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## Exam Notes for Installing, Configuring, and Administering Microsoft Windows XP Professional Exam 70-270



*XP Exam Notes compiled By: Robert J. Shimonski*

Please Note: Exam 70-270 is available in its beta version September 25-October 1, 2001. While it is in its beta version, this exam is numbered 71-270.

### Abstract

This Exam Notes guide provides a technical overview of Windows XP. It shows new technologies and features, sharing information, managing your desktop and other tasks to help you prepare for the beta and then the live XP exam from Microsoft. This of course is not a definitive guide to XP; it is too big and too detailed of an Operating System to cover in a simple guide. Make sure you have hands on experience with XP before you sit the exam.... So where do you want to go today?

### Credit Toward Certification

When you pass this exam, you achieve [Microsoft Certified Professional](#) status. You also earn core credit toward [Microsoft Certified Systems Engineer](#) certification. XP exams are interchangeable with MCSE 2000 exams.

### Preparation Tools

In addition to your hands-on experience working with the product, you may want to use the following tools and training to help you prepare for this exam:

#### [Step-by-Step Guide to Preparing for a Microsoft Certified Professional Exam](#)

The Step-by-Step Guide describes a concise, six-step approach to preparing for an MCP exam, and is also a compendium of MCP exam-preparation resources.

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MCP Approved Study Guides are self-paced learning tools that are available in a variety of formats to match your learning style, including books, CD-ROMs, online content, and videos. These guides come in a wide range of prices to fit your budget.

### [Practice Tests](#)

Practice tests offered by Microsoft Approved Practice Test Providers enable you to assess and receive feedback on your level of knowledge and exam-readiness prior to taking a certification exam. Although your score on a practice test doesn't necessarily indicate what your score will be on a certification exam, a practice test gives you the opportunity to answer questions that are similar to those on the certification exam and can help you identify your areas of greatest strength and weakness.

### **MOC Courses**

#### [Course 2272—Implementing and Supporting Microsoft Windows XP Professional](#)

In this five-day course, you will acquire the skills to install, configure, deploy, monitor, and troubleshoot Windows XP Professional

#### [Course 2520—Deploying Microsoft Windows XP Professional](#)

If you have knowledge and experience with earlier versions of Windows server operating systems, this one-day course will give you practical training on deploying Windows XP Professional

### **Links and Resources**

#### [Course Outline](#)

### **Audience Profile**

Candidates for this exam operate in medium to very large computing environments that use Windows XP Professional as a desktop operating system. They have a *minimum* of one year's experience implementing and administering any desktop operating system in a network environment.

### **Skills Being Measured**

This certification exam measures your ability to implement, administer, and troubleshoot information systems that incorporate Microsoft Windows XP Professional. Before taking the exam, you should be proficient in the job skills listed below.

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# XP Professional EXAM NOTES

*Note that most of the functions you will perform from the course outline will be similar to Windows 2000 Professional. This is the entire outline and below it, I will cover all the details that are new to XP Professional*

## Exam Outline:

### Installing Windows XP Professional

- Perform an attended installation of Windows XP Professional.
- Perform an unattended installation of Windows XP Professional
- Install Windows XP Professional by using Remote Installation Services (RIS).
- Install Windows XP Professional by using the System Preparation Tool.
- Create unattended answer files by using Setup Manager to automate the installation of Windows XP Professional.
- Upgrade from a previous version of Windows to Windows XP Professional.
- Prepare a computer to meet upgrade requirements.
- Migrate existing user environments to a new installation.
- Perform post-installation updates and product activation.
- Troubleshoot failed installations.

### Implementing and Conducting Administration of Resources

- Monitor, manage, and troubleshoot access to files and folders.
- Configure, manage, and troubleshoot file compression.
- Control access to files and folders by using permissions.
- Optimize access to files and folders.
- Manage and troubleshoot access to shared folders.
- Create and remove shared folders.
- Control access to shared folders by using permissions
- Manage and troubleshoot Web server resources.
- Connect to local and network print devices
- Manage printers and print jobs.
- Control access to printers by using permissions
- Connect to an Internet printer.
- Connect to a local print device.
- Configure and manage file systems.
- Convert from one file system to another file system.
- Configure NTFS, FAT32, or FAT file systems.
- Manage and troubleshoot access to and synchronization of offline files.
- Configure and troubleshoot fax support.

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## Implementing, Managing, Monitoring, and Troubleshooting Hardware Devices and Drivers

- Implement, manage, and troubleshoot disk devices.
- Install, configure, and manage DVD and CD-ROM devices.
- Monitor and configure disks.
- Monitor, configure, and troubleshoot volumes.
- Monitor and configure removable media, such as tape devices.
- Implement, manage, and troubleshoot display devices.
- Configure multiple-display support.
- Install, configure, and troubleshoot a video adapter.
- Configure Advanced Configuration Power Interface (ACPI).
- Implement, manage, and troubleshoot input and output (I/O) devices.
- Monitor, configure, and troubleshoot I/O devices, such as printers, scanners, multimedia devices, mouse, keyboard, and smart card reader.
- Monitor, configure, and troubleshoot multimedia hardware, such as cameras.
- Install, configure, and manage modems.
- Install, configure, and manage Infrared Data Association (IrDA) devices.
- Install, configure, and manage wireless devices.
- Install, configure, and manage USB devices.
- Install, configure, and manage hand held devices.
- Manage and troubleshoot drivers and driver signing.
- Monitor and configure multiprocessor computers.

