digital™

DIGITAL Personal Workstation

au-Series Operating System Installation Guide

Part Number: EK–ALUNX-OS. A01

May 1997

This guide describes how to run either the DIGITAL UNIX or Microsoft Windows NT *or both* operating systems on your *au-Series* system.

Digital Equipment Corporation
Maynard, Massachusetts

May 1997

Digital Equipment Corporation makes no representations that the use of its products in the manner described in this publication will not infringe on existing or future patent rights, nor do the descriptions contained in this publication imply the granting of licenses to make, use, or sell equipment or software in accordance with the description.

Possession, use, or copying of the software described in this publication is authorized only pursuant to a valid written license from DIGITAL or an authorized sublicensor.

© Digital Equipment Corporation 1997. All rights reserved.

The following are trademarks of Digital Equipment Corporation: DIGITAL, OpenVMS, and the DIGITAL logo.

The following are third-party trademarks:
Adobe and PostScript are registered trademarks of Adobe Systems, Incorporated.
Helvetica and Times are registered trademarks of Linotype Co.
Microsoft and MS-DOS are registered trademarks of Microsoft Corporation
UNIX is a registered trademark in the United States and other countries licensed exclusively through X/Open Company Ltd.
Windows and Windows NT are trademarks of Microsoft Corporation.

Contents

Operating System Installation 1
Console-Specific Considerations 1
Using the DIGITAL UNIX Operating System 1
Using the Windows NT Operating System 1
Special Considerations 2
Hardware Requirements 2
Precautionary Measures 2
Windows NT V4.0 Operating System Installation Steps 2
I. Recording the UNIX Environment 3
II. Switching to the Windows NT Console 3
III. Installing the Windows NT Operating System 4
Using Multiple Operating Systems 5
Switching from Windows NT to DIGITAL UNIX 5
Switching from DIGITAL UNIX to Windows NT 6

Preface

Introduction

This guide describes how to configure an *au-Series* DIGITAL Personal Workstation running the DIGITAL UNIX operating system to function as a:

- DIGITAL UNIX system
- Microsoft Windows NT only system
- Dual-boot system

NOTE: DIGITAL UNIX *system users can migrate to* Windows NT.

Your *au-Series* system is preloaded with the DIGITAL UNIX operating system and includes the latest firmware. Consult the DIGITAL Web site for firmware updates: http://www.workstation.digital.com/firmware.html.

Intended Audience

If you are interested in how to configure a DIGITAL Personal Workstation *au-Series* system with the DIGITAL UNIX or Microsoft Windows NT operating system, or both, this information is relevant for you.

Special Notices

Two kinds of notices emphasize specific information in this guide:

- **A CAUTION indicates the presence of a hazard that can cause damage to hardware or that might corrupt software.**
- A *NOTE* gives general information, such as compatibility with other products or pointers to other resources.

Additional Information Resources

You may wish to consult the following information resources related to your DIGITAL Personal Workstation:

- DIGITAL *Personal Workstation a-Series User Information* (order number EK-ALMIA-UI). This guide explains how to start, use, upgrade, troubleshoot, and configure your system using the Microsoft Windows NT operating system.
- DIGITAL *Personal Workstation au-Series User Information* (order number EK-ALUNX-UI). This guide explains how to start, use, upgrade, troubleshoot, and configure your system using the DIGITAL UNIX operating system.
- DIGITAL *Quick Setup Guide* (order number ER-B30WW-IM). This graphical guide leads you through the initial installation of the DIGITAL Personal Workstation.

Contact your DIGITAL representative for other available product-related information.

Feedback

Our readers' opinions about this or any other DIGITAL manual are important to us. If you have any comments, we'd appreciate hearing from you. Send e-mail to *reader_comments@eng.pko.dec.com*

Please reference order number EK-ALUNX-OS in your correspondence about this guide.

Operating System Installation

This guide explains how to run your DIGITAL Personal Workstation *au-Series* system with either the DIGITAL UNIX *or* the Windows NT operating system.

