



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL WEATHER SERVICE
Silver Spring, Md. 20910

MEMORANDUM FOR: All NWS Regional Headquarters, Regional Maintenance Specialists, Electronic Systems Analysts, and Electronics Technicians [Engineering Handbook (EHB)-13, Series II distribution]

FROM: W/OPS1 - Mark Paese

SUBJECT: Transmittal Memorandum for EHB-13 Series II, Issuance 02-01

1. Material Transmitted:

Engineering Handbook No. 13 Series II, Advanced Weather Interactive Processing System (AWIPS), section 5.1, AWIPS System Modification Note 3, Linux Workstation Installation.

2. Summary:

AWIPS System Modification Note 3 provides hardware installation instructions in support of the Linux port project. The site ESA will install and configure the Linux workstations to augment two of the existing HP workstations.

3. Effect on Other Instructions:

None. File this note in EHB-13, Series II, Section 5.1.



AWIPS SYSTEM MODIFICATION NOTE 3 (for Electronic Systems Analysts)

Maintenance Logistics & Acquisition Division

W/OST: CP

W/OPS12: FJZ

SUBJECT : IBM Linux Workstation Installation

PURPOSE : To provide hardware and software installation instructions for two IBM Linux workstations.

AUTHORIZATION : The authority for this patch modification note is Request for Change NWS 673

EQUIPMENT AFFECTED : Advanced Weather Interactive Processing System (AWIPS) HP workstations at the sites listed in attachment A

SITES AFFECTED : See attachment A

PARTS REQUIRED : All required parts will be shipped to the site.

Shipment 1

Ⓒ This modification note with attachments
 Ⓐ AWIPS Build 5.1.2 Linux D2D
 Ⓒ 2 - 10/100 BaseT LAN cable
 Ⓒ AWIPS software installation CD

Shipment 2

Ⓒ IBM Linux machine
 Ⓒ Monitor
 Ⓒ Keyboard
 Ⓒ Mouse
 Ⓒ IBM Image Restore CD set

MODIFICATION PROCUREMENT : None

TOOLS REQUIRED : Standard site tool kit

TEST EQUIPMENT REQUIRED : None

EFFECT ON OTHER: INSTRUCTIONS : None. File this note in EHB-13, Series II, section 5.1.

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

TIME REQUIRED 2 hours

GENERAL

This modification note provides Linux workstation installation instructions in support of the Linux port project. The site ESA will install and configure the Linux workstations to augment two of the existing HP workstations. The purpose of the “Augmented Workstation Configuration” is to connect the Linux workstation into the operational forecast environment with minimum system impact. The AWIPS Workstation Configuration before and after “Augmentation” is shown in the figures 1 and 2 below. At the present time, certain workstation functions such as WWA, WHFS, and NWS RFS are not supported on the Linux workstations but are planned for future software revisions.