## Monitoring and Optimizing System Performance and Reliability

- Monitor, optimize, and troubleshoot performance of the Windows XP Professional desktop.
- Optimize and troubleshoot memory performance.
- Optimize and troubleshoot processor utilization.
- Optimize and troubleshoot disk performance.
- Optimize and troubleshoot application performance.
- Configure, manage, and troubleshoot Scheduled Tasks.
- Manage, monitor, and optimize system performance for mobile users.
- Restore and back up the operating system, system state data, and user data.
- Recover system state data and user data by using Windows Backup.
- Troubleshoot system restoration by starting in safe mode.
- Recover system state data and user data by using the Recovery Console

## Configuring and Troubleshooting the Desktop Environment

- Configure and manage user profiles.
- Configure support for multiple languages or multiple locations.
- Enable multiple-language support.
- Configure multiple-language support for users.
- Configure local settings.
- Configure Windows XP Professional for multiple locations.
- Manage applications by using Windows Installer packages.
- Configure and troubleshoot desktop settings.
- Configure and troubleshoot accessibility services.

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## Implementing, Managing, and Troubleshooting Network Protocols and Services

- Configure and troubleshoot the TCP/IP protocol.
- Connect to computers by using dial-up networking.
- Connect to computers by using a virtual private network (VPN) connection.
- Create a dial-up connection to connect to a remote access server.
- Connect to the Internet by using dial-up networking.
- Configure and troubleshoot Internet Connection Sharing.
- Connect to resources using Internet Explorer.
- Configure, manage, and implement Internet Information Services (IIS).
- Configure, manage, and troubleshoot remote desktop and remote assistance.
- Configure, manage, and troubleshoot an Internet connection firewall.

## Configuring, Managing, and Troubleshooting Security

- Configure, manage, and troubleshoot Encrypting File System (EFS).
- Configure, manage, and troubleshoot local security policy.
- Configure, manage, and troubleshoot local user and group accounts.
- Configure, manage, and troubleshoot auditing.
- Configure, manage, and troubleshoot account settings.
- Configure, manage, and troubleshoot account policy.
- Configure and troubleshoot local users and groups.
- Configure, manage, and troubleshoot user and group rights.
- Troubleshoot cache credentials.
- Configure, manage, and troubleshoot a security configuration.
- Configure, manage, and troubleshoot Internet Explorer security settings.

*You can see that most of the course and test objectives seem to be easy, but they are not... This is a tough exam, and there is a lot of new functionality to XP. Make sure you are practicing it and working with it daily to really get a good feel for it.*

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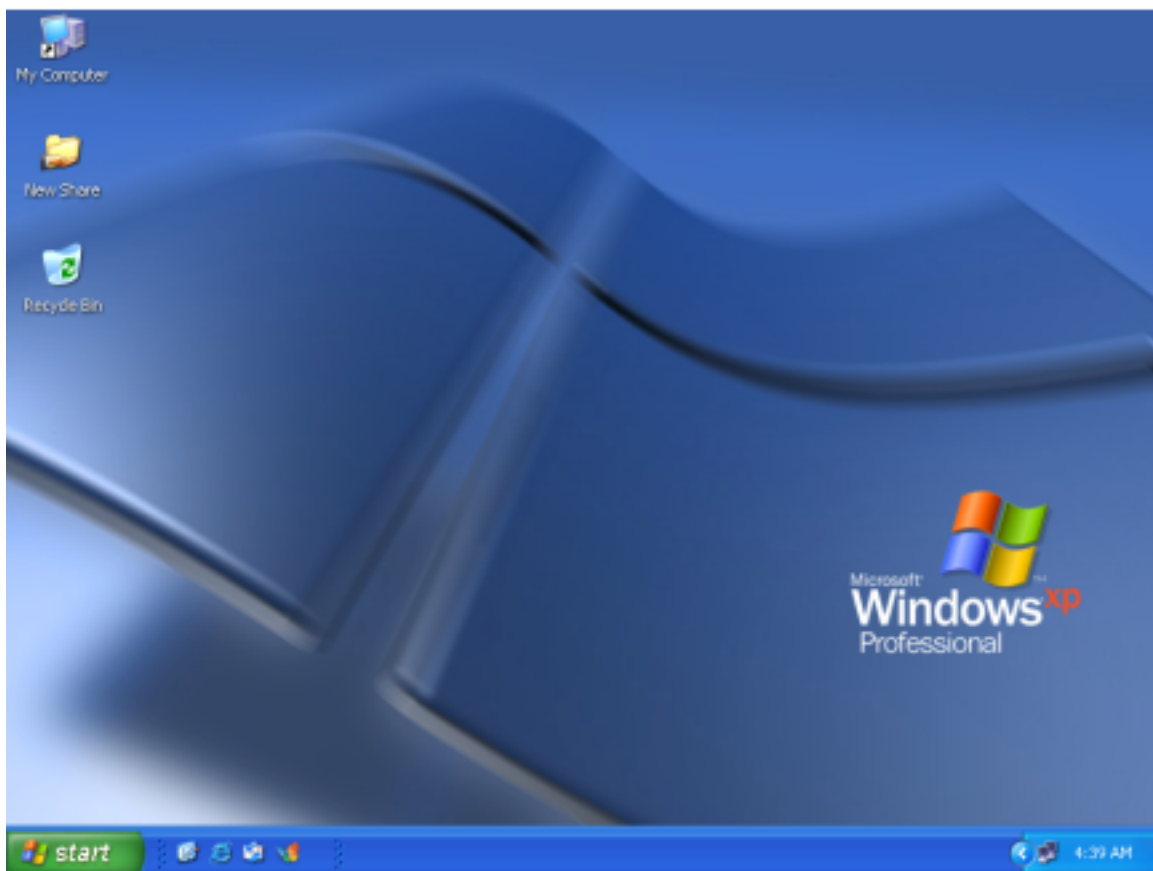
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## XP Professional Information and details:

