

# **HP VISUALIZE Linux Setup and Recovery Guide**

## **XL- and PL-Class Workstations**

**Printed in USA**



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# **1** **System Setup**

## System Setup

The HP VISUALIZE Linux Personal Workstation Owner's Guide tells you how to set up your Linux Personal Workstation and connect the display, keyboard, mouse, audio accessories and a network.

After you have made these connections, follow the procedures described in this book to configure your Linux Personal Workstation and prepare to use it.

We recommend that you read these instructions before beginning the process, and write down the information you will need to enter.

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## Configuring Your Linux Personal Workstation

Be sure that no disks are in the 3.5-inch floppy drive or the CD-ROM drive, then turn on the power switch. As the workstation starts up (boots), it describes what is happening with messages on the screen. You do not need to respond to any messages you see. The start-up process is completely automatic.

After a few minutes, the process ends and the monitor screen displays important information about Year 2000 readiness of the HP VISUALIZE Linux Workstation and the software installed on it. When you have read this information, click OK at the bottom of the screen. The Linux Setup Tool window, shown below, appears.

HP VISUALIZE WORKSTATIONS LINUX SETUP TOOL

Messages: You must enter a domain name into the "Domain Name" entry

Boot Protocol

Static DHCP BOOTP

Static Networking Parameters

IP Address: 0.0.0.0 Hostname: localhost

Gateway: 0.0.0.0 Netmask: 0.0.0.0 Additional Network Services...

Domain Name:

Miscellaneous Parameters

Time: 01:00 Day: 1 Month: January Year: 1999

Set Time Zone... Set Root Password... Configure X Server...

Reset Configuration Show Summary...

Save Cancel Help

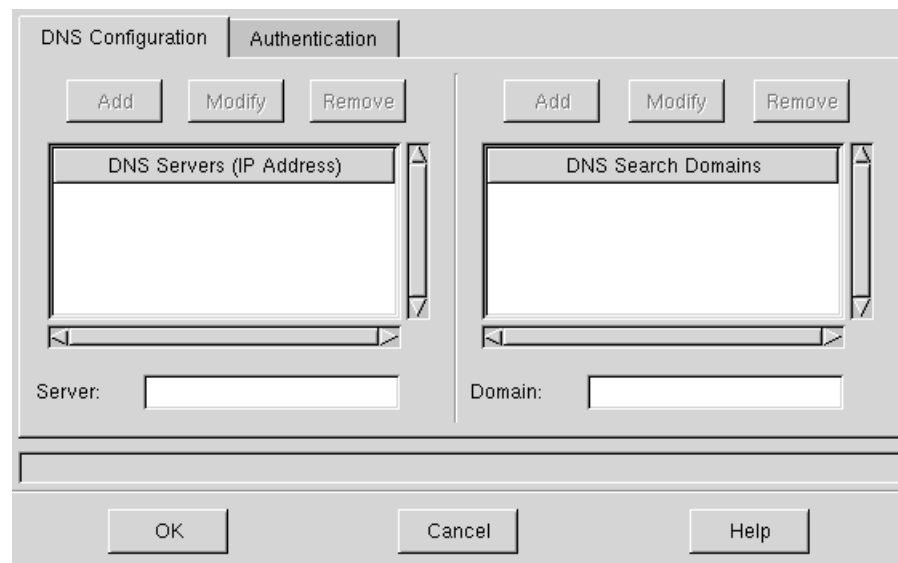
Choose the Boot Protocol appropriate for your system. If you do not know which protocol to choose, ask your system administrator. The following instructions assume you are using the "Static" protocol.

## Static Network Parameters

You need to enter the Static Network Parameters. Your system administrator can tell you your Personal Workstation's IP Address and Hostname and your network's Gateway and Netmask addresses. The system administrator can also suggest an appropriate Domain Name.

After typing this information in the appropriate spaces, click on the button called Additional Network Services. A smaller window, shown below, appears within the Linux Setup Tool window.

