

# Maintaining Your Home and Business PCs and How to Improve Performance

Aligning information technology with business strategy.

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- Home versus business considerations
- The evolution of computer issues
- Some computer hardware and software basics
- Factors that affect your computer's performance
- Security basics
- Social networking and privacy
- Online safety tips
- Tools for home and business

- Tilted toward home users – free and inexpensive software, must be manually installed and configured on each PC
- Recommendations for businesses – a fair price, automated installation and configuration, able to be monitored and managed from a central location



- 1995 – Windows 95 and the Internet
- 2000 – Google and some good content
- 2005 – Lots of useful content, lots of pitfalls
- 2010 – Internet everywhere and social interaction

- What is a hardware issue?
- What is a software issue?
- What is a hard drive?
- What is RAM?
- What is the CPU?



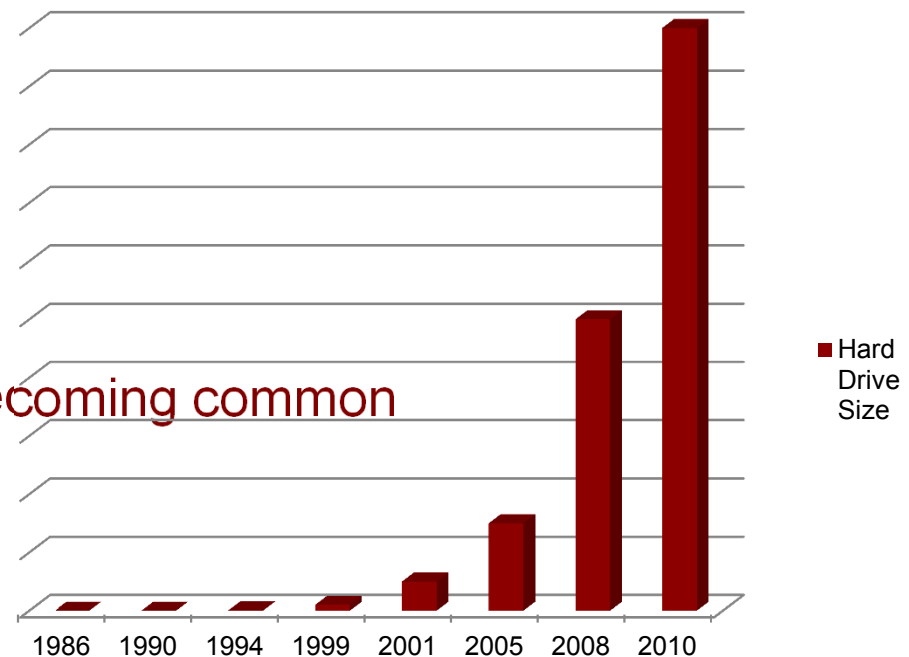


# Maintaining Your Hardware

- A computer's enemies – dust and moisture
- Keep it off the floor
- Keep it in a climate-controlled area
  - 60 – 80 degrees Fahrenheit
  - About 40 – 60% humidity
- Plenty of ventilation – don't cover vents
- Vacuum

- 1986 – 40 MB hard drive
- 1990 – 106 MB hard drive
- 1994 – 1 GB hard drive
- 1999 – 20 GB hard drive
- 2002 – 100 GB hard drive
- 2005 – 300 GB hard drive
- 2008 – 1 TB hard drive
- 2010 – 2 TB hard drives are becoming common
- 2015 – everything in the cloud

### Hard Drive Size over Time





# Factors That Affect Your PC's Performance

- Available hard drive space (when it gets low)
- Hard drive fragmentation
- RAM
- A lot of startup programs
- Viruses and spyware
- Software errors – caused by data corruption, missing files, permissions, network problems, hardware errors
- Hardware errors – caused by defects, heat, dust, moisture, power spikes



# What Happens When it All Comes Together

Too little RAM

+ Too little hard drive space

+ Fragmentation

= Very slow computer!

- Defragmenter
  - Free: Built-in Windows or Smart Defrag
  - Paid: PerfectDisk

- Viruses, spyware, spam and Web browsing
- Patching
- Backups
- Power
- Wireless
- Passwords
- Firewall



- Virus, spyware, adware, malware
- Delivery methods:
  - Spam email
  - Web browsing (pop-ups)
  - Worms
  - Old school virus on a disk (CD, floppy, USB drive)
- Protection
  - Latest antivirus/antispyware software with up-to-date definitions
  - Latest version of your favorite Web browser



- Don't click on pop-ups and advertising Windows
- Use Task Manager (Ctrl-Alt-Del) to close windows
- Download and install MalwareBytes' AntiMalware
- Download ComboFix
- Boot into Safe Mode (F8)
- Run MalwareBytes' AntiMalware
- Reboot
- Run MalwareBytes' AntiMalware again
- Only if absolutely necessary, run ComboFix
- Reboot and run MalwareBytes' AntiMalware again
- Run an antivirus scan





# How Does Malware Affect My PC's Performance?

- Uses RAM
- Uses CPU
- Creates a lot of connections
- Prevents you from using the computer





## Online Security Tips

- Don't accept software or downloads from unconfirmed sources
- Many viruses embedded in email attachments and activated when opened
- Set your email program so it doesn't open "preview" window
- Delete any suspicious email without opening it
- Don't open attachments unless you know what they are and who and where they came from

- **Antivirus/antispyware**
  - Free: Avast
  - Home paid: Norton (by Symantec)
  - Business: Symantec
- **Spyware cleanup**
  - MalwareBytes AntiMalware
  - ComboFix

- What is software patching?
  - Patches bugs and security holes in software
- Why is patching important?