**Note:** Make sure you are using a version of XP beta that is fairly current like RC1 or 2 or 25xx Build. There are *MAJOR* differences between the betas that will confuse the hell out of you

### Introduction to XP

First off, you are probably asking yourself – what is so different about XP... take a look at this:



### Windows XP Enhanced Desktop and Icons

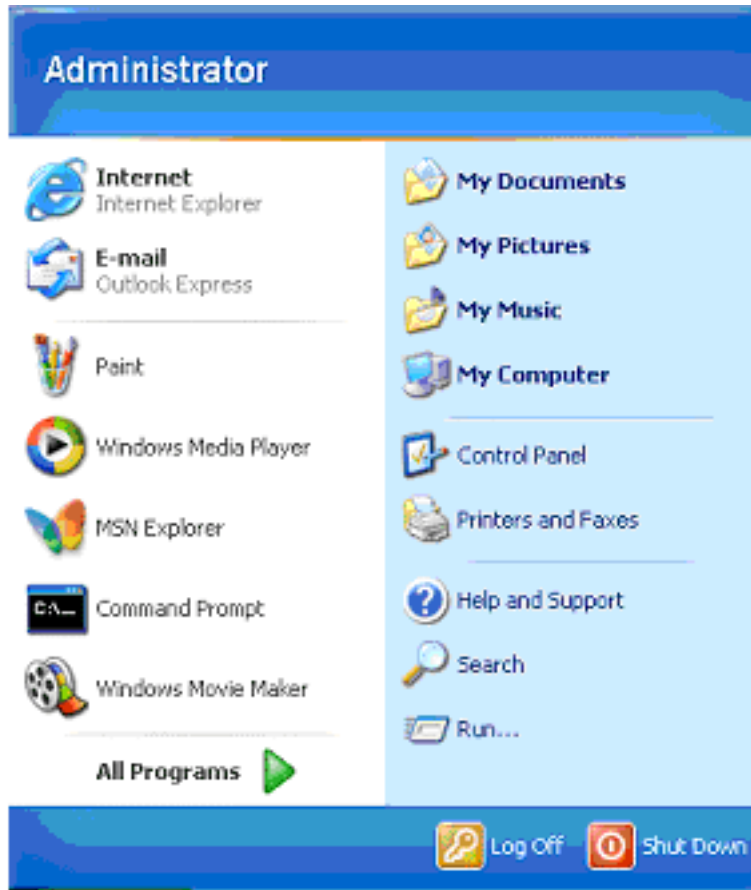
The desktop itself is different, but no fear – you can switch it back to the 2000 look and feel.

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You can switch it by going to the taskbar => right click it and go to properties => go the start menu tab and select the Classic Start Menu view. This should be a look you are used to, but beware, it did not change the functionality, and just the look. One thing you changed was the start menu. The new start menu is different, and by switching this over, you get the old 2000 one. Here is what the new start menu looks like:



Windows XP Enhanced Control Panel

Some points of interest here is that the log off is different. When you log on and log off, it is different in XP (Yes, you can switch it back to 2000 view) but why not leave the cool look and feel of XP?

Now you don't have to memorize Start > settings > Control panel... there is not settings option. All programs is where the rest of your applications installed will reside.

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The Start menu was designed to adapt to the way you work:



Taskbar and Start Menu

- Your five favorite programs display first (to the left of the control panel), and your default e-mail and Web browser are always available
- It groups your most frequently used files and applications together for quick and easy access
- One click also gets you to Help and Support, and tools to configure your system
- This can be turned off, but once you get used to it, it is pretty helpful

### **Basics of XP**

Windows XP is the next version of Microsoft Windows beyond Windows 2000 and Windows Millennium. Remember that Windows XP is built on an enhanced Windows 2000 code base, with different versions aimed at home users and business users:

- Windows XP Home Edition
- Windows XP Professional

XP really is Windows 2000 on Steroids. There is not much difference in the feature set, but there are about a million new Wizards and functions you can use, plus the entire GUI has been tweaked.

### **New GUI**

While maintaining the core of Windows 2000, Windows XP features a fresh new visual design. Common tasks have been consolidated, and simplified and new visual cues have been added to help you navigate your computer more easily. Just logging on can be and look much different as seen below:

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## Windows XP Welcome Screen in with Fast Switching Enabled



- o Fast User Switching for Multiple Users of a Computer was Designed for the home, Fast User Switching lets everyone use a single computer as if it were his or her own
- o Windows XP takes advantage of Terminal Services technology and runs each user session as a unique Terminal Services session, enabling each user's data to be entirely separated
- o Enabled by default if you're using Windows XP Home Edition, Fast User Switching is also available on Windows XP Professional if you install it on a stand alone or workgroup-connected computer

## Task Manager



Task Manager had a little face-lift as well. The Task Manager is still pretty much the same BUT it has a great new tab to see the utilization on your NIC cards. The only way to get any traffic on a LAN (like my test lab at home) was to PING the life out of my XP machine from another machine on the network. I just threw some big fat oversized hand crafted ICMP packets at it from a router but you can do the same from a workstation with the command seen below:

