

Lab 6-1

Hard Disk Recovery

Windows Problems

What is the symptom?

Can you identify the cause?

Eliminate hardware problems.

Can you repair the problem?

Hard Drive Troubleshooting: Is it hardware or software?

Hardware Problems

Cables

Power and Connectors

Motherboard

BIOS

Hard Drives

Software, or File Structure Problems

Master boot records (MBRs)

Boot Files

BOOT.INI

Viruses

Configuration errors

Repairing Windows

Safe Mode

Boot to DOS/Command Prompt

Startup Disks

System Backups

“How good are your backups?”

You can reload Windows

You can reload applications

You can reconfigure the GUI

Can you recreate your data?



Backup

Restore



Backup Job

Untitled

Start

What to back up

All selected files

New and changed files



Name	Size	Type
My Computer		System F
Networks		System F

Where to back up



File

C:\MyBackup.qic

How to back up



Verify, Compress, Prompt

Options...

Welcome Backup Restore Schedule Jobs



Click to select the check box for any drive, folder or file that you want to back up.

- Desktop
- My Computer
 - A:
 - F:
 - C: DISK1_VOL1
 - D:
 - E: PROJECTS
 - H: STORAGE
 - G:
 - System State
- My Documents
- Network Trash Folder
- PowerPoint Tiffs
- My Network Places

Name	Comment
<input checked="" type="checkbox"/> My Computer	
<input type="checkbox"/> My Documents	
<input type="checkbox"/> Network Trash Folder	
<input type="checkbox"/> PowerPoint Tiffs	
<input checked="" type="checkbox"/> My Network Places	



Backup destination:

File

Backup options:

Normal backup. Summary log.
Some types excluded.

Start Backup

Backup media or file name:

H:\Backup\1-12-01.bkf

Browse...

Welcome to the Windows 2000 Backup and Recovery Tools



Backup Wizard

The Backup wizard helps you create a backup of your programs and files so you can prevent data loss and damage caused by disk failures, power outages, virus infections, and other potentially damaging events.



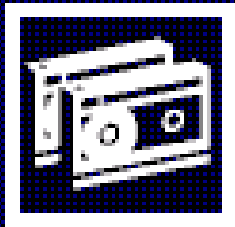
Restore Wizard

The Restore wizard helps you restore your previously backed-up data in the event of a hardware failure, accidental erasure, or other data loss or damage.



Emergency Repair Disk

This option helps you create an Emergency Repair Disk that you can use to repair and restart Windows if it is damaged. This option does not back up your files or programs, and it is not a replacement for regularly backing up your system.



Welcome to the Windows 2000 Backup and Recovery Tools

This wizard helps you create a backup copy of your data. In the event of a hardware failure or accidental erasure, you can use the backup copy to restore your data.

To continue, click Next.

< Back

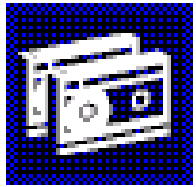
Next >

Cancel



What to Back Up

You can specify the items you want to back up.



Select what you want to back up:

- Back up everything on my computer
- Back up selected files, drives, or network data
- Only back up the System State data

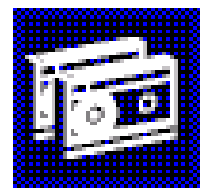
< Back

Next >

Cancel



Where to Store the Backup

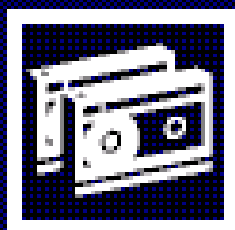


Your backed-up data is stored on the media in the destination you specify.

Choose a media type for your backup, and then enter the name of the media to receive the backup data.

Backup media type:

Backup media or file name:



Completing the Backup Wizard

You have successfully completed the Backup wizard. You specified the following settings:

Description: Set created 1/31/2001 at 9:12 AM

What: Back up only the system state.

Media type: File

Media: H:\Backup\1-12-01.bkf

When: Now

How: Verify off, Do not use hardware compression,
Append to my media

To start the backup, click Finish.

To specify additional backup options,
Click Advanced.

Advanced...

< Back

Finish

Cancel

Backup Progress




Cancel

Device: System State

Media name: Media created 1/12/2001 at 2:42 PM

Status: Backing up files from disk...