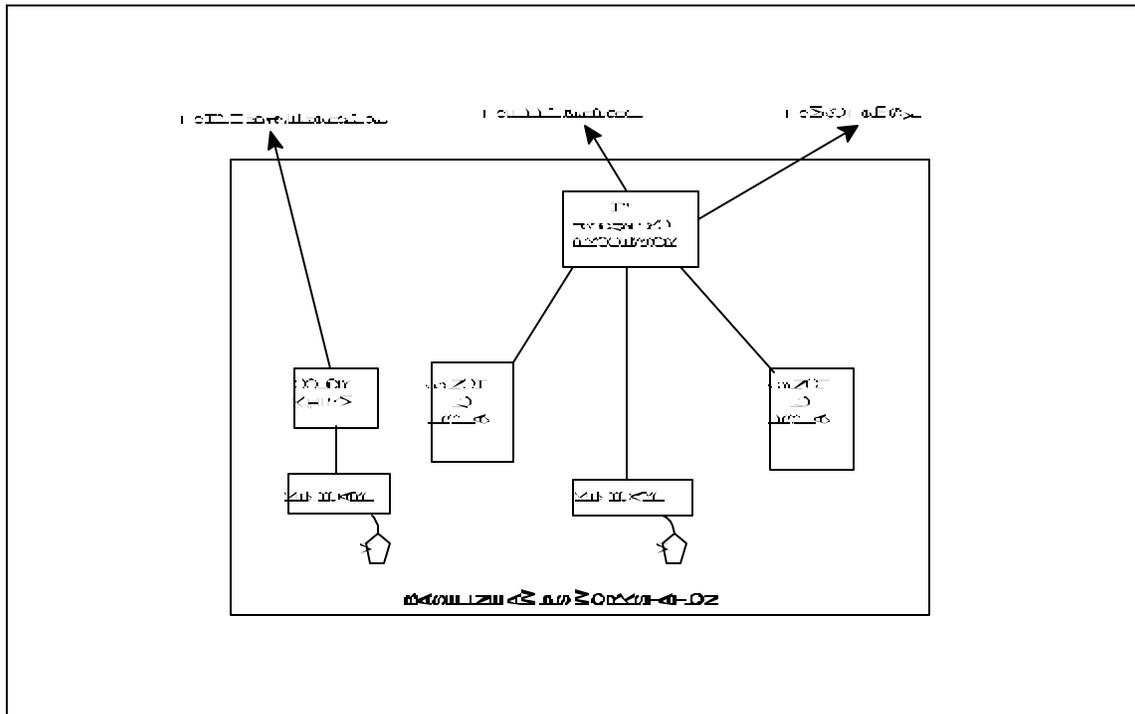


Figure 1: AWIPS workstation configuration **before** Linux augmentation

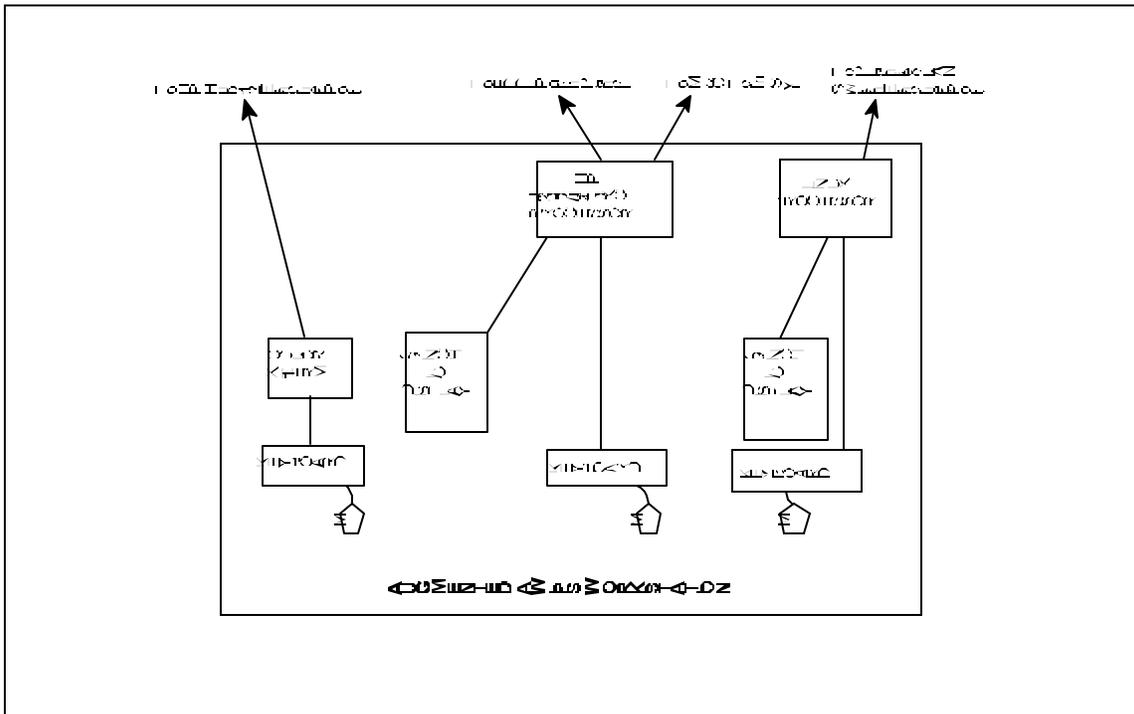


Figure 2: AWIPS workstation configuration **after** Linux augmentation

Affected sites listed in appendix A will receive two shipments. The first shipment contains this modification note, a 10/100 BaseT LAN cable. The second, is dropped shipped directly from the IBM factory and contains the IBM Linux machine, monitor, keyboard, mouse, and a IBM Image Restore CD set. The Image Restore CD enables sites to restore a disk image to the Linux workstation. The workstations are preconfigured by the Office of Systems and Technology with Red Hat version 7.1 Linux operating system, operating system patches, matrox video card drivers, and the required disk partitions for the AWIPS software.

