PC Performance Tips

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PC Performance Tips Introduction

PC (or any electronic device) Performance is comprised and affected by three factors

Human – the experience/education level of the person using the PC

Hardware – the physical components that make up the PC

Software – the programs that run on the hardware
- Operating System – MAC OS, Windows, Linux, etc.
- Applications – Quicken, TurboTax, Office, Email, etc.

Human Performance Factors

Experience level of the user

- Training/education on the use of the hardware & software

- On the job usage

- Purpose & goals of usage

- Access to experienced users to ask questions and receive guidance

Hardware Performance Factors

Hardware Components

- Central Processing unit (CPU) – cores/logical processors

- Memory (RAM) – system & applications

- Storage – speed & capacity

- Display & Graphics – resolution & dedicated memory

- Input devices – touchscreen, mouse, keyboard

Software Performance Factors - OS

Operating System

- Version & maintenance level

- Designed for the hardware to be installed on
  - Drivers allow software to 'talk' to hardware

- Supported for the applications to be used

- Refreshed/restarted periodically

Applications

– Version & maintenance level

– Hardware requirements

– Optional features/functions

– Assistance resources – FAQ, forums, manuals, built-in help functions

Performance Tips Hardware

- Buy what you need + 20%

- Meet the specifications/requirements of games or applications to be used

- Consider replacing/adding parts vs new PC

  – Replaceable - Fans, storage (some), memory (some), WiFi version, display, graphics (some)

  – Additions – USB hub, WiFi, display, graphics (some), mouse

WiFi Standards

- Wi-Fi stands for Wireless Fidelity

- Wi-Fi is a family of wireless network protocols based on the Institute of Electrical and Electronics Engineers IEEE 802.11 family of standards, which are commonly used for local area networking of devices and Internet access, allowing nearby digital devices to exchange data by radio waves. These are the most widely used computer networks, used globally in home and small office networks to link devices and to provide Internet access with wireless routers and wireless access points in public places such as coffee shops, hotels, libraries, and airports to provide visitors.

WiFi Generations

Wi-Fi generations

V · T · E

Generation	IEEE standard	Adopted	Maximum link rate (Mbit/s)	Radio frequency (GHz)
Wi-Fi 8	802.11bn	2028	100,000[15]	2.4, 5, 6, 7, 42.5, 71[16]
Wi-Fi 7	802.11be	2024	1376–46,120	2.4, 5, 6[17]
Wi-Fi 6E	802.11ax	2020	574–9608[18]	6[a]
Wi-Fi 6		2019		2.4, 5
Wi-Fi 5	802.11ac	2014	433–6933	5[b]
Wi-Fi 4	802.11n	2008	72–600	2.4, 5
(Wi-Fi 3)*	802.11g	2003	6–54	2.4
(Wi-Fi 2)*	802.11a	1999		5
(Wi-Fi 1)*	802.11b	1999	1–11	2.4
(Wi-Fi 0)*	802.11	1997	1–2	2.4

*Wi-Fi 0, 1, 2, and 3 are named by retroactive inference.
They do not exist in the official nomenclature.[19][20][21]

Performance Tips Software

- Operating System
  - keep up to date, watch for obsolescence
  - Use Task Manager – Resource activity & Startup programs
- Applications
  - Keep up to date
  - Consider upgrades when offered

Performance Tips Human

- Attend SCPCUG Help Sessions!

    - Ask questions, take notes, don't be shy

    - Write down questions as they occur – no question is too dumb

- Suggest topics for discussion like this one