- How valuable is your data to you?
- Threats to your data
- How to backup your data?
  - Onsite
  - Offsite
- What is my expected recovery time if I have to restore?
- How does a server help?

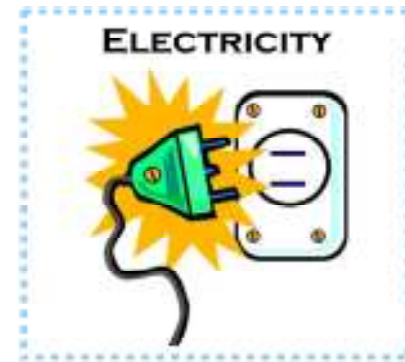




# Backup Software

- **Onsite backup**
  - Free: use built-in Windows backup
  - Home paid: Acronis True Image Home
  - Business low-cost: BackupAssist
  - Business complete: Symantec Backup Exec
- **Offsite backup**
  - Free: Mozy Home (up to 2 GB free)
  - Home paid: Carbonite or Mozy Home
  - Business: CarbonitePro
    - Server – speak to an IT professional
- **Complete onsite and offsite backup**
  - Atlantic-IT Business Continuity Solution

- Electrical power surges
- Protect all your electronic equipment
- Surge protectors
  - Avoid cheap ones
- UPS
- Protect your computer even when turned off
- Unplug your equipment
  - When on vacation
  - If you don't have power protection
  - In thunder storms



- Different types
  - WiFi (the wireless in your home or a hot spot)
  - Cell phone company wireless
- Convenience
- Speed
- Security





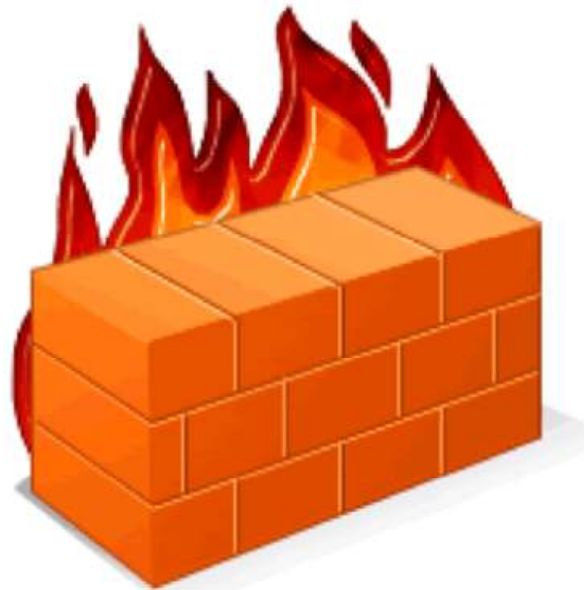
# Wireless Tips

- Only log onto known wireless access points
- Beware of slow networks
- Use a secure connection to your business (secure Web site or VPN)
- Enable phishing filters on your browser
- Avoid busy hotspots, as these are locations most desirable to setup attacks
- Do not bank or shop online from a hot spot such as an airport lounge, coffee shop or library
- Phishing filters - Make sure you use the latest and patched version of Internet browsers

- Choose good passwords
- Change your passwords often
- Use different passwords for different purposes
- Use a password manager – Password Depot



- What is a firewall?
- Home – router
- Business – firewall with antivirus



- What is a social networking service?
- Some social networking sites:
  - Facebook
  - MySpace
  - LinkedIn
  - Twitter
  - Foursquare
- How can social networking be dangerous?
- What is online privacy?





# Online Privacy Tips

- Don't share too much information
- Protect your personal information; it's valuable
- Know who you're dealing with
- Use security software that updates automatically
- Keep your software up-to-date and learn about its security features – especially your OS and Web browser
- Keep your passwords safe, secure, strong and unique
- Backup important files
- Ensure that all wireless devices have their internal firewall and antivirus/malware turned on

- Enough RAM and hard drive space
- A climate-controlled, clean location
- Plug into a UPS or surge protector
- Antivirus
- Defragment
- Patch
- Backup your data
- Use wireless safely
- Be careful online



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- IT professionals and business analysts that focus on small to medium-sized businesses
- We support all aspects of your Information Technology
- We provide valuable expertise to make sure your IT is reliable and suitable to your needs

**Thank You!**