

Clean Up Your Hardware/Software

Ross Guistino

July 9, 2012

Windsor Senior Computer Users' Group

Inside Your Computer

- ▶ Even the cleanest household will have dust bunnies inside their computer cases; laptops can also accumulate debris
 - ▶ Besides dust, you may find pet hair, mice droppings and even a crispy Potato Bug!
 - ▶ Schedule a once-a-year date to clean your computer, more often if you live near a farm, highway, construction site or have pets
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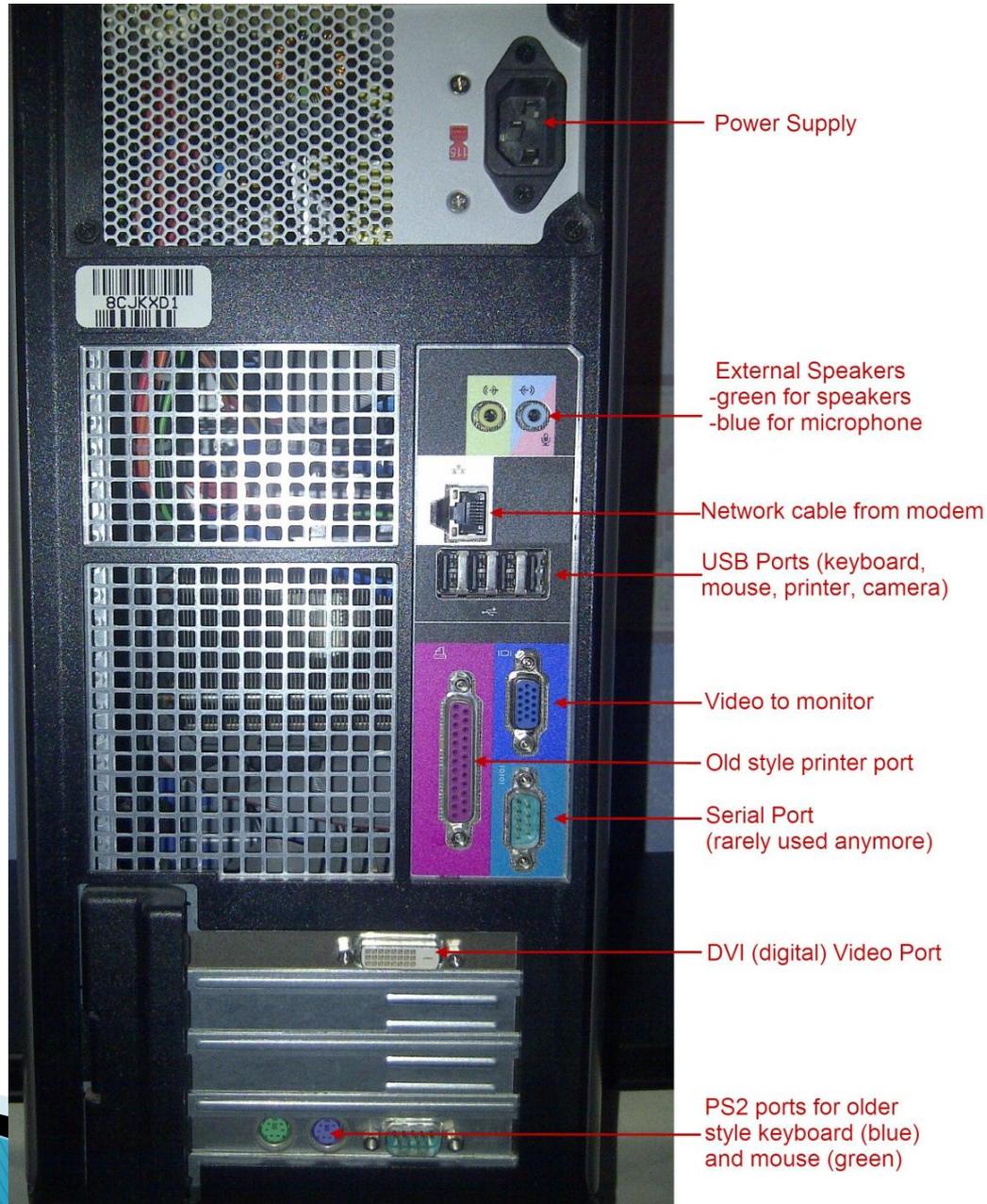
This is NOT what you want to see
inside your computer case