## DNS Configuration

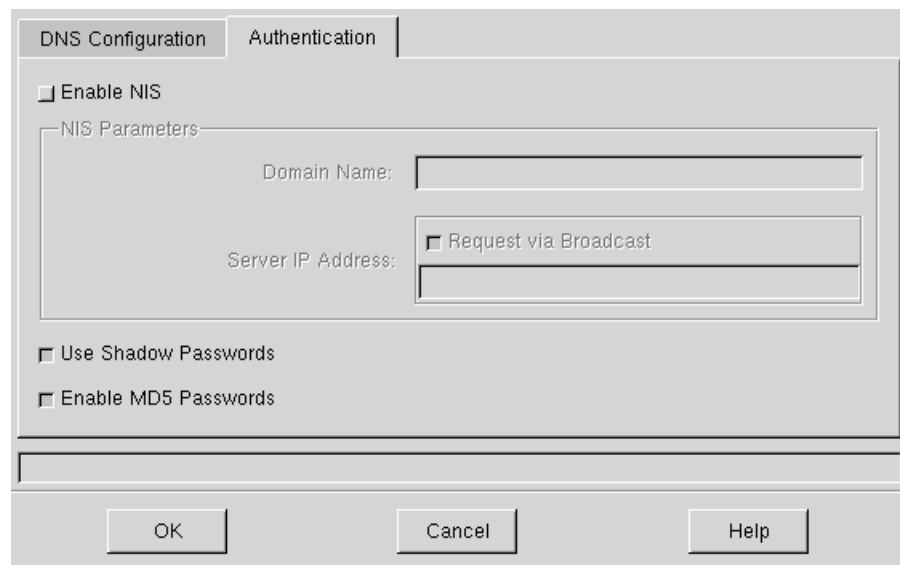


If the window does not look like this, click the DNS Configuration tab at the top of the window. The window contains two smaller windows, called DNS Servers (IP Address) and DNS Search Domains. Below the left window, in the "Server:" box, type the network Domain Name Server address. Click the Add button above the small window to place this address in the window. If there is more than one domain name server, you may keep adding addresses until you have added them all. The first one will be your primary DNS. Below the right window, in the "Domain:" box, type the domain name and click the Add button above that window. If there is more than one, enter them all.

To change or remove an address, click on it to select it, and click on the Modify or Remove button above it.

### Network Information Service

When you have entered all DNS information, click the Authentication tab at the top of the window. This changes the window to the following form:



The screenshot shows a window titled "Authentication" with two tabs: "DNS Configuration" and "Authentication". The "Authentication" tab is active. It contains the following elements:

- Enable NIS
- A group box labeled "NIS Parameters" containing:
  - Domain Name: [text input field]
  - Server IP Address: [text input field]
  - Request via Broadcast
- Use Shadow Passwords
- Enable MD5 Passwords

At the bottom of the window are three buttons: "OK", "Cancel", and "Help".

If your workstation will use Network Information Service (NIS), click the square next to "Enable NIS". You will need to enter the NIS Domain Name where indicated. Below that, "Request via Broadcast" is selected. If you unselect it, you need to type the Server IP Address in the box below it. Ask your system administrator whether you should unselect "Use Shadow Passwords" or "Enable MD5 Passwords".

When you have finished with this window, click OK. The window closes.

### Miscellaneous Parameters

The bottom section of the Linux Setup Tool window is called "Miscellaneous Parameters:". You can set these parameters in any order.

### System time and date

The first row at the top of the window is for setting your system time and date. In the “Time:” box, type the current time using the 24-hour clock. In the “Day:” box, type the current day of the month. Click the box after “Month:” to select the current month. In the “Year:” box, type the current year.

### Time Zone

Click on the “Set Time Zone.” box to bring up the window shown below:



Click the “Geographical Location” button at the top of the window to select your location, if it is not “US”. Use the scroll bar to show your time zone, then click on it. Click OK to use these selections and close this window.

### Root Password

By default, the root user has no password. This is a serious security risk. We strongly recommend that you set one now by clicking on the “Set Root Password..” box. This brings up the window shown below:

The "root" account is used for system administration tasks. To insure the security of the system, the root account should have a password.

