1...
```

```
stopping rpc.yppasswd
```

```
stopping rpc.yupdated
```

```
stopping ypserv
```

```
stopping ypxfrd
```

```
stopping keyserver
```

You will be required to answer a few questions to install the Network Information Service.

All questions will be asked at the beginning of this procedure.

Do you want this procedure to quit on non-fatal errors? [y/n: n] OK, but please remember to correct anything which fails.

If you don't, some part of the system (perhaps the NIS itself) won't work.

At this point, you must construct a list of the hosts which will be NIS servers for the "<site>.awips1" domain.

This machine, ds1-<site>, is in the list of Network Information Service servers.

Please provide the hostnames of the slave servers, one per line.

When you have no more names to add, enter a <ctrl-D> or a blank line.

```
next host to add: ds1-<site>
```

```
next host to add:  next host to add:  next host to add:  next host to add:  next
```

```
host to add:  next host to add:  next host to add:
```

The current list of NIS servers looks like this:

```
ds1-<site>
```

```
y
```

```
ds2-<site>
```

```
as1-<site>
```

```
as2-<site>
```

```
px1-<site>
```

```
px2-<site>
```

Is this correct? [y/n: y]

There will be no further questions. The remainder of the procedure should take 5 to 10 minutes.

Building the ypservers database... ypservers build complete.

Running make in /var/yp:

```
updated passwd
updated group
updated hosts
updated networks
updated rpc
updated services
updated protocols
updated netgroup
updated aliases
updated publickey
updated netid
updated vhe_list
updated auto.master
```

ds1-<site> has been set up as a master Network Information Service server without any errors.

If there are running slave NIS servers, run yppush(1M) now for any databases which have been changed. If there are no running slaves, run ypinit on those hosts which are to be slave servers.

```
starting NIS SERVER networking
starting up the portmapper
portmap already started, using pid: 813
domainname <site>.awips1
starting up the Network Information Service
starting up the ypserv daemon
/usr/lib/netsvc/yp/ypserv
starting up the ypxfrd daemon
/usr/sbin/ypxfrd
starting up the rpc.yppasswdd daemon
/usr/lib/netsvc/yp/rpc.yppasswdd /etc/passwd -m passwd PWFIL=/etc/passwd
starting up the rpc.yputdated daemon
/usr/lib/netsvc/yp/rpc.yputdated
starting up the keyserv daemon
```

/usr/sbin/keyserv

Reconfiguring NIS Server on ds2...

stopping ypserv

stopping ypxfrd

stopping keyserv

You will be required to answer a few questions to install the Network Information Service.

All questions will be asked at the beginning of this procedure.

Do you want this procedure to quit on non-fatal errors? [y/n: n] OK, but please remember to correct anything which fails.

If you don't, some part of the system (perhaps the NIS itself) won't work.

Can the existing directory "/var/yp/<site>.awips1"

and its contents be destroyed? [y/n: n] There will be no further questions. The remainder of the procedure, copying

the databases from 165.92.<nn>.<nn>, will take a few minutes.

Note that if your master NIS server, 165.92.<nn>.<nn>, is an HP machine, it is expected that the NIS databases ethers.byaddr, and ethers.byname will not exist for you to copy. As a result, you may ignore any "no such map" error messages produced when those maps are attempted to be transferred. This may also be true if 165.92.<nn>.<nn> is not an HP machine.

If your master NIS server, 165.92.<nn>.<nn>, is not an HP machine, it is expected that the NIS database vhe_list will not exist for you to copy, and you may ignore any "no such map" error messages seen when it is attempted to be transferred. This may also be true if 165.92.<nn>.<nn> is an HP machine and its ypmake(1M) is from an older release.

Transferring group.bygid for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring group.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring hosts.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring hosts.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup.byhost for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup.byuser for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring networks.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring networks.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring passwd.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring passwd.byuid for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring protocols.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring protocols.bynumber for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring rpc.bynumber for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring services.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring vhe_list for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring publickey.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring netid.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring mail.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring mail.aliases for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring auto.master for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring rpc.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring servi.bynp for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring ethers.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring ethers.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring netmasks.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring bootparams for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring ypservers for domain <site>.awips1 from 165.92.<nn>.<nn>...

ds2-<site> has been set up as a slave Network Information Service server with errors.

At this point, make sure that /etc/passwd, /etc/hosts, /etc/networks, /etc/group, /etc/protocols, /etc/services, /etc/rpc and /etc/netgroup have been edited so that when the Network Information Service is activated, the databases you have just created will be used in addition to or instead of the /etc ASCII files.

Please remember to correct the errors, and run ypinit again.