Outside Your Computer

- ▶ Don't be alarmed by the number of wires, ports and dongles sticking out the back of your computer
 - ▶ Everything has a home and will only fit where it's supposed to
 - ▶ If you think that you may not be able to figure out where to plug things back in after unplugging them, take a photograph, sketch a drawing or look here:
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The Back of Computer Case



Steps to take for cleaning inside your case

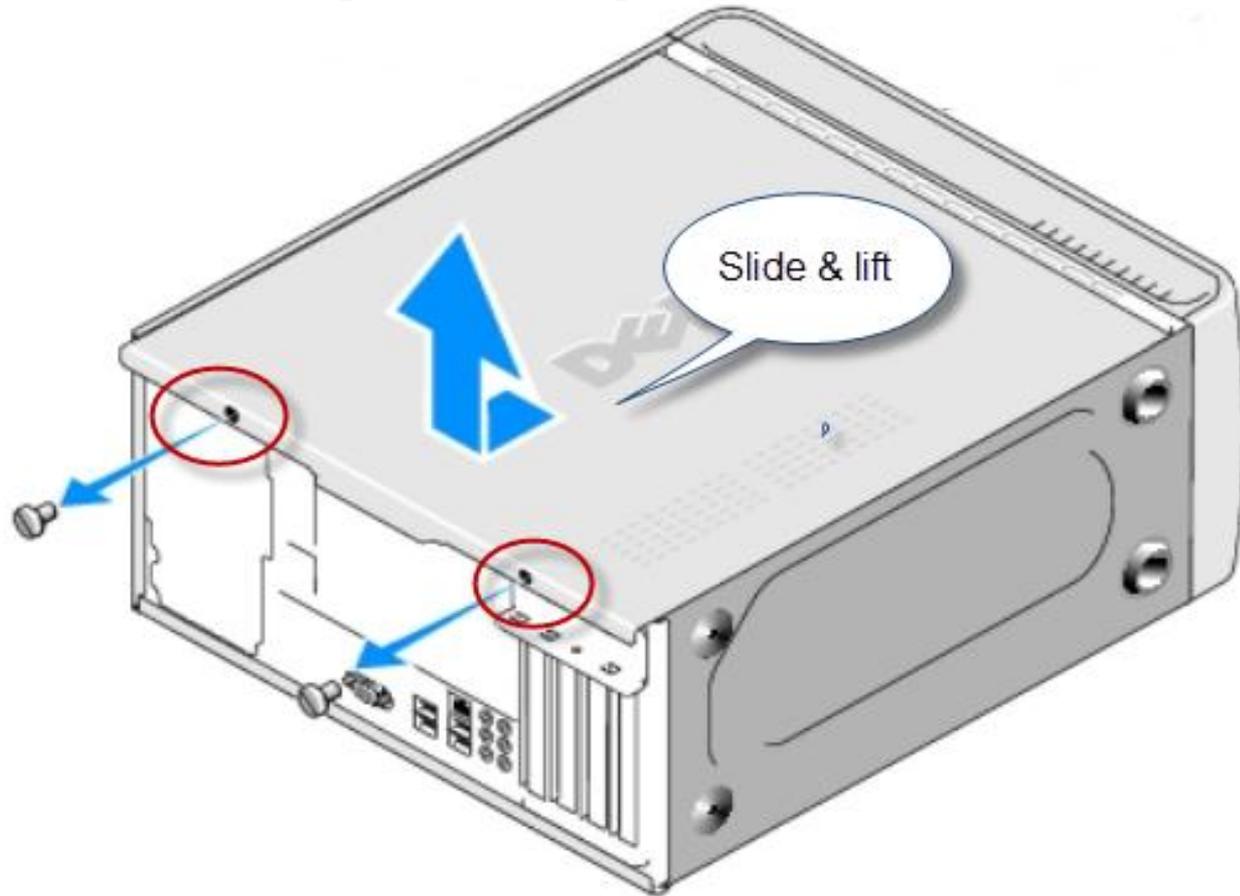
- ▶ Purchase a can of Dust-Off or any air-in-a-can product
 - ▶ Do not use a vacuum cleaner; you could damage the electronics with the hose and they also build up static electricity
 - ▶ Remove all attached peripherals from PC
 - ▶ Slide the cover off
 - ▶ Bring the case outside or to the garage; there may be a lot of dust flying around
 - ▶ Blow into all fan areas including CPU, power supply and other case fans
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Steps to take, continued