- \* The password should be at least six characters.
- \* Characters must be from the English alphabet.
- \* The password should contain at least two uppercase letters, two lowercase letters and at least one numeric or special character.

Enter root password:

Enter password again:

OK Cancel Help

Choose a password, according to the directions in the window, and type it in the “Enter root password” box. Asterisks appear in the box, instead of what you type. Press **Tab**. Type your password again in the “Enter password again” box, and press **Enter**. Click **OK**. If you typed the same characters both times, that becomes your root password and the window closes. If not, you are asked to try again.

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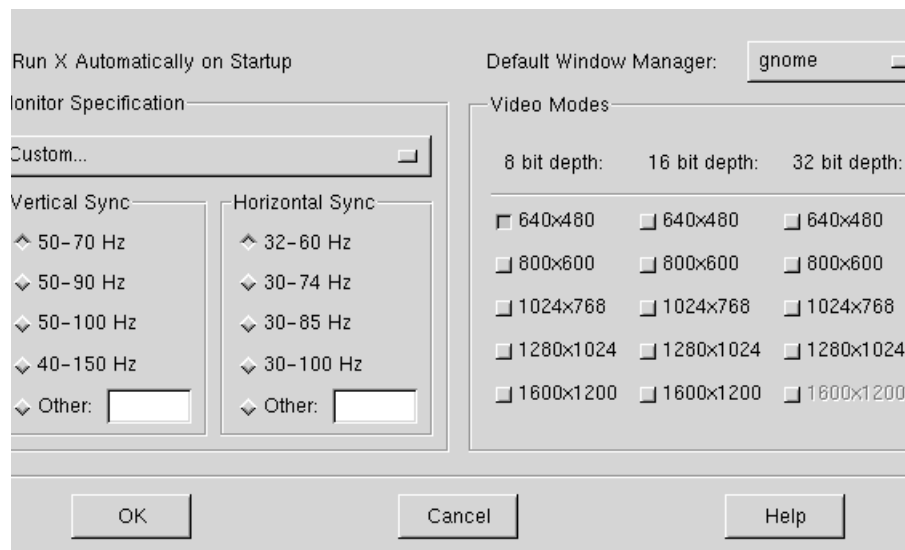
**NOTE**

Write your password down and keep it in a secure place. If you forget it, you will not be able to log in to your workstation.

---

### X Server

The next parameter button is “Configure X Server:”. Click this button to bring up the window shown below:



Click the small button at the top left of the window if you want your workstation to boot up to an X-Windows login. Click the “Default Window Manager” button to see a list of available window managers. Click on one to choose it.