### Use the Ping Command

```
Ping: xxx.xxx.xxx.xxx -t -l 1500
```

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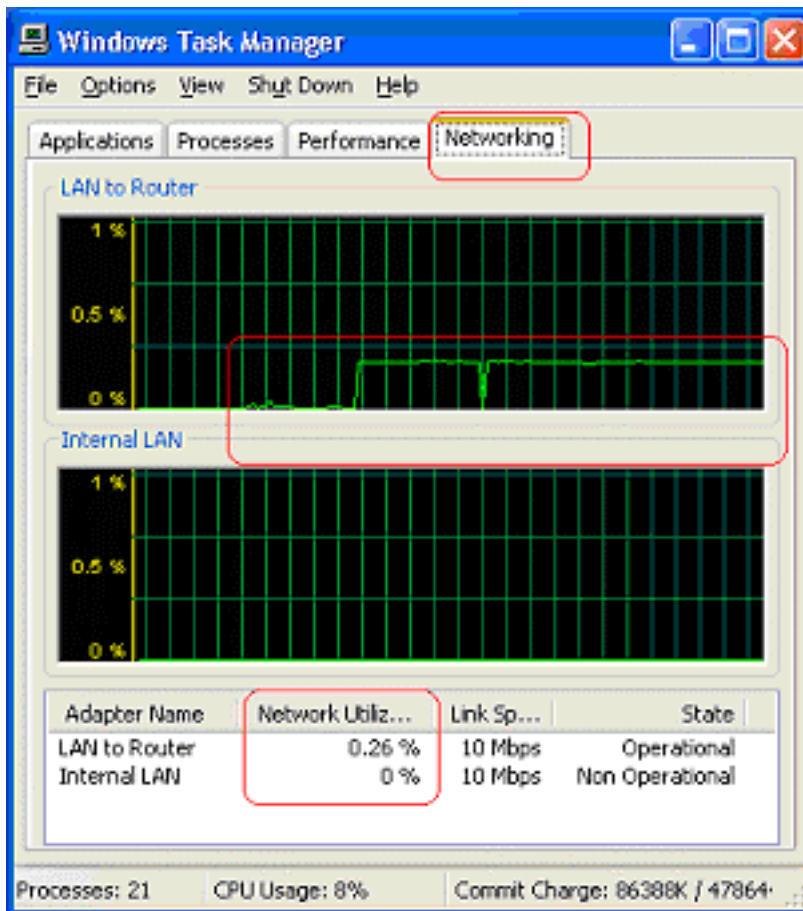
```
Shortcut to cmd.exe - ping 192.168.1.20 -t -l 1500

D:\WIN2000\system32\dllcache>ping 192.168.1.20 -t -l 1500

Pinging 192.168.1.20 with 1500 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.
Request timed out.
```

Now, open Task manager and check out the Networking Tab. You will find some activity on the card. (There is two NIC's seen here because I have it Multihomed with one card in a router port) but you get the idea...



### Windows XP Enhanced Task Manager

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## File grouping

Windows XP introduces an easier-to-manage taskbar by grouping multiple instances of the same application. (Which I found VERY hard to get used to) Instead of having 5 instances of a Microsoft Word file each arranged horizontally on the taskbar, Windows XP groups them together on one taskbar button. Remember how the tasks in the taskbar would turn into slivers that you couldn't even read anymore? This in fact turns it into a Menu system for you. In the Taskbar, you see only one taskbar button, showing the number of files that are open for the application. Clicking the button shows the vertical list of all file names and the files can all be cascaded, tiled, or minimized at the same time. If you open four MMC consoles, they will all be grouped and you can select between them from the "File Grouping"

## Hardware and Device Support

XP supports your hardware better. I believe this but I haven't tried XP on all the hardware I can get my hands on. I have implemented it on quite a few systems and it seems to be holding true to its name.

Windows XP includes Plug and Play support for hundreds of devices not covered by Windows 2000, and enhanced support for:

- Universal Serial Bus - USB
- IEEE 1394 Firewire
- Many other buses like - Peripheral Component Interface (PCI)

Other support enhancements include:

- WIA - Windows Image Acquisition - which replaces TWAIN at the application services layer to provide better communication between applications and devices
- WIA is an interface that facilitates image acquisition from still image and serial devices

## COM and Shared DLL Isolation Support

- Windows XP has a new folder under Windows called "WinSxS" (Windows Side-by-Side)
- This area is used to store versions of Windows XP components that are built to reduce configuration problems with Dynamic Link Libraries (DLL) (DLL hell).
- Multiple versions of components are stored in this folder. Windows XP allows Win32 API components and applications to use the exact version of Microsoft components with which they are tested and not be impacted by other application or operating system updates
- It does this by relying on XML files that contain metadata about application configuration such as COM classes, interfaces, and type libraries

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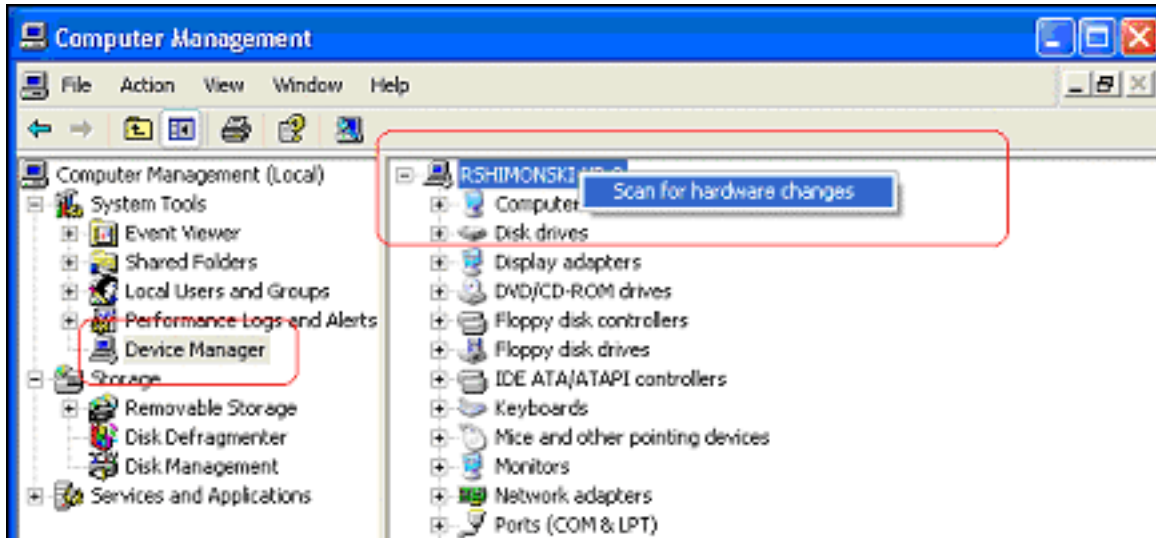
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## Universal Plug and Play and Hardware Management