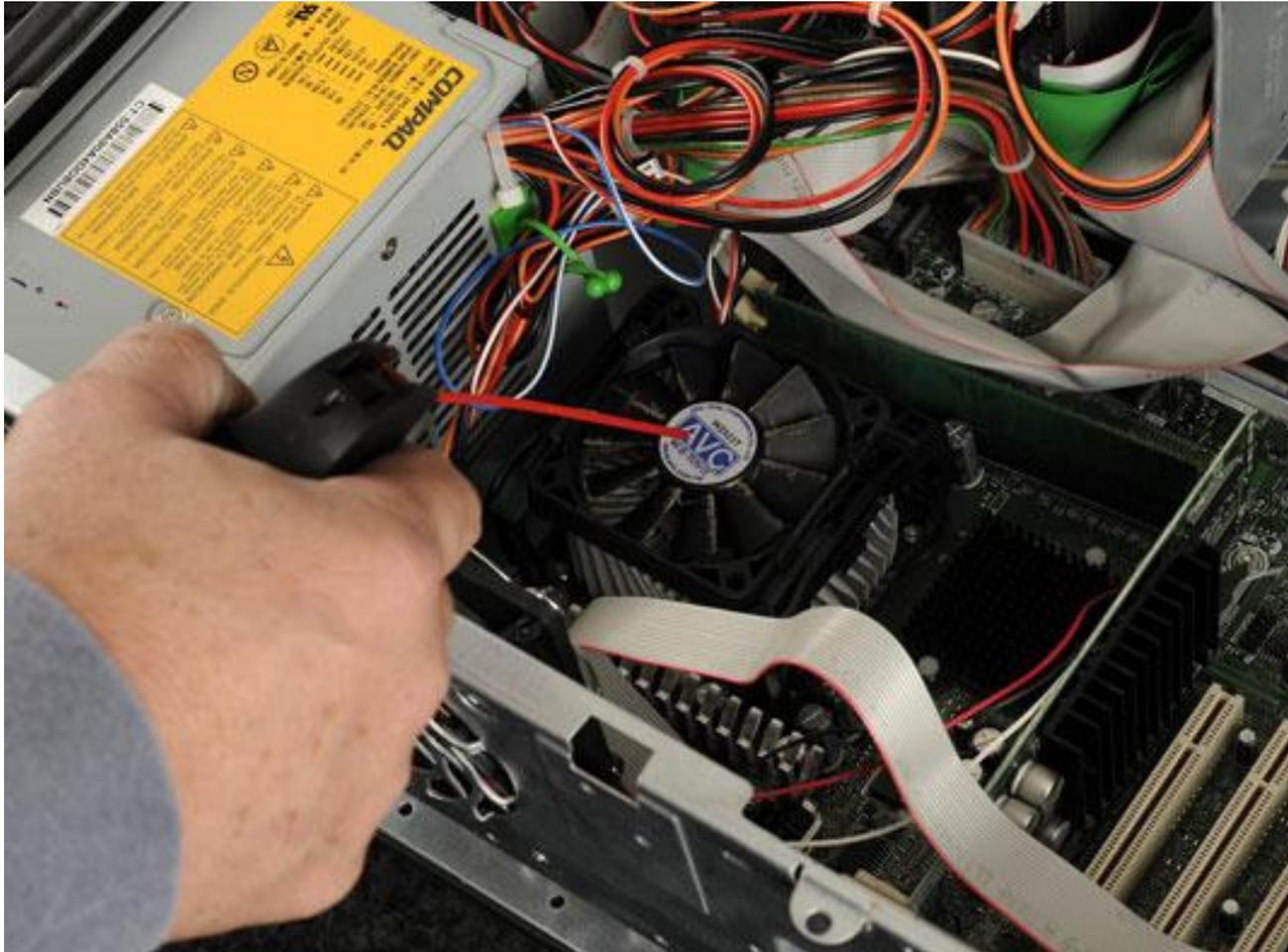
- ▶ Use the can-o-air from the inside to the outside
 - ▶ Blow in between the hard drive cases and other wiring
 - ▶ Use the air on the front bezel to blow dust in between the cracks
 - ▶ Try not to shake the can too much otherwise it will become too cold to handle
 - ▶ You may want to purchase two cans and alternate in between dusting
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Removing a Side Panel