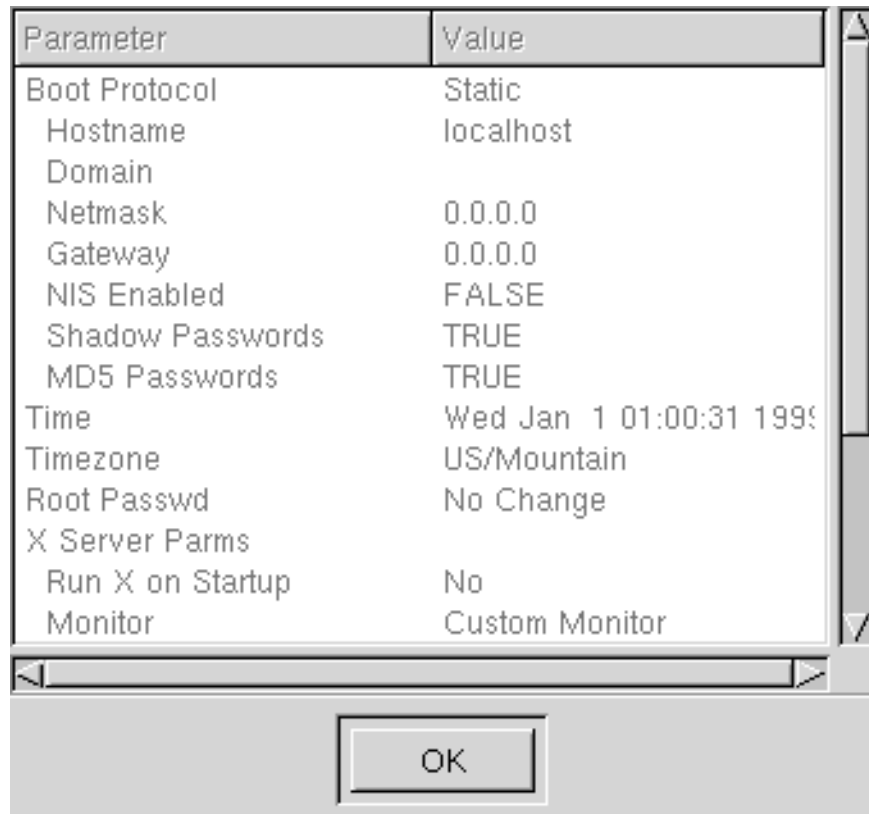
The rest of the window information applies to your monitor screen specifications. Your monitor documentation should contain information that helps you choose the specifications right for you. If it does not, check with your system administrator. Your video card can support all the video modes shown, but your monitor may not support all resolutions. X-windows will start with the highest resolution selected in the largest depth. Click OK to accept the default selections or the selections you made.

The default resolution and monitor settings are for low resolution VGA (640x480). Change both of these if you use higher resolution graphics. A resolution of 1280x1024x32 is probably optimal.

### Summary

This completes the miscellaneous parameters you can set from the Linux Setup Tool window. If you want to erase the changes you have made and keep the current configuration settings, click on the “Reset Configuration” button. To see the parameters you have chosen, click on the Show Summary button.

The “Show Summary” window, shown below, contains all the information you entered. To change any choices, click OK to close the Show summary window, and click the appropriate parameter box in the Linux Setup Tool window.



Parameter	Value
Boot Protocol	Static
Hostname	localhost
Domain	
Netmask	0.0.0.0
Gateway	0.0.0.0
NIS Enabled	FALSE
Shadow Passwords	TRUE
MD5 Passwords	TRUE
Time	Wed Jan 1 01:00:31 1998
Timezone	US/Mountain
Root Passwd	No Change
X Server Params	
Run X on Startup	No
Monitor	Custom Monitor

OK

## System Setup

### Configuring Your Linux Personal Workstation

Click OK to close this window. If you are satisfied with the information you have entered, click “Save” at the bottom of the Linux Setup Tool window to save this configuration.

A message appears with instructions to press **Enter** to reboot your system.



## System Recovery

This chapter describes two methods for recovering from damage to your system hardware or software. The Linux Rescue Mode may allow you to recover important files or solve the problem when you are unable to boot the operating system. The Disaster Recovery procedure will reinstall the original software that was installed on your workstation at the factory.

## The Linux Rescue Mode

The Linux rescue mode is a Linux environment that lets you access files on your HP VISUALIZE Linux Personal Workstation when you cannot actually run Linux. You may be unable to run Linux because it will not boot or you have had a hardware or software failure.

Linux may not boot if you have installed another operating system. Some operating systems assume that you have no other operating systems on your computer. When such an operating system is installed, it overwrites the Master Boot Record that contained the Linux LILO bootloader. If this happens, Linux will not boot.

Any computer can experience a hardware or software failure for many reasons. With the HP VISUALIZE Linux Personal Workstation, it might happen because of problems with a hard drive or because LILO was not run after building a new kernel.

Rescue mode can give you access to the system so you can try to solve the problem or, at least, make copies of important files.

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### NOTE

Create a rescue disk set immediately after completing the Linux Setup Tool window. You may not be able to create one when you need it. You may not be able to access the necessary files and commands in these instructions.