- Universal Plug and Play is more than just a simple extension of the Plug and Play peripheral model. It was designed to:
  - Support zero-configuration
  - "Invisible" networking and detection
  - Automatic discovery tons of devices

You can use Device Manager to manage your devices in your XP machine:



### Device manager can be used to force a "Plug and Play" on your system

- With Universal Plug and Play, a device can dynamically join a network, obtain an IP address, convey its capabilities, and learn about the presence and capabilities of other devices—all automatically; truly enabling zero configuration networks. Devices can subsequently communicate with each other directly and further enabling peer-to-peer networking
- Device manager just got cooler to look at and there is more added functionality in it as well

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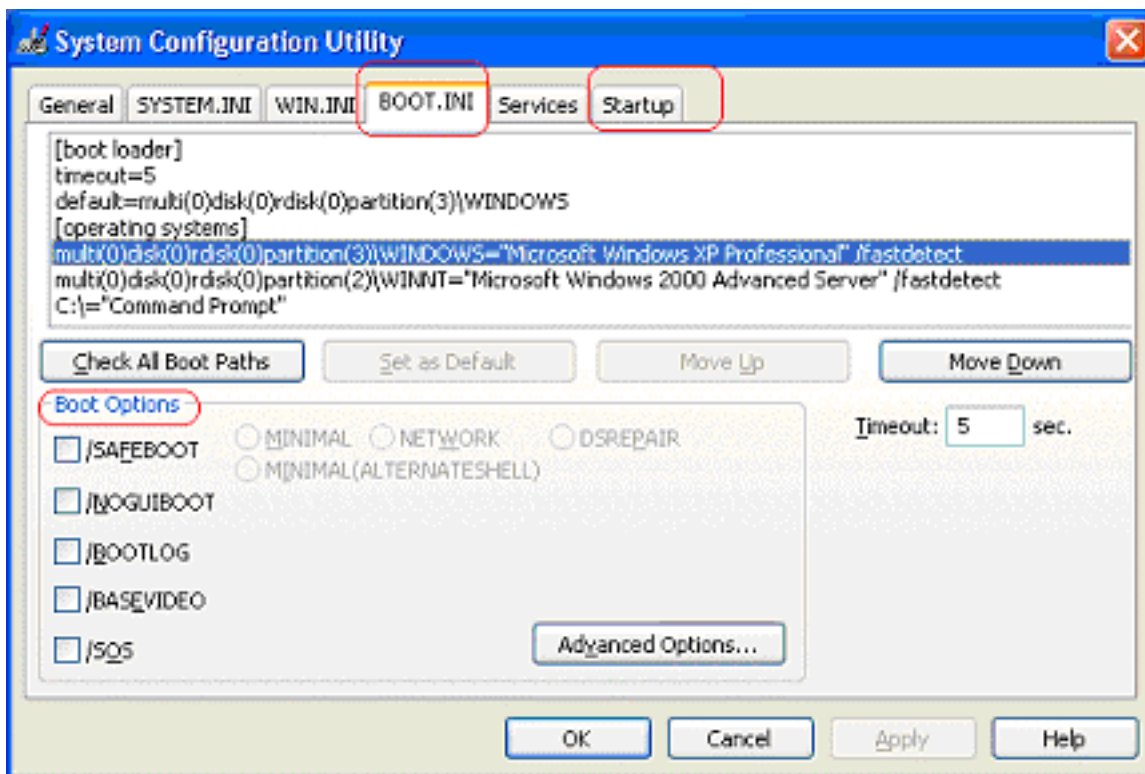
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## Troubleshooting Tools and Restoring your XP System

- This diagnostic tool (Msconfig.exe) simplifies troubleshooting tasks that might normally be beyond the ability of many users.

Well, if you worked with any other version of msconfig then wait until you see this one:

- The General Tab will allow you to pick between a Normal Startup sequences or you can switch to Diagnostic mode. (You can also select specify files to be used during boot up) System Restore can be launched from here as well
- The next three tabs you should be familiar with, although you will find that their functionality is increased, especially working with the boot.ini as seen below. Look at all the switches you can add and adjust as well functions that are as more advanced. Now that's cool...
- The services tab is where you can see your running services and enable or disable them
- The startup tab is cool. For all my Power Users out there (you know who you are) this is the dialog box addition you have been waiting for – remember going into Regedit to pull garbage out of the RUN key? Well, wait until you see the Startup tab, just uncheck the box and it will not run