PROCEDURE

I. Hardware Installation Procedure

A. Linux Workstation 1 Installation Procedure

1. Based on the site's workstation usage, identify the two AWIPS Hewlett-Packard (HP) workstations to be augmented by the two new Linux workstations.
2. Unpack the IBM Linux workstations.
3. At the HP workstation to be augmented, remove one of the HP graphics monitors and place the monitor in storage for the remainder of the operational demo. In the event of a Linux workstation failure, it may be necessary to reinstall the HP monitor to restore the augmented HP workstation to full functionality.
4. Place the new IBM monitor in place of the removed HP monitor. Also place the new IBM keyboard and mouse on the table in front of the new IBM monitor. Label the new IBM monitor with the hostname "lx1-xxx" where xxx is the site ID.

ID.

5. Place the new IBM CPU on the floor near the existing HP workstation CPU. Connect the keyboard, and mouse to the back of the IBM CPU (figure 3). (These connections are color coded to help you identify the proper port on the back of the CPU for each cable connection.) Connect the IBM CPU power to an existing power distribution circuit near the unit.

6. Locate the monitor video cable. At the back of the monitor, locate the port labeled "2". Plug either end of the monitor video cable into port 2 (figure 4 and 5).

7. At the back of the CPU, locate the

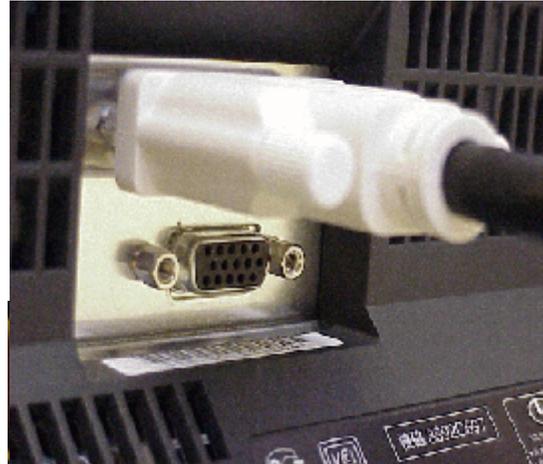


Figure 5

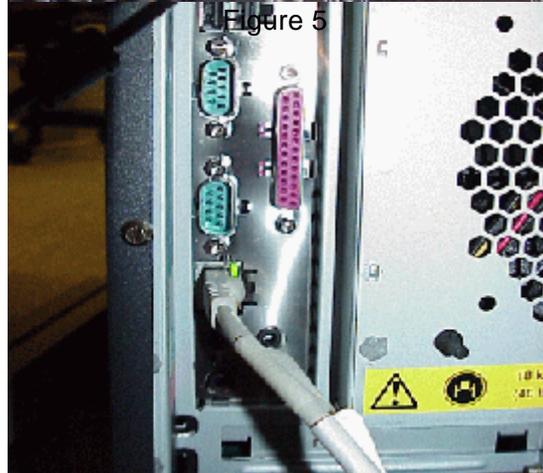


Figure 3



Figure 4

Matrox video board. Identify port 1 on the video board. Plug the other end of the monitor video cable into port 1 (figure 6).

8. At the front of the monitor, ensure the monitor input switch setting is set to position "2" (figure 7).
9. Connect the 10/100 BaseT LAN cable, that was shipped with the Mod Note into the RJ-45 10/100 BaseT port on the IBM machine (figure 3).
10. Run the LAN cable under the raised floor and plug the other end into port 4 of PlainTree LAN switch 1.

