

## Basics Lesson Eight – Keeping Windows Running Well

### Keep Windows Up-To-Date

- This is the single most important task recommended to maintain performance.
  - Windows stays current and secure using **Windows Update** (and Microsoft Update).
- Set Windows Update for Automatic Updates.
- Windows 10 now installs ALL offered Windows Updates, including drivers, automatically.
  - No longer must you chose the Optional offerings for installation.
  - Nor can you decline or any offered update.
  - Windows 10 Anniversary update did provide for a temporary "deferral" of updates, but not indefinitely.
  - Microsoft does offer a downloadable "tool" to hide a troublesome update until it is "fixed", should one (usually drivers) disrupt your system repeatedly.
- Prior to Windows 10, Automatic Updates installed most often at night by default.
  - I would leave my Windows XP, Vista, 7 or Windows 8 computer on at least one night a week for this purpose.
  - If your older computer is never left on at night, change the settings in Control Panel to occur during the day of your choice.
    - Or run it manually on a regular basis (weekly).
  - Automatic Updates only installs the critical (Important and Recommended) updates.
  - Be aware such automatic installation may restart the computer automatically.
    - So don't leave an unsaved document open in anticipation of Windows Update running and installing updates. **The documents will not get saved!**
- Windows Update when run manually appears different depending on version.
  - Prior to Windows 10, it offered a variety of updates, categorized differently with each version.
- Vista offered three types of updates, but labels them differently from XP
  - Important (same as High priority in XP)
    - Are always software-related for Windows
    - **Always install these.**
    - These updates patch the various weaknesses which malware users try to exploit.
  - Recommended
    - May include items for both Microsoft software and any hardware installed on the machine.
    - **It is also best to install these**, though they are not security-related, they may be fixing a device or program conflict or "bug".
  - Optional
    - Includes also Software and Hardware updates as "offered"
    - Be sure to read what these do.
      - Right-click on a listed update and choose "View Details" to learn about it.
      - Sometimes they offer new versions of programs, or unneeded programs.
    - They may not relate to your particular computer situation, thus be unnecessary
      - For example, one might be a fix of some Windows component only for people with Internet dialup service.
    - Be careful about installing optional device (driver) updates!
      - "If it isn't broke, don't try to fix it."
- Windows 8 offered Important and Recommended combined, and "Other" to include drivers.

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### Keep Windows Up-To-Date (cont'd)

- Windows XP offered similar updates, but by different labels:
  - High Priority (formerly Critical) Updates - **always**
  - Software, Optional Updates – Be Cautious – **“Read More”**
    - Be sure you would like the new version of a program, or the additional function offered, or are having the problem described.
    - Many optional software updates are not intended or required unless you are experiencing the problem.
  - Hardware, Optional (Device Drivers) – **never install from Windows Update** – Except:
    - When having a repeated problem and no manufacturer driver update is available
    - If you used the Windows supplied drivers originally (such as if you upgraded your Windows and used the drivers supplied by the Windows disc)
    - If the device driver is confirmed as having been supplied by your manufacturer
  - Read a description by clicking the plus sign (+) preceding the update.

### Process for performing a Windows Update

- Windows 8 and 10 can be accessed as below, or via the Settings icon.
  - Windows 10 has Settings on the Start menu, and the Update and Recovery from the Settings window.
  - Windows 8.1 has Settings on the Charms menu, accessed from the upper or lower right corner of the desktop.
  - Or hold down the Windows logo key (keyboard) and then hit the "i" key, to bring up a Settings window.
- Download the Windows Update “Active x” program if needed (It will tell you if you need it). Say “Yes” to any Security Warning.
- Check for Updates (Scan for Updates).
- If separated as below:
  - Choose Express if only critical updates desired.
  - Choose Custom if you want also to see the Optional Updates and Device Driver updates
- On Vista and 7, when on Windows Update, choose “View Available Updates”
  - Recommended updates are listed
  - All other (optional) updates are listed together
- Review Updates, pick Category to review (Windows XP)
  - “High Priority”, “Software, Optional”, or “Hardware, Optional”
  - Again, on Vista and 7, they “Important” or “Optional”.
- Add, or Remove selections (before Windows 10) by placing or removing checks
  - High Priority or Important updates will always be “Checked”.
    - If not checked, it usually means the currently checked updates must be accomplished before the others are available.
    - Don't check High Priority or Important updates which have not been checked automatically.
  - All Optional or Other updates must be chosen if desired.
- Click on “Review and/or Install Updates”
  - This is your last chance to change your selections.
- Click Install.
  - Accept (the agreement) if asked.
- It downloads and installs automatically and may then require a restart.