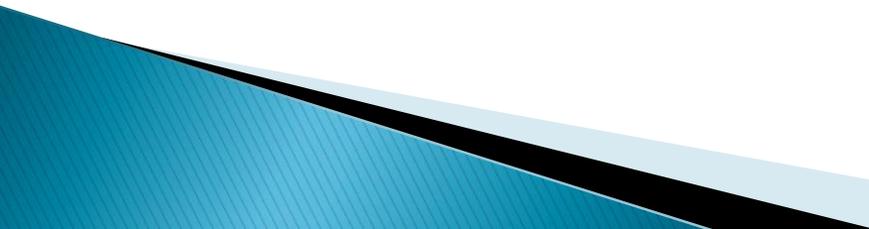
Your computer may be different
but the principal is the same



A Can-O-Air Is Invaluable



Cleaning Outside the Case

- ▶ Use a Can-o-Air on your keyboard. Turn it sideways and blow in between all keys
 - ▶ Wipe down the computer case with a clean dry cloth or spray a small amount of Windex on the cloth and wipe, NEVER spray directly on the case
 - ▶ You can use the same technique on your mouse
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Cleaning Outside the Case

- ▶ If you have one of the older style CRT monitors, you can use Windex to clean the screen but never spray it directly onto the surface
 - ▶ If you have a flat screen monitor, do not use any cleaning solvents on it. Instead use a dry soft cloth and gently wipe the screen. A microfiber cloth such as the one used to clean eyeglasses works well.
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Cleaning Outside the Case

- ▶ When wiping the screen, do not press hard which may cause the pixels to burn out
- ▶ You may also use a cloth dampened with distilled water or an equal amount of distilled water and white vinegar.

Cleaning Outside the Case

- ▶ Do not use the following on your screen:
 - Paper towels
 - Tissue
 - T-shirt
 - Ammonia based cleaners
 - And remember never to spray anything directly onto any electronic item

Software

- ▶ All new computers come with bloatware, i.e. software that is of no use to you and costs \$\$ to activate in most instances
 - ▶ Most people don't know that they can uninstall this software without consequence to Windows
 - ▶ Removing unnecessary items frees up hard drive space
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Software – Removing it

- ▶ The best place to start is the Control Panel
 - Windows 7: Start > Control Panel > Program and Features
 - Windows XP: Start > Control Panel > Add or Remove Programs
- ▶ Dell, HP, Gateway, etc. install software that they think you might like but are not free—uninstall them!

Examples of Bloatware

- ▶ Multiple internet browsers such as Netscape, AOL, Safari. You only need one or two browsers, not every browser known to man.
 - ▶ Games: Some manufacturers think that all you do is play games—games that they expect you to pay for. Delete them via the Control Panel
 - ▶ Trialware: Typically this is a full version of software that allows you to run it for 30–90 days, then it locks itself until you buy it.
- 

Examples of Bloatware

- ▶ Anti-virus software: Some computers come with 30 day trial versions of Norton, McAfee or some other A/V software. Don't forget, if you are with Comcast, you get Norton for free. AT&T gives you McAfee.
- ▶ A word about A/V Software: If your computer has 1 GB of memory or less, and is more than three years old, do not use Norton or McAfee. Use Microsoft Security Essentials or any free A/V program.