---

## Creating a Rescue Disk Set

A rescue set consists of two diskettes that contain files necessary to boot into rescue mode. One is a boot disk, the other is a rescue disk. The following instructions tell you how to make the disks. Have two formatted 3.5" floppy disks ready.

---

### NOTE

You must be logged in as *root*.

---

## System Recovery

### The Linux Rescue Mode

#### **Making the boot disk**

To make a boot disk, you need to know the version of the Linux kernel your system is running.

Type the command:

```
uname -r
```

and press **Return**.

This command returns a version number, for example, 2.2.5.

Enter the command:

```
mkbootdisk <version>
```

For *<version>* substitute the above number.

The computer asks you to insert a diskette in the first disk drive. When you have done this, press **Return**.

The system creates the boot disk.

When the prompt reappears, remove the disk and label it. Since this boot disk only works on the workstation on which it was created, you might identify this workstation on the label. Write protect it and keep it in a safe place.

#### **Making the rescue disk**

You need the first Red Hat Linux CD-ROM disk to make the rescue disk. Insert it in the CD-ROM drive.

Enter the following command to mount the CD-ROM:

```
mkdir /mnt/cdrom
```

You may see an error message saying that the file exists. Ignore the message if it appears.

Enter the following command:

```
mount /dev/cdrom /mnt/cdrom
```

(Note the space between the first “cdrom” and the slash following it.)

You see a message that /dev/cdrom is being mounted read-only.

Change directories by entering the following command:

```
cd /mnt/cdrom/images
```

To see the files in this directory, enter the following command:

```
ls
```

You see a file in this directory named “rescue.img”.

Insert a blank disk in the floppy disk drive. Enter the following command to copy the “rescue.img” file from the CD to the disk:

```
dd if=rescue.img of=/dev/fd0 bs=1440k
```

When the prompt returns, remove the floppy disk and label it as the rescue diskette. Write protect it and keep it in a safe place.

## Using the Rescue Disk Set

To use the rescue disk set, insert the boot disk in the floppy disk drive and boot the computer.

When you see the LILO Boot : prompt, enter the following command:

```
rescue
```

After a while, you see a message to insert the next diskette. Remove the boot disk and insert the rescue disk. Press **Enter**.

When you see the # prompt, you are in rescue mode.

In rescue mode, you can use the following commands:

**Table 2-1**

badblocks	dd	init	mt	route	tail
ash	e2fsck	ln	mv	rpm	tar
df	fdisk	ls	open	sed	traceroute
cat	grep	lsmod	pico	sh	umount
chmod	gunzip	mkdir	ping	swapoff	insmod
chroot	gzip	mke2fs	ps	swapon	
cp	head	mknod	modprobe	sync	
cpio	ifconfig	mount	rm	tac	

System Recovery  
**The Linux Rescue Mode**

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**NOTE** The `man` command is not available in rescue mode. You might want to make sure you know how to use all the above commands and what you can do with them before you need to use rescue mode.

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**NOTE** The `pico` command is an alternate text editor.

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## Disaster Recovery

If you are unable to use your HP VISUALIZE Linux Personal Workstation or the rescue disks, and cannot restore your software from a backup copy, you can use the Disaster Recovery disks provided with the workstation. These disks reinstall the original software your workstation came with.

After using this process, you will have to reconfigure your workstation as described in the first part of this document.

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### WARNING

**This process completely erases and repartitions your hard disk. All data on this disk will be irretrievably lost!**

---

To use the Disaster Recovery process, turn off power to the Workstation and place the Boot Floppy in the floppy disk drive. Then turn on the power and, as the boot process proceeds, place the Recovery CD in the CD-ROM drive.

When the workstation has booted, a lengthy message fills the screen. To restore the workstation to its factory configuration, type the word, `recover`, at the bottom of the screen and press `Enter`.

---

### NOTE

You cannot stop the Disaster Recovery process after you press `Enter`.

---

When Disaster Recovery process finishes, your workstation reboots and the Linux Setup Tool window appears. Follow the instructions in the first part of this document to reconfigure your workstation.

System Recovery  
**Disaster Recovery**