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### Other Recommended Updates

- Keep Other Programs Up-To-Date
  - Check the manufacturer’s web site for patches or updates.
  - Patches (updates) are what is important to install, not necessarily new versions (“upgrades”).
    - Patches are usually free.
    - Patches generally are correcting either a “bug” (flaw) in the program, or they are providing security patches to close weaknesses (vulnerabilities) which could be exploited.
  - Upgrades (new versions) often must be purchased...frequently at a reduced rate.
    - New versions are not always better.
      - New versions may introduce unwanted changes (change the way the program or device looked or worked, but less favorably.
      - New Versions may do away with features you liked.
      - New Versions may introduce new “bugs”, glitches.
- Microsoft Office is also often exploited by malware writers. For Office programs, versions 2003 and after, there is also an automatic update page or function.
  - Microsoft Update (XP) and Windows Update (Vista through 10) check for any updates required for all Microsoft products including Office.
  - Office 2007 programs and subsequent versions automatically look for updates. And Office 2007 can be configured to update automatically. They do not use the Office Update site.
    - For Windows XP users, you can upgrade to “Microsoft Update” in place of Windows Update at the Windows XP Update site.
  - Alternatively, go to microsoft.com and then look at the top of the page for “Security and Updates”. Hover and choose “Office Update”.
    - Now look for Office Update in the left-hand column.
    - To perform the update this way, it may require the original installation CD.
      - Windows/Microsoft Update once it has confirmed a “Genuine” licensed version of Office does not require the CD any longer.

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### Other Computer Maintenance

- Error checking (otherwise labeled “Scandisk” or “chkdsk” in various instructions)
  - Checks for file “directory” errors. Windows sometimes loses track of a file location. During standard Error checking, Windows corrects these errors.
    - Always set it to “Automatically fix errors”.
  - Older Windows versions had to use Scandisk before attempting to defragment.
    - Since Windows XP, that is no longer necessary.
  - The “Scan for and attempt to recover bad sectors” (formerly labeled “Thorough”) option is for checking if hard drive, or a section of it, is malfunctioning (cannot properly store information).
    - If no problems are being experienced (slow performance, frequent “crashes” of Windows or installed programs), you do not need to use this option.
    - Check for bad sectors takes hours on larger hard drives. Do it when the computer is not going to be needed for several hours (overnight for example).
    - If frequent problems or malfunctions are occurring, it is advisable to run Error checking with the “Scan for and attempt to recover bad sectors” checked.
    - Should chkdsk find "bad" hard drive sectors, it will attempt to move data to "good" sectors. If too many bad sectors are found, it is an indication of impending hard drive failure; so replacing the hard drive should be considered.
- Defragmenter
  - Defragmenting eliminates the spaces (gaps) created by the normal use of programs.
    - Program load files constantly, then on closing deletes them. This creates gaps on the hard drive, making access to necessary files a little more difficult (flashlight concept).
    - Saving files manually, then deleting them also creates gaps.
  - Defragmenter also can take hours if not done frequently.
  - Windows 7 through current versions defragment automatically.
- Disk Cleanup
  - Removes temporary files (obtained from the Internet, created by programs running, or during program (or update) installs).
    - In a perfect world, each of these programs would remove files it placed there, but in fact it doesn't.
      - Word is an example. Word always creates a temporary file of the one opened (displayed with a ~ in front of the title. It customarily deletes the temporary file when the document is closed. But if Word “crashes” (stops responding and must be closed), that temporary file does not get deleted.
  - Don't confuse Windows XP **Desktop Cleanup**, in which Windows tries to clean up the desktop by removing icons not used in the last 60 days, with Disk Cleanup.
    - My advice, clean up Temporary Internet Files, and temp files, not the desktop icons (Desktop Cleanup). I know I have icons on the desktop not used frequently, but I still want them there...in case.
    - Windows XP only: Stop the automated asking by Desktop Cleanup by going to Display Properties, choosing the Desktop tab, then Customize Desktop, and remove check from “Run Desktop Cleanup wizard...”