Clean up your files

- ▶ Regain space on your hard drive by deleting unused files:
 - Delete files from your download or temp folder
 - Remove .zip and .exe files. After you install a program, you can delete the executable file.
- ▶ Use CCleaner to delete temporary internet files, cookies, history.
- ▶ Uninstall programs you no longer use or have never used

Clean up files, continued

- ▶ Do you see a number of programs in your Add/Remove programs list but don't know what they are or do? Google the Program name to see if it is something you need.
- ▶ Run Disk Cleanup tool in Windows:
 - Click Start > All Programs > Accessories > System Tools > Disk Cleanup > Choose "C" Drive
 - Check the boxes next to the items you want to delete > click OK



Disk Cleanup for OS (C:)



Disk Cleanup



You can use Disk Cleanup to free up to 18.4 MB of disk space on OS (C:).

Files to delete:

<input checked="" type="checkbox"/>		Downloaded Program Files	592 KB	▲
<input checked="" type="checkbox"/>		Temporary Internet Files	108 KB	☰
<input type="checkbox"/>		Offline webpages	253 KB	▼
<input type="checkbox"/>		Game Statistics Files	10.2 KB	
<input type="checkbox"/>		Recycle Bin	3.83 MB	

Total amount of disk space you gain:

9.68 MB

Description

Downloaded Program Files are ActiveX controls and Java applets downloaded automatically from the Internet when you view certain pages. They are temporarily stored in the Downloaded Program Files folder on your hard disk.



Clean up system files

View Files

[How does Disk Cleanup work?](#)

OK

Cancel

A Word on Defragging

- ▶ As your computer ages and you add more and more data to the hard drive, or add and remove programs, the hard drive becomes fragmented. I.E. all the bits and pieces stored on the disk get all jumbled up. Putting them back in order may help speed up your computer.
- ▶ Download and install the free Defraggler utility. This does a better job than the built-in Windows defragging utility

Defragging, continued

- ▶ <http://www.piriform.com/defragger>
- ▶ When installing, be sure to uncheck the box where it asks to install Google Chrome
- ▶ The first time you run Defragger, you should do a full Defrag. Thereafter you can do a Quick Defrag
- ▶ How often? There is no right answer. If you use your computer heavily, then run a Defrag weekly. Otherwise, monthly or even quarterly should be fine

This is a healthy and fully unfragmented drive

The screenshot shows the Piriform Defraggler application window. At the top, there is a menu bar with 'Action', 'Settings', and 'Help'. Below the menu is a table listing drives and their properties:

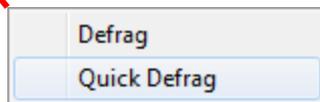
Drive	File System	Capacity	Used	Free Space	Fragmentation	Status
Removable Disk (A:)	Unknown	0.0 GB	0.0 GB (0%)	0.0 GB (0%)	Unknown	Ready
OS (C:)	NTFS	160.4 GB	106.4 GB (66%)	54.0 GB (34%)	Unknown	Ready
Data (D:)	NTFS	931.5 GB	114.7 GB (12%)	816.8 GB (88%)	0%	Analysis Complete
RECOVERY (E:)	NTFS	10.0 GB	3.7 GB (37%)	6.3 GB (63%)	Unknown	Ready
FreeAgent GoFlex Driv...	NTFS	1,397.3 GB	133.4 GB (10%)	1,263.9 GB (90%)	Unknown	Ready

Below the table is a large grid visualization of the drive's fragmentation. Underneath that, there are buttons for 'File list', 'Search', 'Drive map', and 'Health'. The 'Drive D:' section is active, showing 'Status' and 'Properties'.

Status: Analysis Complete
Analysis results:
0 Fragmented Files (0.0 B)
0 Total Fragments

Properties:
Used space: 123,172,810,752 bytes 114.7 GB
Free space: 877,029,232,640 bytes 816.8 GB
Capacity: 1,000,202,043,392 bytes 931.5 GB

At the bottom, there are buttons for 'Analyze', 'Defrag', 'Pause', and 'Stop'. The 'Defrag' button has a small downward arrow circled in red. A red arrow points from this circle to a dropdown menu that is open, showing 'Defrag' and 'Quick Defrag' options.