Progress: 

	Elapsed:	Estimated remaining:
Time:	4 sec.	54 sec.

Processing: System State\...LES\NetMeeting\MST123.DLL

	Processed:	Estimated:
Files:	108	1,611

Bytes:	14,984,248	219,019,380

Backup Progress



The backup is complete.

Close

To see a report with detailed information about the backup, click Report.

Report...

Media name:

Media created 1/12/2001 at 2:42 PM

Status:

Completed

Time:

Elapsed:

1 min., 3 sec.

Estimated remaining:

Files:

Processed:

1,611

Estimated:

1,611

Bytes:

219,300,980

219,292,788


```
Backup Status
Operation: Backup
Active backup destination: File
Media name: "Media created 1/12/2001 at 2:42 PM"

Backup of "System State"
Backup set #3 on media #1
Backup description: "Set created 1/31/2001 at 9:14 AM"
Backup Type: Copy

Backup started on 1/31/2001 at 9:14 AM.
The operation was terminated by the user.
Backup completed on 1/31/2001 at 9:14 AM.
Directories: 2
Files: 0
Bytes: 29,486
Time: 4 seconds

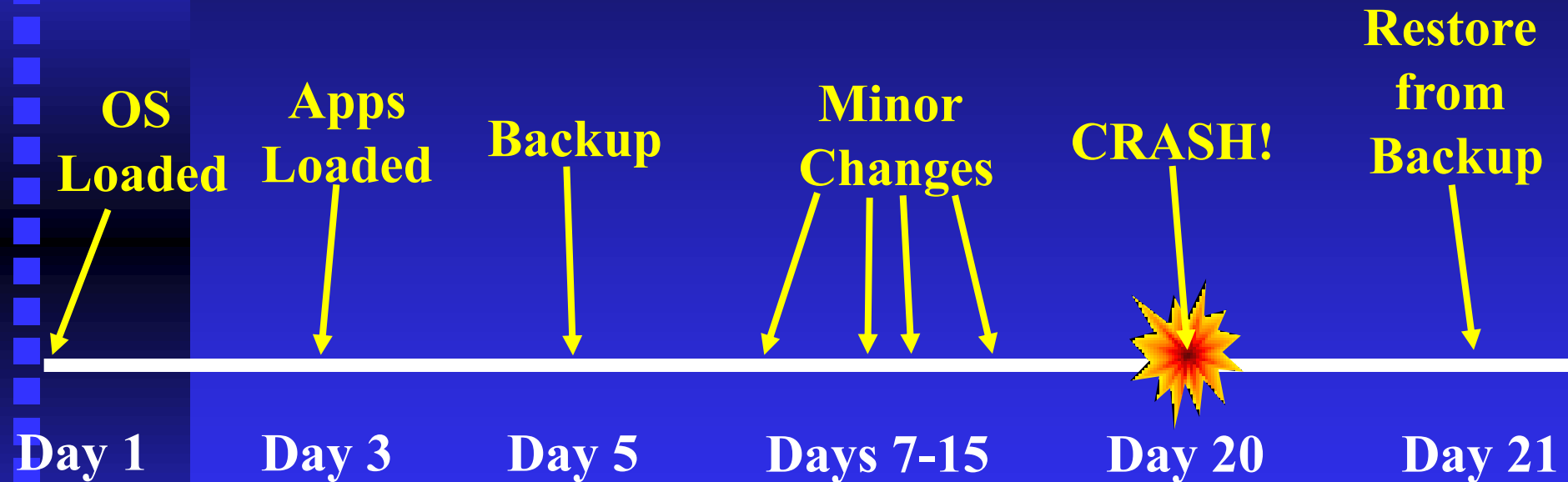
-----

Backup Status
Operation: Backup
Active backup destination: File
Media name: "Media created 1/12/2001 at 2:42 PM"

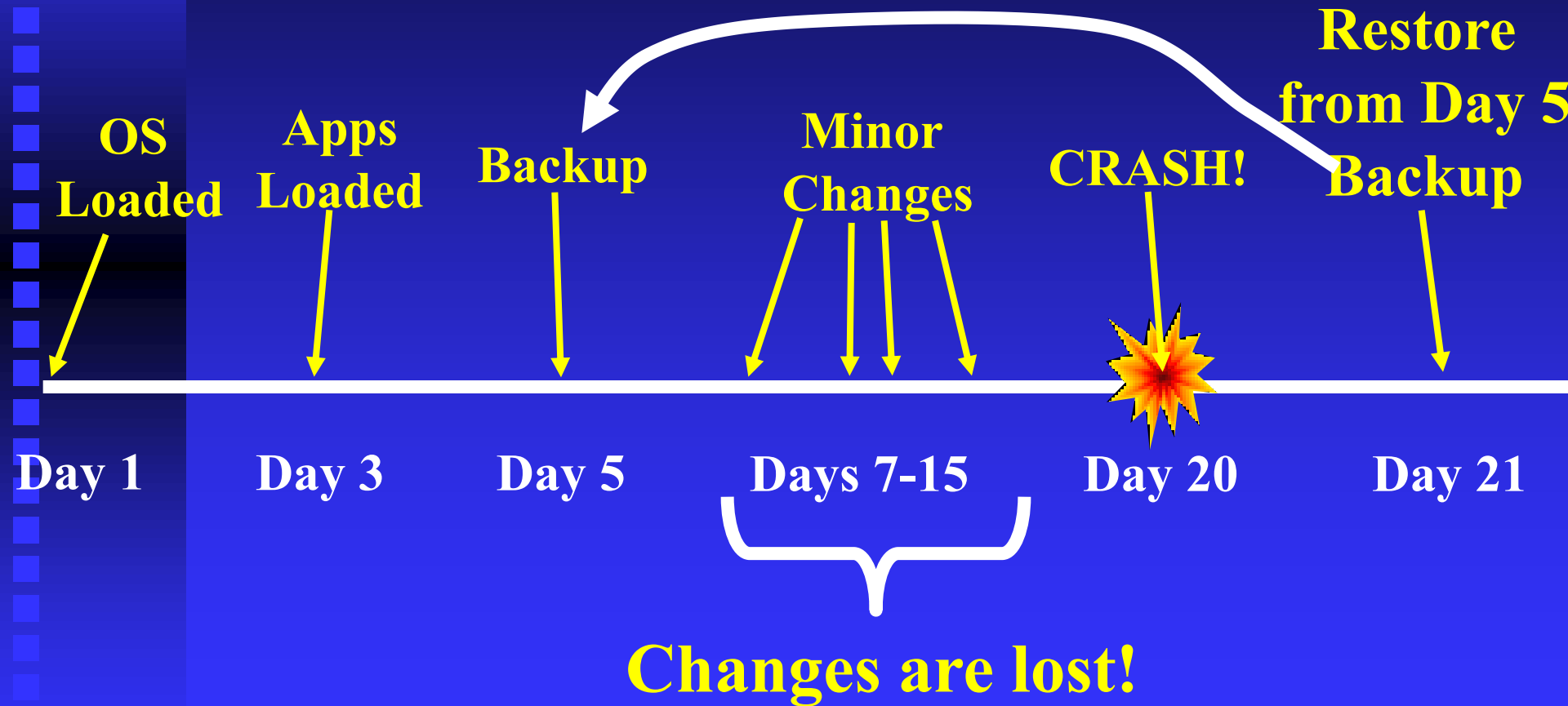
Backup of "System State"
Backup set #4 on media #1
Backup description: "Set created 1/31/2001 at 9:14 AM"
Backup Type: Copy

Backup started on 1/31/2001 at 9:15 AM.
Backup completed on 1/31/2001 at 9:16 AM.
Directories: 90
Files: 1611
Bytes: 219,300,980
Time: 1 minute and 4 seconds
```

The Backup Timeline



The Backup Timeline



Create Regular Backups

**Changes made between
the Backup and the
Restoration are lost.**

Safe Mode

Minimal drivers

Default Registry

No CD-ROM and minimal VGA
drivers

Press F8 Now!

Starting Windows...