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## MSCONFIG Utility

- By automating the standard troubleshooting steps, the tool walks users through basic troubleshooting steps from one location. It's the same tool used by Microsoft Product Support Services technicians when diagnosing issues with the Windows configuration. You can use this tool to modify the system configuration through a process of elimination with check boxes, reducing the risk of typing errors.
- The System Configuration Utility can also be used to:
  - Create a backup copy of your system files before you begin a troubleshooting session
  - Creating backup copies of your system files ensures that the modifications made during your troubleshooting session can be reversed
  - You can also restore a backup file using the System Configuration Utility
- System Restore
  - Restore your computer to a previous state in the event of a problem and do it without losing data
  - System Restore actively monitors changes to the **system** and some application files and automatically creates easily identifiable restore points so you do not have to remember to backup
  - Just remember that things like this are cool, but if you skimp on the system requirements you may be hurting... you must understand that all new MS Operating systems become much more functional but at a price
  - Windows XP creates restore points daily (by default)
  - You can also create your own restore points if you want
  - System Restore **does not** monitor changes to or recover your personal data files ~ Sorry

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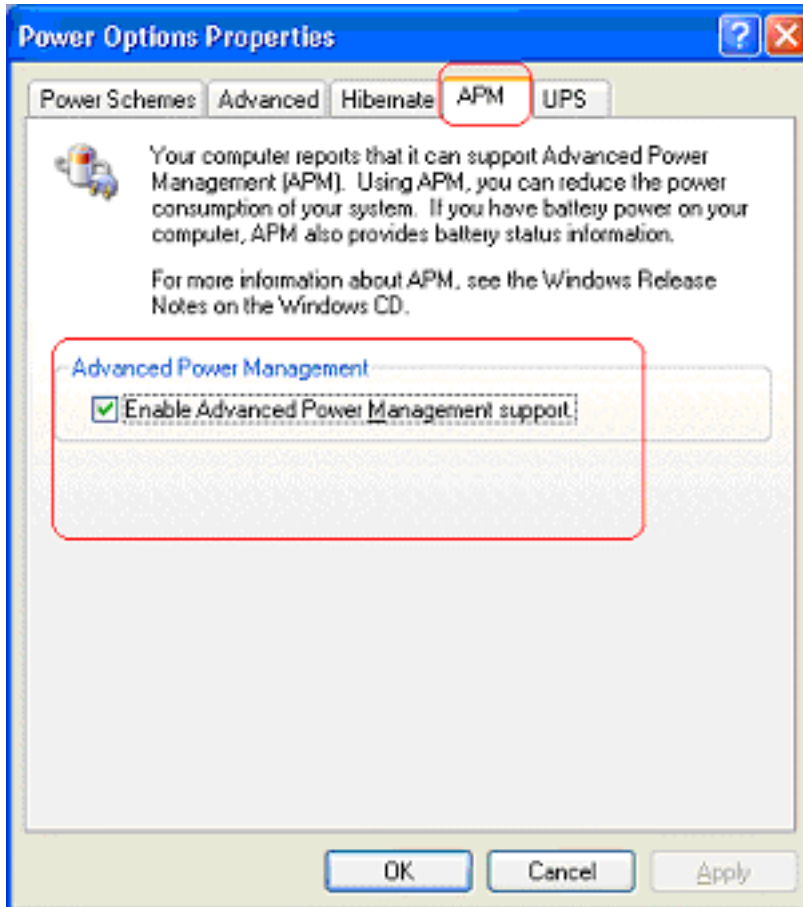
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## Power Management



As in Windows 2000, power management in XP is also based on the Advanced Configuration and Power Interface (ACPI) specification. By this time, Microsoft probably assumes you are running a machine new enough to support this functionality.



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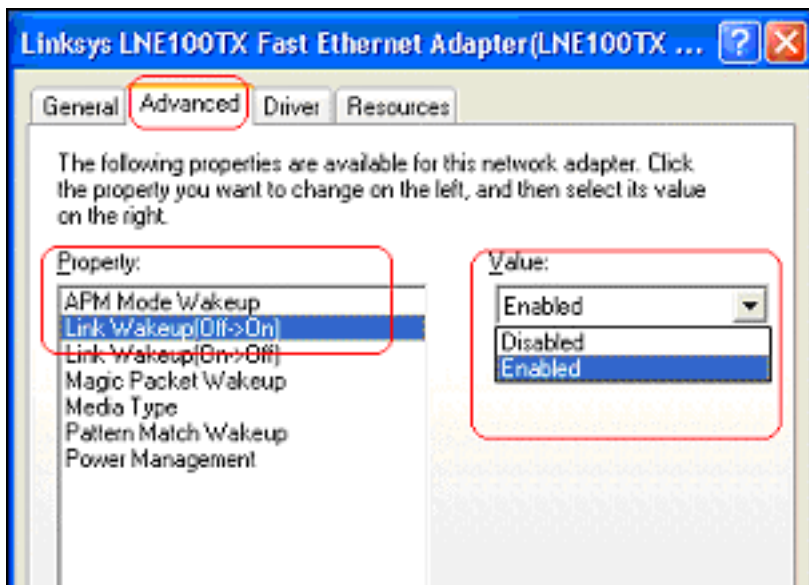
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## Control Panel Applet Power Management Utility APM Properties

XP is introducing many new features for Mobile equipment. (This makes sense as we move into the "mobile on the go" era even more) There are many new power management features especially for mobile computer users and these are actually very helpful:

- Processor power control:
  - Machine can run with lower CPU speeds while on battery power
  - Reduced CPU speeds save on battery power!
- CardBus Wake-on-LAN:
  - Windows XP *introduces* support for CardBus Wake-on-LAN, a technology
  - Machines in Standby mode can be "woken up" for system updates, software installations and then returned to Standby Mode
  - This function allows administrators to address networked notebook machines as needed without requiring the notebooks to be left on full power
  - Wake-on-LAN technology for desktop computers is also improved in Windows XP, allowing more refined control of wake-up events
  - Your NIC has to support it! You will know if it does or not by going to device manager and looking at the properties of the advanced tab:



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## Device manager NIC Properties with Wake on LAN technology