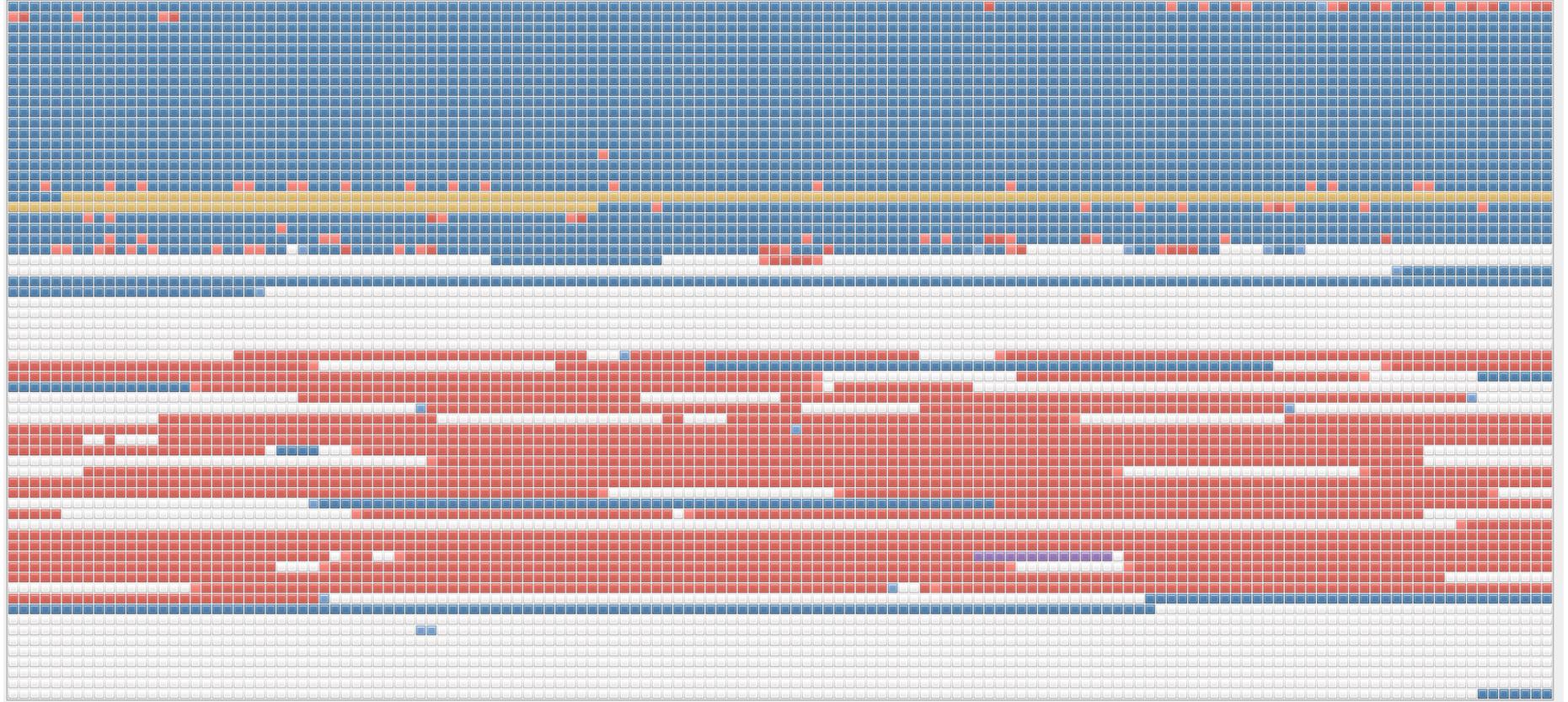
Click the arrow (circled in red) to get the Quick Defrag option

Piriform Defragger

Action Settings Help

Drive	File System	Capacity	Used	Free Space	Fragmentation	Status
Removable Disk (A:)	Unknown	0.0 GB	0.0 GB (0%)	0.0 GB (0%)	Unknown	Ready
OS (C:)	NTFS	160.4 GB	106.4 GB (66%)	54.0 GB (34%)	39%	Analysis Complete
Data (D:)	NTFS	931.5 GB	114.7 GB (12%)	816.8 GB (88%)	0%	Quick Defrag Finished
RECOVERY (E:)	NTFS	10.0 GB	3.7 GB (37%)	6.3 GB (63%)	Unknown	Ready
FreeAgent GoFlex Driv...	NTFS	1,397.3 GB	133.4 GB (10%)	1,263.9 GB (90%)	Unknown	Ready

This is a very fragmented drive that requires a full Defrag



Drive C: File list Search Drive map Health

Status Properties

Analysis Complete

Analysis results:
286 Fragmented Files (42.0 GB)
1,064 Total Fragments

Analyze Defrag Pause Stop

Check for updates... Online Help

For a full defrag, click here



NOTE!