Windows 2000 Advanced Options Menu

Please select an option:

Safe Mode



Safe Mode with Networking

Safe Mode with Command Prompt

Enable Boot Logging

Enable VGA Mode

Last Known Good Configuration

Directory Services Restore Mode (Windows 2000 domain controllers only)

Debugging Mode

Boot Normally

Return to OS Choices Menu

Use ↑ and ↓ to move the highlight to your choice.

Press Enter to choose.

Log On to Windows

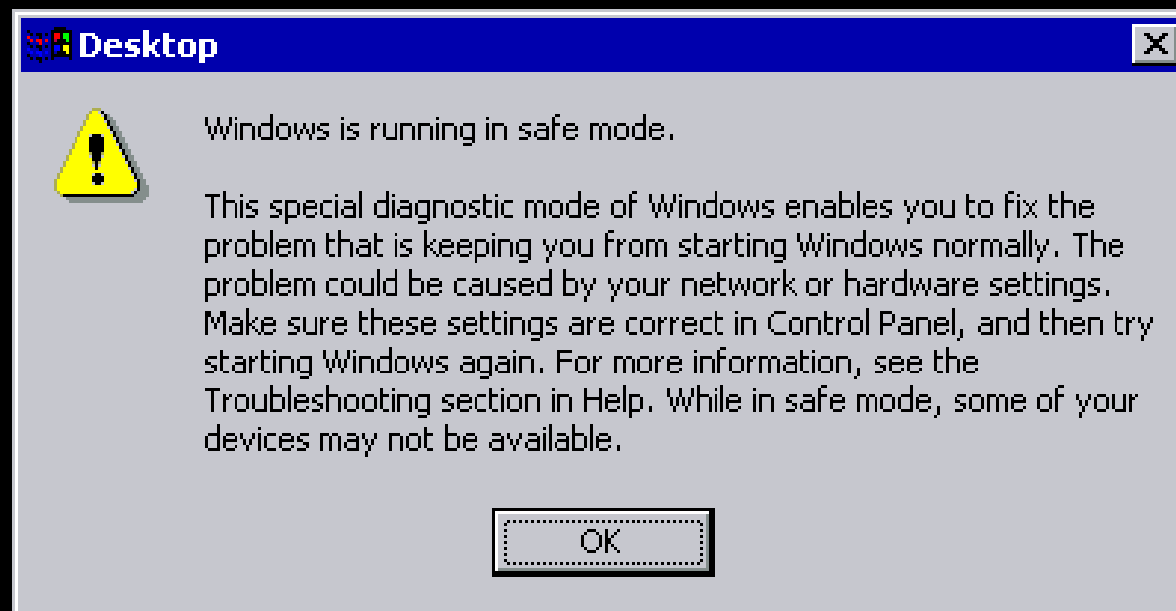


Microsoft **Windows 2000 Professional** *Microsoft*
Built on NT Technology

User name:

Password:







My Documents



My Computer



My Network
Places



Recycle Bin



Internet
Explorer



Connect to
the Internet



Windows 2000 Advanced Options Menu

Please select an option:

Safe Mode

Safe Mode with Networking

Safe Mode with Command Prompt



Enable Boot Logging

Enable VGA Mode

Last Known Good Configuration

Directory Services Restore Mode (Windows 2000 domain controllers only)