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### Avoiding Malware interruption of Computer Function

- Malware refers to anything with harmful intentions.
  - Viruses, Trojans and Worms are meant to cause harm by either causing aggravation, loss of data, corruption of Windows, or stealing personal information.
  - Adware encourages pop-ups, changes Internet home pages.
    - Such activity slows Internet connection by competing for “bandwidth”
      - Sudden occurrence of frequent pop-ups is a suggestion of adware infection.
    - The connection slows because desired sites must wait while unwanted sites or pop-ups are being loaded.
  - Spyware is generally harmless, but again shares Internet connectivity.
    - Generally, it only alerts sites as to other sites you visit.
    - But again can use up connection speeds by invoking pop-ups and additional web sites
- Malware can slow the computer performance dramatically.
- Malware can even cripple or corrupt Windows itself
- Avoid these hazards by:
  - Running Windows Update regularly (or having Automatic Updates turned on).
    - Check Manually occasionally even with Automatic Updates on.
  - Always install any security patches offered for existing programs.
    - Particular Adobe Flash, Adobe Reader, Microsoft Office, QuickTime, Windows Media Player
  - Install an Antivirus program.
    - And patch it regularly if asked.
    - Virus definitions are kept up to date automatically.
      - Unless you have dialup connectivity and do not stay connected very long at a time
  - Install Antispyware
  - Check that frequent updates are succeeding
  - Consider a software Firewall or Internet Security Suite
    - Software firewalls are fine, but do require sometimes difficult configuration if multiple computers or devices are networked.
  - Purchase a router to act as a Hardware firewall if always connected (DSL or Cable)
  - REMEMBER that None of these programs are helpful unless their “Definitions” are kept up-to-date.
  - If the computer has been disconnected from the Internet for more than a day, do manual updates of antivirus/spyware software before surfing or checking e-mail.
  - Don’t click on any Internet Explorer pop-up which warns “you have been or are infected”, and offers a free scan. These are most likely scams at best and attacks at worst.
- **A new form of malware referred to as Ransomware:**
  - The less vicious Ransomware merely locks up your computer (or just browser) and wants you to pay to "unlock" it. This may require running malware scans before Windows loads.
  - More disastrous is ransomware which encrypts your files making them irretrievable.

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### If You Get Infected with Malware

- Update your antivirus and antispyware software (current definitions) and do a **full system scan**, and remove or quarantine anything it finds.
  - You may need to run the scan in Safe Mode (see Step-by-step instructions for entering Safe Mode) to facilitate removal.
    - Remember any file in use cannot be removed or quarantined.
    - Thus Safe Mode starts Windows without loading many of these malware files.
    - Windows 8 and 10 have changed the manner you reach Safe Mode.
      - Go to Settings (Windows 10 Start menu or Windows 8 Charms menu) and choose Update and Security.
      - In the left column, choose Recovery, and then Advanced Startup. You will need to click Restart.
      - Now you will be presented with a numbered list, which includes Safe Mode and Safe Mode with Networking (my preference if it works).
    - If using Windows versions prior to Windows 8 or 10, get to Safe Mode using the “Advanced Boot menu”
      - During the very initial startup of the computer (Manufacturer’s screen), begin hitting repeatedly the F8 key until the Advanced Boot menu appears. If the Windows startup appears, you waited too long before using the F8 key!
      - Once into the Advanced Boot menu, use the arrow keys on the keyboard to move up or down and choose “Safe Mode”. Then hit the ENTER key. The mouse does not work at this menu.
    - For an explanation of starting in Safe Mode, go to:
      - Windows XP-7: <https://support.microsoft.com/en-us/help/17419/windows-7-advanced-startup-options-safe-mode>
- If still not resolved, download and install a second (or third) antispyware program to scan with.
  - Few malware scanning software programs find everything.
  - But different programs find (and remove successfully) different files.
  - One good program currently for scanning and removal of malware is **Malwarebytes Antimalware free from malwarebytes.org**
  - There are also others. Google or check PC magazine websites.
- If you cannot close malware windows, try using Task Manager and “Ending Task” on the locked program window.
  - To initiate Task Manager, hold down the CTRL key and the SHIFT key simultaneously, and while doing so hit the ESC key.
    - Alternatively, you can hold down the CTRL key and the ALT key simultaneously. While holding down CTRL-ALT, hit the DELETE key, and let them all go at once. For Vista you will then have to click on Task Manager.
    - Or right-click on a blank area of the Taskbar and choose Task Manager.
  - Now right-click on the offending program (such as Internet Explorer, or Microsoft Edge) and choose End Task.