- ▶ If you have a Solid State hard drive, never defrag it.
- ▶ Do not defrag thumb drives or anything with “flash” memory
- ▶ If you don't know if you have an SSD, then download and install the free Speccy utility
- ▶ <http://www.piriform.com/speccy>
- ▶ Run it and if it mentions Heads and Cylinders then you have a conventional hard drive, not solid state which has no mechanical parts

Piriform Speccy

File View Help

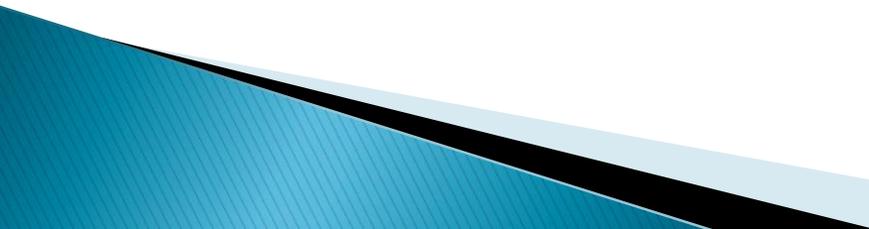
- Summary
- Operating System
- CPU
- RAM
- Motherboard
- Graphics
- Hard Drives
- Optical Drives
- Audio
- Peripherals
- Network

Hard Drives

- ST3320620AS ATA Device
 - Manufacturer Seagate
 - Form Factor 3.5"
 - Cache Size 16MB
 - Interface
 - Heads 16
 - Cylinders 16383
 - SATA type SATA-II 3.0Gb/s
 - Device type Fixed
 - ATA Standard ATA/ATAPI-7
 - LBA Size 48-bit LBA
 - Power On Count 2747 times
 - Power On Time 1007.5 days
 - Features S.M.A.R.T., AAM, NCQ
 - Transfer Mode SATA II
 - Interface SATA
 - Capacity 313GB
 - Real size 320,072,933,376 bytes
 - RAID Type None
 - S.M.A.R.T
 - 01 Read Error Rate
 - 03 Spin-Up Time
 - 04 Start/Stop Count
 - 05 Reallocated Sectors Count
 - 07 Seek Error Rate
 - 09 Power-On Hours (POH)
 - 0A Spin Retry Count
 - 0C Device Power Cycle Count

v1.16.317 [Check for updates...](#)

Organizing Files

- ▶ My Documents (WinXP) and Libraries (Win7) = Your key to organizing files
 - ▶ Store all documents including pictures, music and videos in one location to aid in backing up
 - ▶ Windows XP has My Document with subfolders for Documents, Pictures, Music and Video
 - ▶ Window 7 has Libraries with the same folders
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Organizing, continued

- ▶ Create a “Downloads” folder for files and programs downloaded from the internet
 - One location that can easily be cleaned out periodically
- ▶ Avoid creating folders on the “C” drive, get in the habit of only using Libraries or My Docs