This completes the first Linux workstation installation procedure. Continue with part B to install

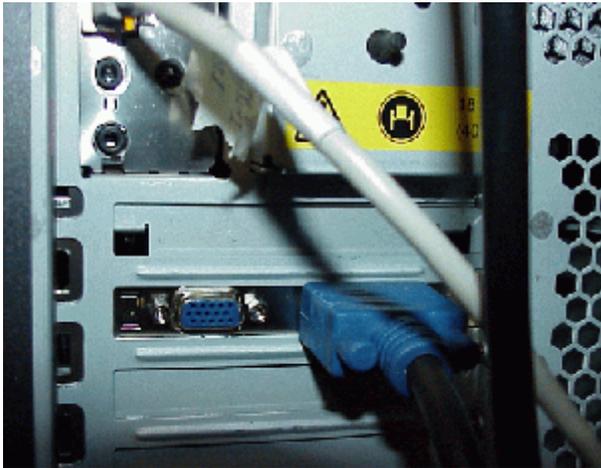


Figure 6

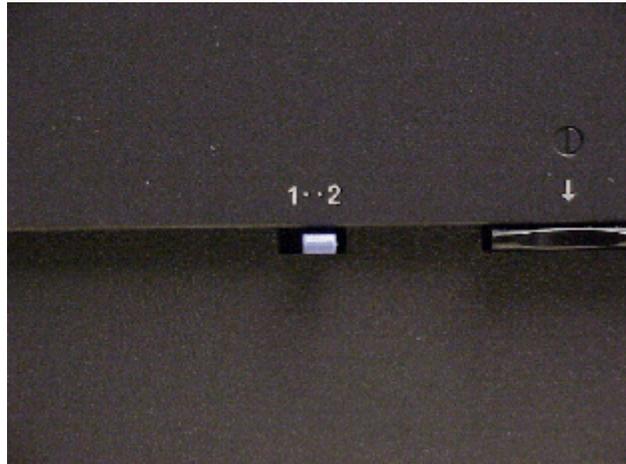


Figure 7

the second Linux workstation.

B. Linux Workstation 2 Installation Procedure

1. Identify the second AWIPS HP workstation to be augmented with the second Linux workstation.
2. Repeat step 3-10 in part A to install the second Linux workstation.
3. Label the second IBM monitor with the hostname "lx2-xxx" where xxx is the site ID.
4. Plug the LAN cable for the second IBM machine into port 4 on the PlainTree LAN switch 2.
5. Power up the Linux CPU and monitor. Verify proper boot up.

This completes the second workstation installation procedure. Continue with section II for the software preinstallation procedure.

II. Software Installation Procedure**Preinstallation Requirements**

NOTE: Refer to AWIPS Software Installation Instruction Note 22, AWIPS Release 5.1.2 Installation Instructions part 9, to install the Linux operating system and software.

http://www.oso3.nws.noaa.gov/awips_software.htm has the latest Release 5.1.2 installation instructions and information. Refer to the "Lessons Learned/Addendum" link for the latest information and check the web page frequently for the latest releases and updates which may affect the Linux workstations.

REPORTING MODIFICATION

Report the completed modification on a WS Form A-26, Maintenance Record, according to instructions in Engineering Handbook No. 4 (EHB-4), Engineering Management Reporting System (EMRS), Part 2, and appendix I. A sample A-26 form is attached.

A new EMRS equipment code, **AWLNX**, has been created for the AWIPS Linux workstations. WSH will automatically activate this code for each site upon receipt of the A-26 documenting completion of AWIPS Mod Note 3. Serial number information is required to activate the new **AWLNX** equipment code. **Please provide the serial number from EACH Linux workstation's processor in block 15 of the A-26 form.** Serial numbers for the monitor, keyboard, or mouse are not required. As an additional guide, use the information in the table below.