- Wake on Battery:
  - When a system in Standby is running on batteries and power drops to low, a wake event can be triggered that allows the system to enter Hibernation mode and preserve data
  - This will of course save the machines battery power and allow for better power usage – remember, that is an administrators biggest challenge with mobile hardware => how to keep it powered!
- Lid power and display dimming:
  - When the lid of a mobile computer is closed, the display is powered off, thus conserving battery power (this is normal)
  - When a mobile computer is running on battery power, the LCD monitor is dimmed – this is great!
  - Upon reconnection to AC power, the original brightness in the LCD resumes and you can have your original functionality

## **Driver Rollback**

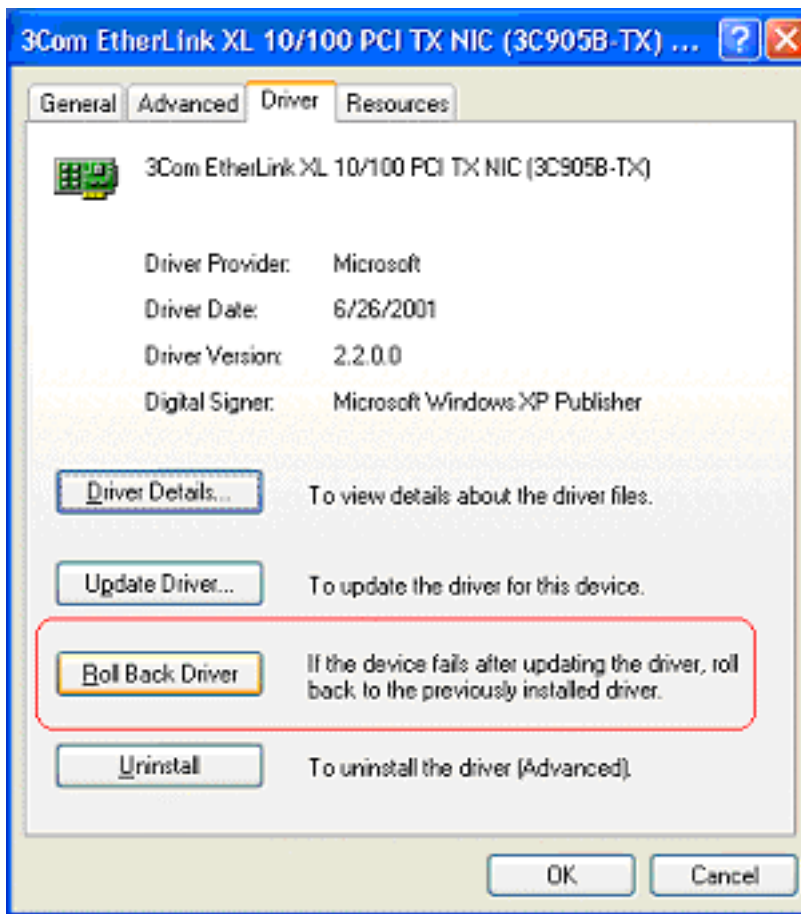
- This will resemble “the Last Known Good Configuration” option first available in NT and Windows 2000 Safe Mode and the System Restore
- You need to understand back from the days of Windows 95 and beyond what a hardware profile is. Many people do not understand profiles and how they work but it is must for 2000 and XP (especially with Group Policy) – this could essentially be thought of as a Hardware Profile
- Driver Update is highly functional and when you update a driver, a copy of the previous driver package is automatically saved in a subdirectory of the system files
- For every driver that you back up, a new value is added to the Backup keys located in the appropriate section of the registry

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## NIC Card Properties Sheet:



- If the new driver does not work properly, you can restore the previous driver by accessing the Driver tab for the device in the Device Manager, and clicking Roll Back Driver
- Driver Rollback permits only one level of rollback (only one prior driver version can be saved at a time); this feature is available for all device classes, *except printers*
- Driver rollback has a js script in the Run key of the registry and you can find it below the %systemroot% directory

### Rollback script

```
// Replace %systemroot%\system32\config\security with saved copy
// at next reboot
// Using inuse.exe but hide the command window

var wshShell = WScript.CreateObject("WScript.Shell");
var strSrc = wshShell.ExpandEnvironmentStrings("%systemroot%") + "\\repair\\security";
var strDest = wshShell.ExpandEnvironmentStrings("%systemroot%") +
"\\system32\\config\\security";

wshShell.run("inuse.exe " + strSrc + " " + strDest + " /y", 0);
```

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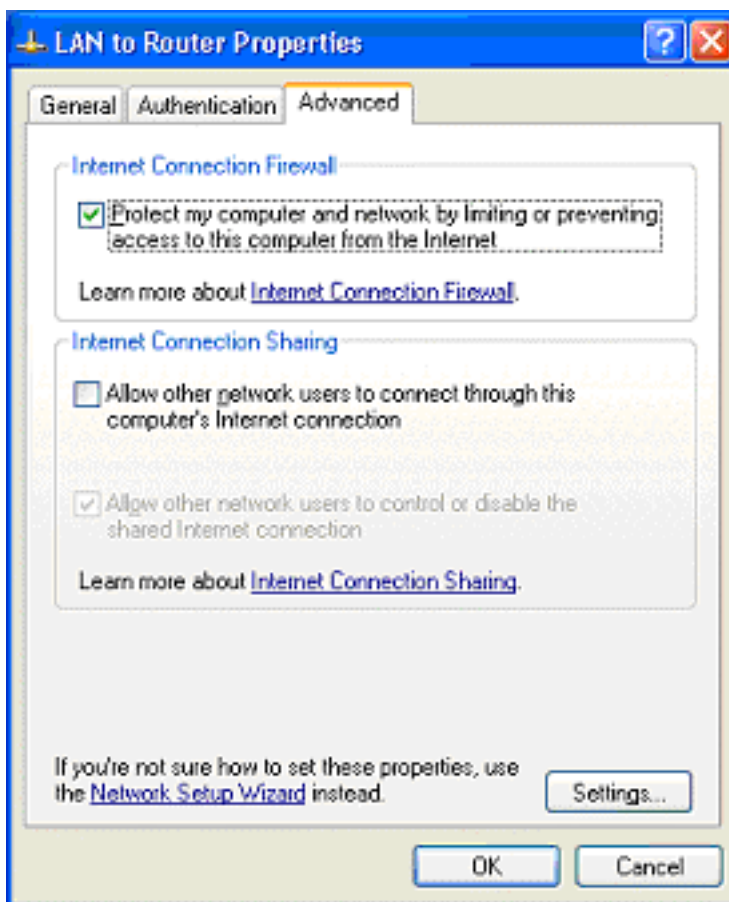
## Internet Connection Firewall