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### Using Windows System Restore

- May reverse undesirable changes created by new program installations, or Windows Updates which are not reversed by Uninstalling the program or uninstalling the update by using Programs and Features (Add/Remove Programs in Windows XP).
  - Always try uninstall the program or update before performing System Restore.
  - To uninstall programs, go to Programs and Features in the Control Panel (or uninstall a program if in the Category view. Now right-click on the program and choose Uninstall.
    - To uninstall a Windows Update, look for the view updates in the left-hand column. Once displayed, find the update and right-click on it and choose uninstall.
  - If System Restore fails to complete, consider the Antivirus/Firewall software may have prevented it.
    - Antiviral software often has "Protection" turned on in the program's settings, to prevent malware from disabling your antivirus.
    - You may need to disable the antivirus program protection usually found under advanced options or miscellaneous settings.
  - System Restore can be usually be undone if unsuccessful in resolving the issue.
    - However, to avoid trouble, you can create a new restore point **BEFORE** restoring. This way, even if system restore cannot be undone, you can "restore" to the later point (essentially undoing the previous restore).
  - Old versions find System Restore under Start/All Programs/Accessories/System Tools
  - Windows 8 and 10 have System Restore as one of their Recovery Options in the Advanced option. However, the below path works for all versions:
    - Open Control Panel and choose System.
    - In the left column, choose Advanced System Settings, and then the System Protection tab.
    - Look for System Restore button.
    - Or just open the Start menu and type **Restore**, and choose "Create a restore point". When it opens use the System Restore button.

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### Physical cleaning of computer

- Case
  - Use a damp cloth and water, or very mild detergent, but do not use any solvents
  - Windex or Fantastic is acceptable.
- Monitor
  - Use an Anti-static, link-free cloth dampened with water.
  - If you use a cleaner:
    - For LCDs use a cleaner labeled as safe for LCD screens.
    - For CRTs (television-like), Windex or Fantastic is usually safe.
      - But always try any cleanser in a non-conspicuous area first.
      - **Glass cleaners are definitely not for LCD monitors or laptop screens.**
    - **Spray the screen cleaner onto a clean cloth and wipe, never the screen.**
- Keyboard
  - Always Shut Down first, as manipulating the keyboard while the computer is active may initiate unwanted actions.
  - Use a moist cloth to wipe the keys.
  - Gentle vacuuming (using a small or not very powerful vacuum) is helpful to remove any food crumbs or dust.
  - If liquids spill onto the keyboard:
    - Shut down (the computer) immediately by normal mouse actions (Start/Shutdown).
      - Don't use the keyboard to do so. It may create shorts.
    - Dry the keyboard off with a towel (or paper towels).
    - Drain the keyboard by laying it key side down (on its face), and let it dry completely. Don't use compressed air. It may force liquids into places it has not already gone. Mild air flow to encourage drying is acceptable.
- Mouse
  - Always Shut Down first, as manipulating the mouse while the computer is active may also initiate unwanted actions.
  - Optical mice need only surface cleaning once in awhile, then with a damp cloth.
  - For mechanical mice or trackballs, more extensive cleaning may become necessary.
    - Remove the ball by unscrewing the ring which surrounds it, (or simply popping the ball from its place from underneath). You may need to use a pen point to unscrew any ring by twisting counter-clockwise.
    - Wash the ball with a gentle detergent. Then dry it completely.
    - Gently blow out any dust within the mouse ball bed itself; there are usually points of contact which accumulate dust and dirt. Be careful if it is felt on the touch points (but don't confuse packed dust with felt).
    - Once clean and dry, reassemble the unit by replacing the ball (and ring if present), and locking the ring in a clockwise direction.
- A laptop need only to blow out the fan's air vents every year or so with compressed air.
- Internal cleaning (desktop only) is only rarely needed (every one to three years, depending on the surrounding dirt level; such as sitting on a carpet introduces more carpet fibers and dust collection). Open the desktop case;
  - But avoid any static electricity by first grounding yourself against something metal.
  - With compressed air, vacuum or brush, GENTLY brush away major dust from any fans.