```
starting NIS SERVER networking
starting up the portmapper
  portmap already started, using pid: 817
  domainname <site>.awips1
starting up the Network Information Service
  starting up the ypserv daemon
  /usr/lib/netsvc/yp/ypserv
  starting up the ypxfrd daemon
  /usr/sbin/ypxfrd
  This is an NIS slave server. Don't start /usr/lib/netsvc/yp/rpc.yppasswdd
  This is an NIS slave server. Don't start /usr/lib/netsvc/yp/rpc.ypupdated
starting up the keyserver daemon
  /usr/sbin/keyserv
```

Reconfiguring NIS Server on as1...

stopping ypserv

stopping ypxfrd

stopping keyserver

You will be required to answer a few questions to install the Network Information Service.

All questions will be asked at the beginning of this procedure.

Do you want this procedure to quit on non-fatal errors? [y/n: n] OK, but please remember to correct anything which fails.

If you don't, some part of the system (perhaps the NIS itself) won't work.

Can the existing directory "/var/yp/<site>.awips1"

and its contents be destroyed? [y/n: n] There will be no further questions. The remainder of the procedure, copying

the databases from 165.92.<nn>.<nn>, will take a few minutes.

Note that if your master NIS server, 165.92.<nn>.<nn>, is an HP machine, it is expected that the NIS databases ethers.byaddr, and ethers.byname will not exist for you to copy. As a result, you may ignore any "no such map" error messages produced when those maps are attempted to be transferred. This may also be true if 165.92.<nn>.<nn> is not an HP machine.

If your master NIS server, 165.92.<nn>.<nn>, is not an HP machine, it is expected that the NIS database vhe_list will not exist for you to copy, and you may ignore any "no such map" error messages seen when it is attempted to be transferred. This may also be true if 165.92.<nn>.<nn> is an HP machine and its ypmake(1M) is from an older release.

Transferring group.bygid for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring group.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring hosts.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring hosts.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup.byhost for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup.byuser for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring networks.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring networks.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring passwd.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring passwd.byuid for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring protocols.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring protocols.bynumber for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring rpc.bynumber for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring services.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring vhe_list for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring publickey.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring netid.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring mail.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring mail.aliases for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring auto.master for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring rpc.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring servi.bynp for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring ethers.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring ethers.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring netmasks.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring bootparams for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring ypservers for domain <site>.awips1 from 165.92.<nn>.<nn>...

At this point, make sure that /etc/passwd, /etc/hosts, /etc/networks, /etc/group, /etc/protocols, /etc/services, /etc/rpc and /etc/netgroup have been edited so that when the Network Information Service is activated, the databases you have just created will be used in addition to or instead of the /etc ASCII files.

as1-<site> has been set up as a slave Network Information Service server with errors.

Please remember to correct the errors, and run ypinit again.