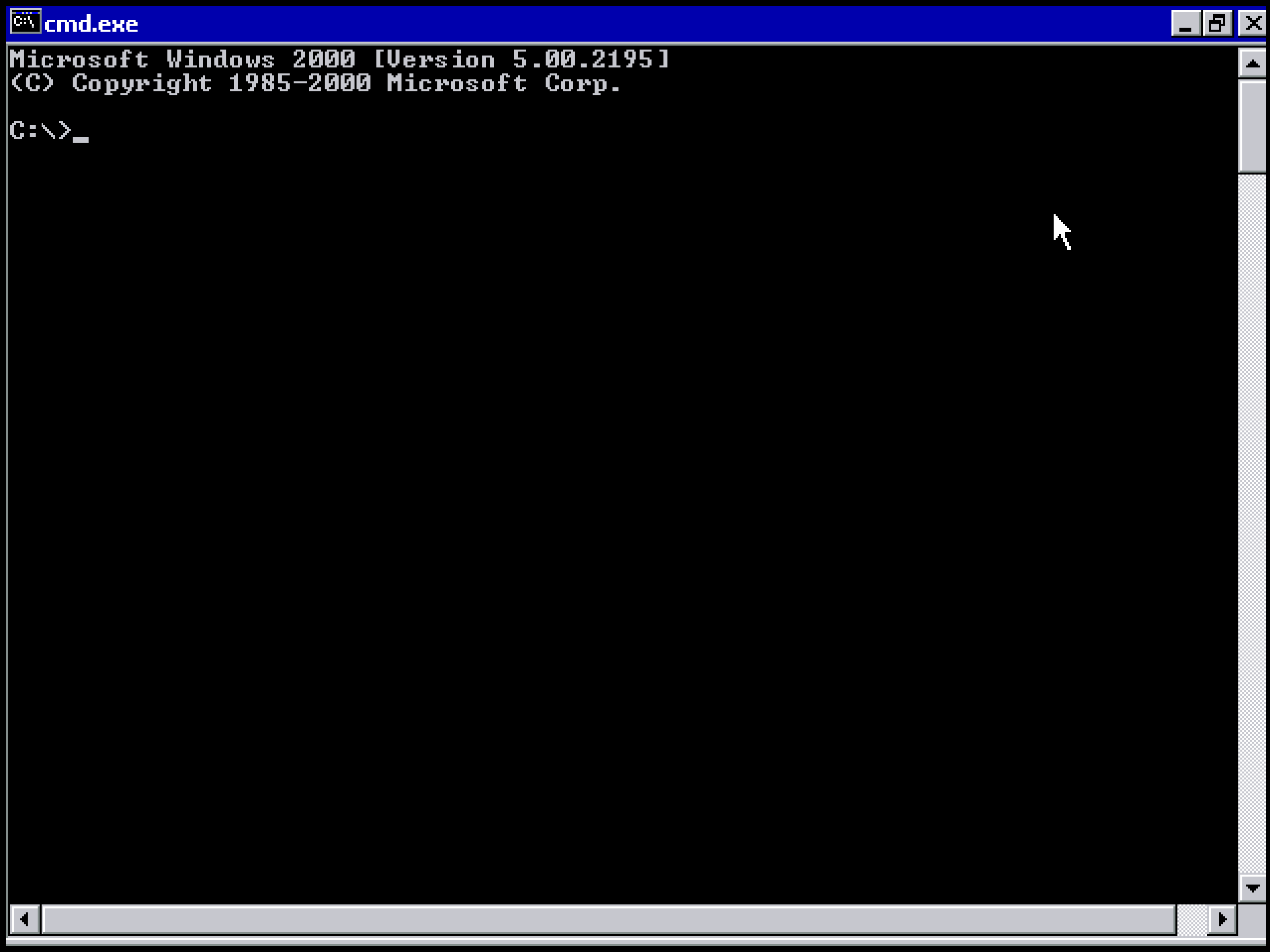
Debugging Mode

Boot Normally

Return to OS Choices Menu

Use ↑ and ↓ to move the highlight to your choice.

Press Enter to choose.



cmd.exe

Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\>_

Safe Mode

Microsoft (R) Windows 2000 (TM) (Build 2195: Service Pack 1Free)

Safe Mode



cmd.exe

The taskbar icon for the command prompt window shows a small icon of a command prompt window, followed by three standard window control buttons: maximize, minimize, and close.

Safe Mode

Windows 2000 Advanced Options Menu

Please select an option:

Safe Mode

Safe Mode with Networking

Safe Mode with Command Prompt

Enable Boot Logging

Enable VGA Mode

Last Known Good Configuration



Directory Services Restore Mode (Windows 2000 domain controllers only)

Debugging Mode

Boot Normally

Return to OS Choices Menu

Use ↑ and ↓ to move the highlight to your choice.

Press Enter to choose.

Hardware Profile/Configuration Recovery Menu

This menu allows you to select a hardware profile to be used when Windows 2000 is started.

If your system is not starting correctly, then you may switch to a previous system configuration, which may overcome startup problems.

IMPORTANT: System configuration changes made since the last successful startup will be discarded.

Profile 1

Use the up and down arrow keys to move the highlight to the selection you want. Then press ENTER.