The Desktop

- ▶ The desktop is not designed to store files– it is intended for shortcuts and gadgets only. Store files in Libraries or My Docs. Create shortcuts on the desktop to frequently used files.
 - ▶ Contrary to popular belief, storing documents on the desktop does not slow down your PC, however, the desktop can become corrupted more easily and you are at greater risk of losing your files.
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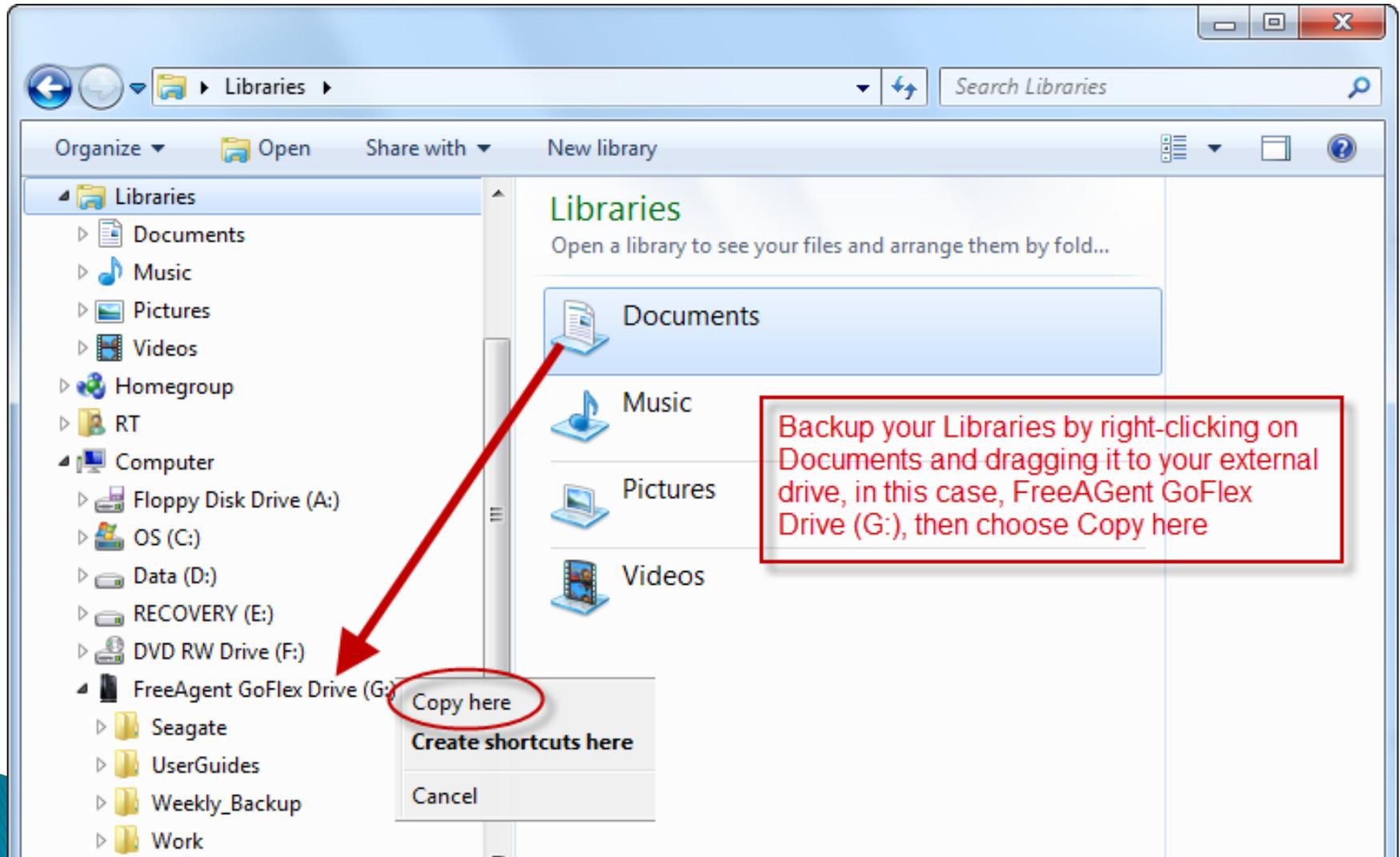
Desktop, continued

- ▶ Keeping your personal data files in libraries keeps things organized in such a way that they are separated from system and program files.
 - ▶ Having all files in one location makes it easy when doing a backup.
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A word about backup

- ▶ How many of you have a backup of your documents, music, and pictures?
 - ▶ Backing up can be as simple as copying data to a thumb drive or as complicated as creating an “image” of your hard drive
 - ▶ I prefer the simple yet effective technique of making a copy of all my data. I use Cobian for this procedure
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Manually backing up your data



Questions?

For a copy of this presentation in PowerPoint version 2010, go to:
<http://guistino.com/Training/Clean Up Your Hardware.ppsx>

For a copy of this presentation in PowerPoint version 2003 and older, go to:
<http://guistino.com/Training/Clean Up Your Hardware.ppt>

For a copy of this presentation in Adobe Reader (.pdf) format, go to:
<http://guistino.com/Training/Clean Up Your Hardware.pdf>