```
starting NIS SERVER networking
starting up the portmapper
portmap already started, using pid: 786
domainname <site>.awips1
starting up the Network Information Service
starting up the ypserv daemon
/usr/lib/netsvc/yp/ypserv
starting up the ypxfrd daemon
/usr/sbin/ypxfrd
This is an NIS slave server. Don't start /usr/lib/netsvc/yp/rpc.yppasswdd
This is an NIS slave server. Don't start /usr/lib/netsvc/yp/rpc.yppupdated
starting up the keyser daemon
/usr/sbin/keyser
```

Reconfiguring NIS Server on as2...

stopping ypserv

stopping ypxfnd
stopping keyserver

You will be required to answer a few questions to install the Network Information Service. All questions will be asked at the beginning of this procedure.

Do you want this procedure to quit on non-fatal errors? [y/n: n] OK, but please remember to correct anything which fails.

If you don't, some part of the system (perhaps the NIS itself) won't work.

Can the existing directory "/var/yp/<site>.awips1" and its contents be destroyed? [y/n: n] There will be no further questions. The remainder of the procedure, copying the databases from 165.92.<nn>.<nn>, will take a few minutes.

Note that if your master NIS server, 165.92.<nn>.<nn>, is an HP machine, it is expected that the NIS databases ethers.byaddr, and ethers.byname will not exist for you to copy. As a result, you may ignore any "no such map" error messages produced when those maps are attempted to be transferred. This may also be true if 165.92.<nn>.<nn> is not an HP machine.

If your master NIS server, 165.92.<nn>.<nn>, is not an HP machine, it is expected that the NIS database vhe_list will not exist for you to copy, and you may ignore any "no such map" error messages seen when it is attempted to be transferred. This may also be true if 165.92.<nn>.<nn> is an HP machine and its ypmake(1M) is from an older release.

Transferring group.bygid for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring group.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring hosts.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring hosts.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring netgroup for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring netgroup.byhost for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring netgroup.byuser for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring networks.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring networks.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring passwd.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring passwd.byuid for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring protocols.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring protocols.bynumber for domain <site>.awips1 from 165.92.<nn>.<nn>...
Transferring rpc.bynumber for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring services.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring vhe_list for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring publickey.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring netid.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring mail.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring mail.aliases for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring auto.master for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring rpc.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring servi.bynp for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring ethers.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring ethers.byname for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring netmasks.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring bootparams for domain <site>.awips1 from 165.92.<nn>.<nn>...
 Transferring ypservers for domain <site>.awips1 from 165.92.<nn>.<nn>...

At this point, make sure that /etc/passwd, /etc/hosts, /etc/networks, /etc/group, /etc/protocols, /etc/services, /etc/rpc and /etc/netgroup have been edited so that when the Network Information Service is activated, the databases you have just created will be used in addition to or instead of the /etc ASCII files.

as2-<site> has been set up as a slave Network Information Service server with errors. Please remember to correct the errors, and run ypinit again.

```
starting NIS SERVER networking
starting up the portmapper
portmap already started, using pid: 794
domainname <site>.awips1
starting up the Network Information Service
starting up the ypserv daemon
/usr/lib/netsvc/yp/ypserv
starting up the ypxfrd daemon
/usr/sbin/ypxfrd
This is an NIS slave server. Don't start /usr/lib/netsvc/yp/rpc.yppasswdd
This is an NIS slave server. Don't start /usr/lib/netsvc/yp/rpc.yputdated
starting up the keyser daemon
/usr/sbin/keyserv
```