To switch to the Last Known Good configuration, press 'L'.

To Exit this menu and restart your computer, press F3.

Command Prompt

Windows 9x: boot to DOS

Windows Me: ERD

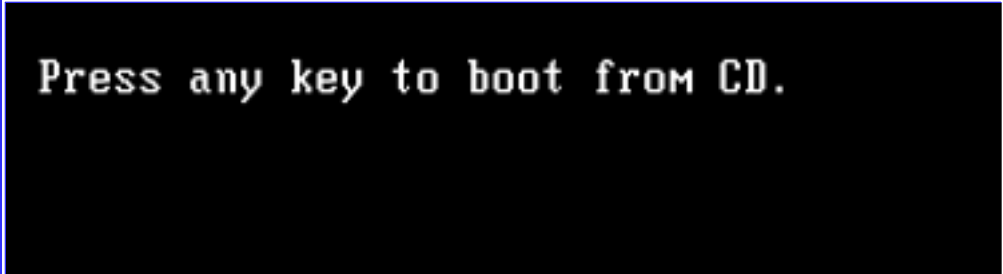
Windows 2000: Recovery Console

Recovery Disks

Bootable DOS disks

The Startup Disk

Boot from the Windows CD



Press any key to boot from CD.

Microsoft Windows 98 CD-ROM Startup Menu

1. Boot from Hard Disk
2. Boot from CD-ROM

Enter your choice:

Microsoft Windows 98 Startup Menu

1. Start Windows 98 Setup from CD-ROM.
2. Start computer with CD-ROM support.
3. Start computer without CD-ROM support.

Enter a choice:

F5=Safe mode Shift+F5=Command prompt Shift+F8=Step-by-step confirmation [N]

Press any key to boot from CD.

Windows 2000 Setup

Setup is loading files (Human Interface Parser)...

Windows 2000 Professional Setup

Welcome to Setup.

This portion of the Setup program prepares Microsoft(R)
Windows 2000(TM) to run on your computer.

- To set up Windows 2000 now, press ENTER.
- To repair a Windows 2000 installation, press R. 
- To quit Setup without installing Windows 2000, press F3.

ENTER=Continue R=Repair F3=Quit

Windows 2000 Professional Setup

Windows 2000 Repair Options:

- To repair a Windows 2000 installation by using the recovery console, press C.
- To repair a Windows 2000 installation by using the emergency repair process, press R.




If the repair options do not successfully repair your system, run Windows 2000 Setup again.

Windows 2000 Professional Setup

This operation will attempt to repair your Windows 2000 system. Depending on the type of damage present, this operation may or may not be successful. If the system is not successfully repaired, restart Setup and choose the option to recover a destroyed system or system disk.

Select one of the following repair options.

- Manual Repair: To choose from a list of repair options, press M. 
- Fast Repair: To perform all repair options, press F.

Windows 2000 Professional Setup

As part of the repair process, Setup will perform each optional task selected below.

To have Setup perform the selected tasks, press ENTER.
To change the selections, use the UP or DOWN ARROW keys to select an item, and then press ENTER.

- Inspect startup environment
- Verify Windows 2000 system files
- Inspect boot sector
- Continue (perform selected tasks)

Windows 2000 Professional Setup

You need an Emergency Repair disk for the Windows 2000 installation you want to repair.

NOTE: Setup can only repair Windows 2000 installations.

- If you have the Emergency Repair disk, press ENTER.
- If you do not have the Emergency Repair disk, press L. Setup will attempt to locate Windows 2000 for you.



Windows 2000 Professional Setup

Setup cannot find a Windows 2000 installation to repair.
Unless you provide the Emergency Repair disk for the installation
you want to repair, Setup cannot make the repairs.

- If you have the Emergency Repair Disk, or if you want Setup to search for existing Windows 2000 installations again, press ENTER.
- If you want to quit Setup, press F3.

Windows 2000 Professional Setup

Setup has completed repairs.

If there is a floppy disk in drive A:, remove it.

To restart your computer, press ENTER.

Your computer will reboot in 11 seconds...



ENTER=Restart Computer

The Recovery Console

It's a Windows 2000/XP command prompt

It's very limited

Now, it's your turn.