Before You Begin

The following guidelines will help ensure a smooth operating-system installation:

- Before you install an operating system, make note of your current system's hardware locations, controller types, and boot selections.
- Use a graphics controller that is supported by your operating system.
- Use a disk controller that is supported by your operating system.
- If possible, place your UNIX disks into an external system box and unplug them before booting Windows NT.
- Ensure that you have all the right bits available for your new operating system, such as the latest firmware revisions, HAL (hardware abstraction layer) revisions, and UNIX V4.0C.

Console-Specific Considerations

The DIGITAL Personal Workstation au-Series includes two different consoles: SRM, which is compatible with UNIX and VMS device-naming conventions. AlphaBIOS firmware has been tailored for compatibility with the Windows NT operating system device-naming conventions. These two consoles use different methods for recording user preferences, boot selections, and time of day.

Because of the different naming conventions that DIGITAL UNIX and Windows NT use, it is crucial that you record the disk configurations as both consoles view them prior to changing settings or the hardware itself. See the specific instructions later in this guide.

Using the DIGITAL UNIX Operating System

Your system came with the DIGITAL UNIX operating system preloaded. If you choose to run the UNIX operating system *only*, your system is ready to go.

Using the Windows NT Operating System

Special Considerations

If you choose to run the Windows NT operating system, you must install it from the CD-ROM that came with your system. Before beginning the installation, please read through the following considerations.

Hardware Requirements

Windows NT requires a separate hard disk drive. UNIX and NT cannot reside on the same drive. You received an additional drive with your system. However, you must ensure (1) that it contains no data *or* (2) that any data on the additional drive is backed up before you attempt to have two operating systems reside on your workstation.

Precautionary Measures

CAUTION: Installing and running two operating systems on one machine carries risks. To minimize these risks, first ensure that you have backups of all your files.

If you do not plan to keep the DIGITAL UNIX operating system on your machine, you may want to remove UNIX and the data hard drive for safekeeping.

The Windows NT Disk Manager utility does not recognize the format of a UNIX disk. Therefore, take care when recording the SCSI ID of your UNIX disk and disk numbers so that you do not inadvertently allow the Disk Manager to corrupt your UNIX disk.

CAUTION: The Disk Manager utility will prompt you to place a "signature" on your UNIX disk. Default is Yes, which corrupts the UNIX disk. Take care to answer No each time you use the Disk Manager utility when the UNIX disk is in the system.

The current console firmware does not preserve certain environment variables when you switch between operating systems. Record information such as boot path and other parameters before switching operating systems, and restore the proper parameters for the operating system you are using currently.

DIGITAL is currently testing new firmware that will preserve these values, which will simplify the process of switching between operating systems. The new firmware will be available from the DIGITAL Web site:
(http://www.workstation.digital.com/firmware.html).

Windows NT V4.0 Operating System Installation Steps

NOTE: After each command, press either [Return] or [Enter], depending upon what type of keyboard you have.

Follow the steps outlined in Sections I through III below to install the Microsoft Windows NT operating system.

I. Recording the UNIX Environment

1. At the SRM console prompt, type
   `>>>show dev`
2. Press [Enter].
3. Your system's current device information displays. Note which disk contains the UNIX operating system and which disk will house Windows NT.
4. Type
   `>>>show | more`
5. Press [Enter].
   All system environment variables display. Write these down in a safe place.

II. Switching to the Windows NT Console

1. Type
   `>>>set os_type nt`
2. Press [Enter].
3. Power cycle the machine.

   NOTE: Wait 45 seconds before turning the system back on.

   The system now comes up to the AlphaBIOS console for Windows NT.
4. If the system indicates that NVRAM is invalid, press [Enter] to allow updating of NVRAM.
5. When the system starts up the AlphaBIOS console, press [F2] to enter Setup.
6. Enter Hard Disk Setup.

   CAUTION: Do not allow Express Setup to partition disk 0 if disk 0 is your UNIX drive.
7. Partition the disk that you will use for Windows NT.
   (For example, select `disk 1` [SCSI ID 3].)
8. Press [F7] for Express Setup.

9. Press [F10] to continue.
10. A message box stating `Express Setup Complete` displays.
11. Press [Enter] to continue.
12. Press [Esc] to leave Express Setup.
13. Go to CMOS Setup and press [Return].
14. Set the date and time.
15. Press [F10] to save changes.
16. Press [Enter] to continue.