```
Reconfiguring NIS Server on px1...
Stopping YP server services: [ OK ]
Shutting down NIS services: [ OK ]
Binding to the NIS domain: [ OK ]
```

Listening for an NIS domain server.

We will need a few minutes to copy the data from ds1-<site>.

Transferring netgroup...

Transferring vhe_list...

Transferring rpc.bynumber...

Transferring netgroup.byhost...

Transferring netgroup.byuser...

Transferring networks.byaddr...

Transferring networks.byname...

Transferring protocols.bynumber...

Transferring mail.byaddr...

Transferring services.byname...

Transferring group.bygid...

Transferring group.byname...

Transferring passwd.byname...

Transferring passwd.byuid...

Transferring hosts.byaddr...

Transferring hosts.byname...

Transferring protocols.byname...

Transferring rpc.byname...

Transferring servi.bynp...

Transferring netid.byname...

Transferring auto.master...

Transferring ypservers...

Transferring mail.aliases...

Transferring publickey.byname...

px1-<site>'s NIS data base has been set up.

If there were warnings, please figure out what went wrong, and fix it.

At this point, make sure that /etc/passwd and /etc/group have been edited so that when the NIS is activated, the data bases you have just created will be used, instead of the /etc ASCII files.

Starting YP server services: [OK]

Done

Reconfiguring NIS Server on px2...

Stopping YP server services: [OK]

Shutting down NIS services: [OK]

Binding to the NIS domain: [OK]

Listening for an NIS domain server..

We will need a few minutes to copy the data from ds1-<site>.

Transferring mail.aliases...

Transferring ypservers...

Transferring auto.master...

Transferring netid.byname...

Transferring servi.bynp...

Transferring rpc.byname...

Transferring publickey.byname...

Transferring hosts.byname...

Transferring hosts.byaddr...

Transferring passwd.byuid...

Transferring passwd.byname...

Transferring group.byname...

Transferring group.bygid...

Transferring services.byname...

Transferring protocols.bynumber...

Transferring mail.byaddr...

Transferring networks.byname...

Transferring networks.byaddr...

Transferring netgroup.byuser...

Transferring netgroup.byhost...

Transferring protocols.byname...

Transferring vhe_list...

Transferring netgroup...

Transferring rpc.bynumber...

px2-<site>'s NIS data base has been set up.

If there were warnings, please figure out what went wrong, and fix it.

At this point, make sure that /etc/passwd and /etc/group have been edited so that when the NIS is activated, the data bases you have just created will be used, instead of the /etc ASCII files.

Starting YP server services: [OK]

Done.

ds1-<site>:root:275#

Attachment E

Port	10/100 Switch1	10/100 Switch2
1	xterm1	xterm2
2	xterm3	xterm4
3	xterm5	xterm6
4	xterm7	xterm8
5	xterm9	xterm10
6	xterm11	xterm12
7		
8		
9		
10	text printer	color printer
11		high-speed printer
12	lx1	lx2
13		
14		
15		
16		
17		
18		
19	linux cpsbn1	linux cpsbn1
20	linux cpsbn2	linux cpsbn2
21	linux px1	linux px1
22	linux px2	linux px2
23	AX	AX
24	lsw1 100BaseTx	lsw2 100BaseTx

Attachment F

WFO and RFC Xyplex Port Assignments