This is a very cool new feature, sure to piss off many personal firewall application dealers... (Zone Labs, Norton and Black Ice, etc.)

- Designed for home users and small businesses (sorry, you can not use this to protect your corporate network... go ISA 2000)
- Windows XP built-in feature called Internet Connection Firewall
- Used as a dynamic packet filter
- It protects your machine **directly** connected to the Internet
- Can be run in conjunction with Internet Connection Sharing
- This Firewall blocks unsolicited connections originating from the Internet

### NIC Card Properties Sheet:



- If you notice the settings button on the bottom of the Dialog box, then that's what you want to click on. It will produce the next dialog box:

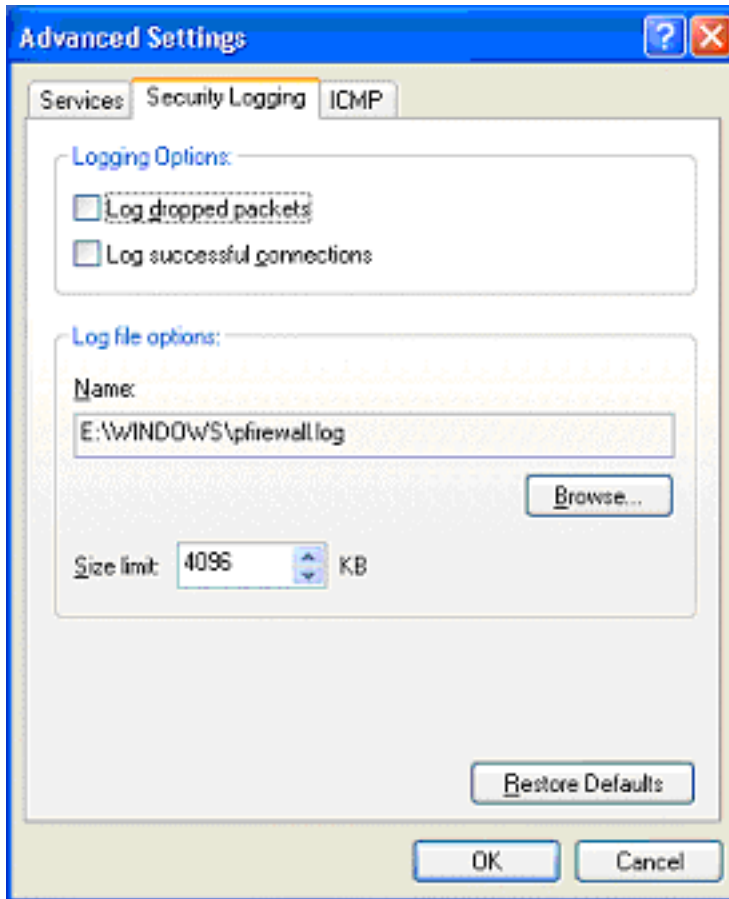
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- When running a firewall of NAY type you will want to ALWAYS turn on logging. You are not going to sit there and watch it are you? Please answer no...
- Logging will also provide hardcopy timestamped proof of your intrusions or alerts.

**NIC Card Properties Sheet (Advanced Settings):**



- Internet Connection Firewall is available for the following types of connections:
  - Local Area Network - LAN
  - Point-to-Point Over the Ethernet (PTPOE)
  - Virtual Private Network (VPN)
  - Dial-up connections

Note: Internet Connection Firewall also prevents the scanning of ports and resources like file sharing (Netbios) from external sources that I must say is about time Microsoft started worrying about security on an Internet connected PC... Since most of them are set up this way

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## Windows XP Professional and 64-Bit Support

- If you want a high performance workstation to be used for solving complex scientific problems, heavy math, developing high-performance design and engineering applications, or creating 3-D animations – then you want to go XP 64 bit. *This is the future of Operating systems right here.*
- The 64-bit edition is used with the Intel Itanium 64-bit (IA-64) processor
- The 64-bit version will support most 32-bit applications through the **WOW64** 32-bit subsystem
- Both versions (32 and 64) will run together on the network
- Based on the Win64 API
- Its architecture provides more efficient processing of extremely large amounts of data, supporting up to eight terabytes of virtual memory

## Last Notes on XP:

XP is cool. *I know, I know*, stop throwing things at your monitor... and cursing at me. Think of it this way: More O/S's = More destruction, bugs, problems, support, jobs, money, and did I mention more certification tests, books, CBT's and opportunity. This is the life of an IT guru, you're either in or you're out. Good luck to all that take this exam and use this software to evaluate and test with ~ you will find it...

*...Interesting*

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