III. Installing the Windows NT Operating System

1. Insert the Windows NT installation CD, and choose `Install Windows NT.`
2. Press [Enter].
3. If the system indicates that the CD-ROM device is not visible, press [Esc] to leave Setup, power cycle the machine, and repeat the process.

   NOTE: Wait 45 seconds before turning the system back on.

4. Press [Esc] to return to Setup.
5. Select `Install Windows NT.`
   The system partition should be partition 2.
6. When you are prompted for computer type at the Window NT Setup screen, choose `other`.
7. Press [Enter].
8. Install the hardware support floppy diskette, and select Digital Personal Workstation a-Series.
9. When you are prompted about additional storage devices, choose `s` and then `other`.
10. Insert the floppy diskette with the CMD CSA-64xx IDE Driver.
11. Press [Enter].
12. After the IDE driver is installed, press [Enter] to continue with Setup.
13. At the Windows NT Workstation Setup screen, press [Enter].
14. At the Windows NT Workstation Setup screen, press [Enter] to confirm your hardware and software components.

15. When you are prompted to select a drive on which to install Windows NT, choose the large FAT partition (C).

    NOTE: You may choose to format the drive as an NTFS drive. See your Windows NT operating system documentation for more information on drive formats.

16. Press [Enter] to install Windows NT.
17. Select the type of file system you want from the screen choices.
18. Press [Enter].
19. Choose a location for your Windows NT files.
20. Press [Enter].
21. Follow the screen prompts to complete Setup.
22. Once the installation is complete, system defaults will be set to the Windows NT configuration. Rebooting will default to Windows NT.
23. Install the SCSI driver and the graphics drivers.
    The graphics drivers are available from http::www.service.digital.com/open3d/.

Using Multiple Operating Systems

This section describes how to create and use a system that allows dual operating system operation using Windows NT and DIGITAL UNIX.

Switching from Windows NT to DIGITAL UNIX

To switch from the Windows NT operating system to DIGITAL UNIX, follow these steps:

1. From Windows NT, choose `Shut down.`
2. Restart the computer.
3. Press [F2] to enter AlphaBIOS Setup.
4. Select `Utilities`.
5. Tab to `OS Selection Setup`…
6. Press [Return].

NOTE: Take care to distinguish between 0 (zero) and O (“oh”) and 1 (one) and l (“ell”) when recording boot parameters.

7. In Setup, record the boot parameters
   (for example, Disk 1, Partition 2 \os\winnt40\osloader.exe).

   CAUTION: This information may be lost when you switch to UNIX.

8. Press [Esc].
9. To change console selection, from the Setup menu, choose `CMOS Setup`.
10. Press [Enter].
11. Press [F6] to enter `Advanced Setup`.
12. Tab to `Console Selection`.
13. Select `Digital UNIX (SRM).`
14. Press [F10] twice to save your selections.
15. Press [Enter].
16. Press [Esc] to exit Setup.
17. Power cycle the machine.

    NOTE: Wait 45 seconds before turning the system back on.

18. The SRM console prompt >>> displays.
19. Type
    `show | more`
    to display environment variables.
20. Press [Enter].
21. Restore any environment variables that may have been altered.
    (For example, `>>>set bootdev_def dkc0`
    `>>>set bus_probe_algorithm new`)
22. Type
    `>>>isacfg -init`
23. Press [Return].
24. Type
    `>>>init`
25. Boot the UNIX disk.
    (For example, type `>>>boot dkc0`.)
26. Verify the time and date.

Switching from DIGITAL UNIX to Windows NT

To switch from the DIGITAL UNIX operating system to Windows NT, follow these steps:

1. Shut down the system to the SRM console.
2. Record environment variables.

   CAUTION: This information may be lost when you switch to Windows NT.
3. Type
   `>>>set os_type nt`
4. Power cycle the machine.

   NOTE: Wait 45 seconds before turning the system back on.
5. The AlphaBIOS console should display.
6. The system indicates that NVRAM is invalid. Allow the system to update NVRAM.
7. Reset boot parameters.
   (For example, `Boot File: \os\winnt40\osloader.exe.`)