The following table defines the Xyplex configurations for WFO and RFC terminal servers port assignments. Flow control is disabled on all HP processor console ports, because XON flow control can suspend HP boot sequences. TELNET access in the Remarks column refers to the ability to use an AS or DS `telnet xyplex 1 nnnn` command to access a device connected to a Xyplex port; *nnnn* is the value $(2000 + (100 * \text{port_number}))$ (i.e., for Xyplex port 1 *nnnn* would be $(2000 + (100 * 1)) = 2100$). At the HP 700/96 system console `Xyplex>` prompt, either the command `telnet xyplex1:nnnn` or `connect xyplex1:nnnn` or `connect xyplex1:nnnn` may be used to access connected devices.

A connection to a Plaintree switched hub requires the use of a server (AS or DS) X-term window or a system console Term Type setting of EM100. All other connections should use a server hpterm window or a system console Term Type setting of HP.

Port	WFO (collocated)	WFO (noncollocated)	RFC	Remarks
1	AS1	AS1	AS1	TELNET 2100
2	AS2	AS2	AS2	TELNET 2200
3	PX1	PX1	WS11	TELNET 2300
4	PX2	PX2	WAN Probe2	TELNET 2400
5	DS1	DS1	DS1	TELNET 2500
6	DS2	DS2	DS2	TELNET 2600
7	AX	AX	WAN Probe1	TELNET 2700
8	LSW1	LSW1	LSW1	TELNET 2800 (VT100/X-term)
9	LSW2	LSW2	LSW2	TELNET 2900 (VT100/X-term)
10	LSW3	LSW3	LSW3	TELNET 3000
11	LSW4	LSW4	LSW4	TELNET 3100
12			Hub	TELNET 3200
13		Router1	Router1	TELNET 3300

Port	WFO (collocated)	WFO (noncollocated)	RFC	Remarks
14		Router2	Router2	TELNET 3400
15		TIU1	TIU1	TELNET 3500
16			TIU2	TELNET 3600
17	LX1	LX1	TIU3	TELNET 3700
18	LX2	LX2	TIU4	TELNET 3800
19	VIR	VIR	VIR	cu/dev/vir
20	WS1	WS1	WS1	TELNET 4000
21	WS2	WS2	WS2	TELNET 4100
22	WS3	WS3	WS3	TELNET 4200
23	WS4	WS4	WS4	TELNET 4300
24	WS5	WS5	WS5	TELNET 4400
25			WS6	TELNET 4500
26			WS7	TELNET 4600
27			WS8	TELNET 4700
28	PX1-RFC		WS9	TELNET 4800
29	PX2-RFC		WS10	TELNET 4900
30	LX1-RFC	DEMODO1	DEMODO1	cu/dev/demod1
31	LX2-RFC	DEMODO2	DEMODO2	cu/dev/demod2
32		DEMODO3*	DEMODO3*	cu/dev/demod3
33	CPSBN1	CPSBN1	CPSBN1	TELNET 5300
34	CPSBN2	CPSBN2	CPSBN2	TELNET 5400
35		DEMODO4**	DEMODO4**	cu/dev/demod4
36	CPSYNC1	CPSYNC1	CPSYNC1	TELNET 5600
37	CPSYNC2	CPSYNC2	CPSYNC2	TELNET 5700
38	LDAD Firewall	LDAD Firewall	LDAD Firewall	TELNET 5800

Port	WFO (collocated)	WFO (noncollocated)	RFC	Remarks
39	M&C Modem	M&C Modem	M&C Modem	Dial-in Direct Connect
40	System Console	System Console	System Console	Local Direct Connect

*DEMOM3 at ACR, National Centers, and selected WFOs

**DEMOM4 at National Centers and selected WFOs

NOTE: VRH uses port 12 for Router 3.

Attachment G

Site	AWIPS ID	Region
ARHQ, Anchorage, AK	VRH	Alaskan
WFO, Guam	GUM	Pacific
Tropical Prediction Center	NHCR	National Center
Avation Weather Center	WNAR	National Center

Attachment H - Sample EMRS Report

A26 Detail Form - ESCM2, SILVER SPRING, MD :: EMRS ANALYST - Microsoft Internet Explorer

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

GENERAL INFORMATION

NEW RECORD WFO* GUM Document No.* GUM30327000

1. Open Date: 03/25/2003 Open Time: 08:00 2. Op Initials: W3H 3. Response Priority: Immediate Low Routine Not Applicable 4. Close Date: 03/23/2003 Close Time: 16:00

5. Maintenance Description: 105 characters left AWIPS
 Install two AWIPS LINUX Pre-Processors (PX) I.A.W. AWIPS System Modification Note 8, Revision A

EQUIPMENT INFORMATION

6. Station ID* GUM 7. Equipment Code AWIPE 8. Serial Number 001 9. TM M 10. AT M 11. How Mal 039

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				
			16	

MISCELLANEOUS INFORMATION

15. Maintenance Comments: 706 characters left
 Serial Number of FX1:
 Serial Number of FX2:

16. Tech Initials: PO

17. SPECIAL PURPOSE REPORTING INFORMATION

a. Mod No. 8A b. Mod Act/Deact Date 03/26/2003 c. Block C d. Trouble Ticket No. e. Block E

Commit A26 Place on Hold Copy A26 New A26 Cancel

Done Internet