Block #	Block Type	Information
5	Description	Install and configure two AWIPS LINUX workstations in support of the LINUX port project and I.A.W. AWIPS System Modification Note 3.
7	Equipment Code	AWIPS
8	Serial Number	001
15	Comments	Serial number LINUX workstation 1: _____ Serial number LINUX workstation 2: _____
17a	Mod. No.	3



Mark Paese
Acting Chief, Maintenance, Logistics, and Acquisition Division

Attachment A - Affected Site List
Attachment B - WS Form A-26 Sample

Attachment A

Site	SID
Albuquerque, NM (WFO)	ABQ
Aberdeen, SD (WFO)	ABR
Anchorage, AK (WFO)	AFC
Fairbanks, AK (WFO)	AFG
Wakefield, VA (WFO)	AKQ
Peachtree City, GA (RFC)	ALR
Albany, NY(WFO)	ALY
Amarillo, TX (WFO)	AMA
Gaylord, MI (WFO)	APX
LaCross, WI (WFO)	ARX
Kansas City, MO	BCQ
Johnson City, NY (WFO)	BGM
Bismarck, ND (WFO)	BIS
Calera, AL (WFO)	BMX
Boulder, CO (WFO)	BOU
Brownsville, TX (WFO)	BRO
South Burlington, VT (WFO)	BTV
Cheektowaga, NY (WFO)	BUF
Billings, MT (WFO)	BYZ
West Columbia, SC (WFO)	CAE
Caribou, ME (WFO)	CAR
Charleston, SC (WFO)	CHS
Cleveland, OH (WFO)	CLE
Corpus Christi, TX (WFO)	CRP
State College, PA (WFO)	CTP
Cheyenne, WY (WFO)	CYS
Dodge City, KS (WFO)	DDC
Duluth MN (WFO)	DLH
Johnston, IA (WFO)	DMX
White Lake, MI (WFO)	DTX
Davenport, IA (WFO)	DVN
Fort Worth, TX	EHU
Santa Teresa, NM (WFO)	EPZ
New Braunfels, TX (WFO)	EWX

Site	SID
Key West, FL (WFO)	EYW
GrandForks, ND (WFO)	FGF
Bellefont, AZ (WFO)	FGZ
Sioux Falls, SD (WFO)	FSD
Fort Worth, TX (WFO)	FWD
Fort Worth, TX (RFC)	FWR
Boulder, CO	FSLc2
Glasgow, MT (WFO)	GGW
Hastings, NE (WFO)	GID
Grand Junction, CO (WFO)	GJT
Goodland, KS (WFO)	GLD
Green Bay, WI (WFO)	GRB
Grand Rapids, MI (WFO)	GRR
Grey, ME (WFO)	GYX
Dickinson, TX (WFO)	HGX
Hanford, CA (WFO)	HNX
Wilmington, NC (WFO)	ILM
Lincoln, IL (WFO)	ILX
Indianapolis, IN (WFO)	IND
Syracuse, IN (WFO)	IWX
Jackson, MS (WFO)	JAN
Jacksonville, FL (WFO)	JAX
North Platte, NE (WFO)	LBF
Lake Charles, LA (WFO)	LCH
Slidell, LA (WFO)	LIX
Elko, NV (WFO)	LKN
Louisville, KY (WFO)	LMK
Romeoville, IL (WFO)	LOT
Oxnard, CA (WFO)	LOX
St. Charles, MO (WFO)	LSX
Lubbock, TX (WFO)	LUB
Sterling, VA (WFO)	LWX
North Little Rock, AR (WFO)	LZK
Midland, TX (WFO)	MAF
Memphis, TN (WFO)	MEG
Miami FL (WFO)	MFL

Site	SID
Newport, NC (WFO)	MHX
Dousman, WI (WFO)	MKX
Melbourne, FL (WFO)	MLB
Mobile, AL (WFO)	MOB
Chanhassen, MN (WFO)	MPX
Negaunee, MI (WFO)	MQT
Missoula, MT (WFO)	MSO
Chanhassen, MN (RFC)	MSR
Monterey, CA (WFO)	MTR
Miami, FL (RFC)	NHC
Miami, FL (WFO)	NHC
Silver Spring, MD NHD	SLVM2
Silver Spring, MD (RFC)	SLVM2
Silver Spring, MD (WFO)	SLVM2
Silver Spring, MD (WFO)	SLVM2
Silver Spring, MD (WFO)	SLVM2
Silver Spring, MD (RFC)	SLVM2
Silver Spring, MD (WFO)	SLVM2
Houston, TX	HSXT2
Kansas City, MO (RFC)	TTCM7
Kansas City, MO (WFO)	TTCM7
Kansas City, MO (RFC)	TTCM7
Kansas City, MO (WFO)	TTCM7
Old Hickory, TN (WFO)	OHX
Upton, NY (WFO)	OKX
Slidell, LA (RFC)	ORN
Norman, OK	OSFW
Spokane, WA (WFO)	OTX
West Paducah, KY (WFO)	PAH
Honolulu, HI (WFO)	PBP
Coraopolis, PA (WFO)	PBZ
Pendleton, OR (WFO)	PDT
Mt. Holly, NJ (WFO)	PHI
Pocatello, ID (WFO)	PIH
Portland, OR (WFO)	PQR
Phoenix, AZ (WFO)	PSR

Site	SID
Portland, OR (RFC)	PTR
Pueblo, CA (WFO)	PUB
Raleigh, NC (WFO)	RAH
State College, PA (RFC)	RHA
Riverton, WY (WFO)	RIW
Sacramento, CA (RFC)	RSA
Seattle, WA (WFO)	SEW
San Diego, CA (WFO)	SGX
Shreveport, LA (WFO)	SHV
San Angelo, TX (WFO)	SJT
San Juan, PR (WFO)	SJU
Salt Lake City, UT (WFO)	SLC
Norman, OK (RFC)	SPC
Salt Lake City, UT (RFC)	STR
Tallahassee, FL (WFO)	TLH
Taunton, MA (RFC)	TAR
McLean, VA	PRCV2
Great Falls, MT (WFO)	TFX
Wilmington, OH (RFC)	TIR
Tulsa, OK (RFC)	TUA
Tucson, AZ (WFO)	TWC
Rapid City, SD (WFO)	UNR
Las Vegas, NV (WFO)	VEF
Salt Lake City, UT	VHW
Anchorage, AK	VRH
Bohemia, NY	VUY
Kansas City, MO (RFC)	KCI
Kansas City, MO (WFO)	KCI
Camp Springs, MD (RFC)	WBC
Camp Springs, MD (WFO)	WBC
Silver Spring, MD	SST

Attachment B

WS FORM A-26 (4/94)		WS FORM A-26 (4/94)				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE			Document Number G 49978	
ENGINEERING MANAGEMENT REPORTING SYSTEM MAINTENANCE RECORD										
General Information		1. Open Date 1 / 15 / 02	Time 0900	2. Initials JMM	3. Response Priority (check one) <input type="radio"/> Immediate <input type="radio"/> Low <input type="radio"/> Routine <input checked="" type="radio"/> Not Applicable		4. Close Date 1 / 15 / 02	Time 1100		
5. Description Install and configure two AWIPS LINUX workstations in support of the LINUX port project and I.A.W. AWIPS System Modification Note 3.										
Equipment Information		6. Station ID PHI	7. Equipment Code AWIPS	8. Serial Number 001		9. TM M	10. AT M	11. How Mal. 999		
1 2. EQUIPMENT OPERATIONAL STATUS TIMES		a. Fully Operational <input type="text"/>	b. Logistics Delay <input type="text"/>	Partly Operational	c. All Other <input type="text"/>	d. Logistics Delay <input type="text"/>	Not Operational	e. All Other <input type="text"/>		
13. Parts Failure Information							14. Work Load Information			
Block #	a. ASN	b. NSN	c. TM	d. AT	e. How Mal.	f. Qty.	g. Maint. Hrs.	Type	Staff Hrs.	
1								a. Routine		
2								b. Non-routine		
3								c. Travel		
4								d. Misc.	2:00	
5								e. Overtime		
Miscellaneous Information		15. Maintenance Comments Serial Number Linux Workstation 1: _____ Serial Number Linux Workstation 2: _____							16. Initials JMM	
17. SPECIAL PURPOSE REPORTING		a. Mod. No. 3	b. Mod./Act./Deact.Date 1/15/02	c.		d.		e.		
18. CONFIGURATION MGMT. REPORTING (use as directed)		ASN		Vendor Part Number (New Part)		Serial Number (Old Part)		Serial Number (New Part)		