Resource Center Training for PC's

"Why is my PC so slow?!?!"

Executing a Single Instruction

CPU
Fetch
Decode
Execute

Memory
Instructions
Data

Storage
Local
Cloud (network)
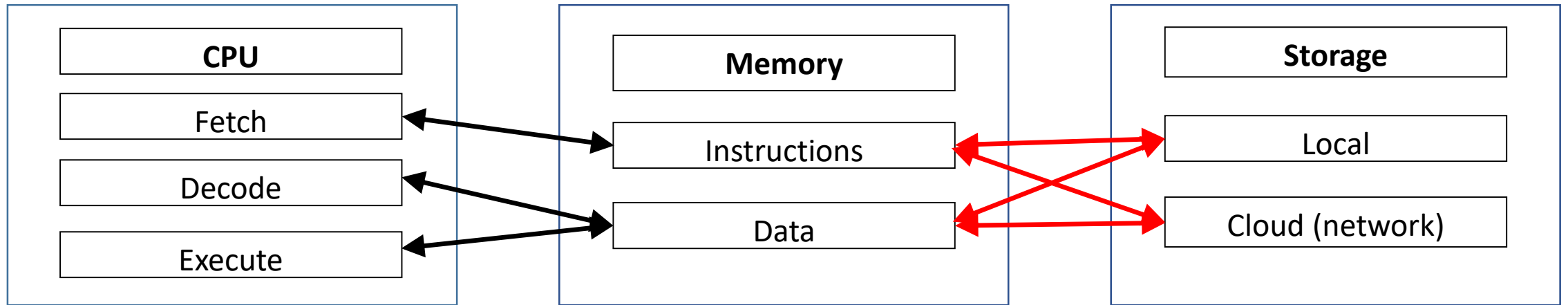
20,000 nanoseconds

2 GHtz = .5 nanoseconds

10 nanoseconds

1,000 nanoseconds (SSD)

40,000,000 nanoseconds (network)
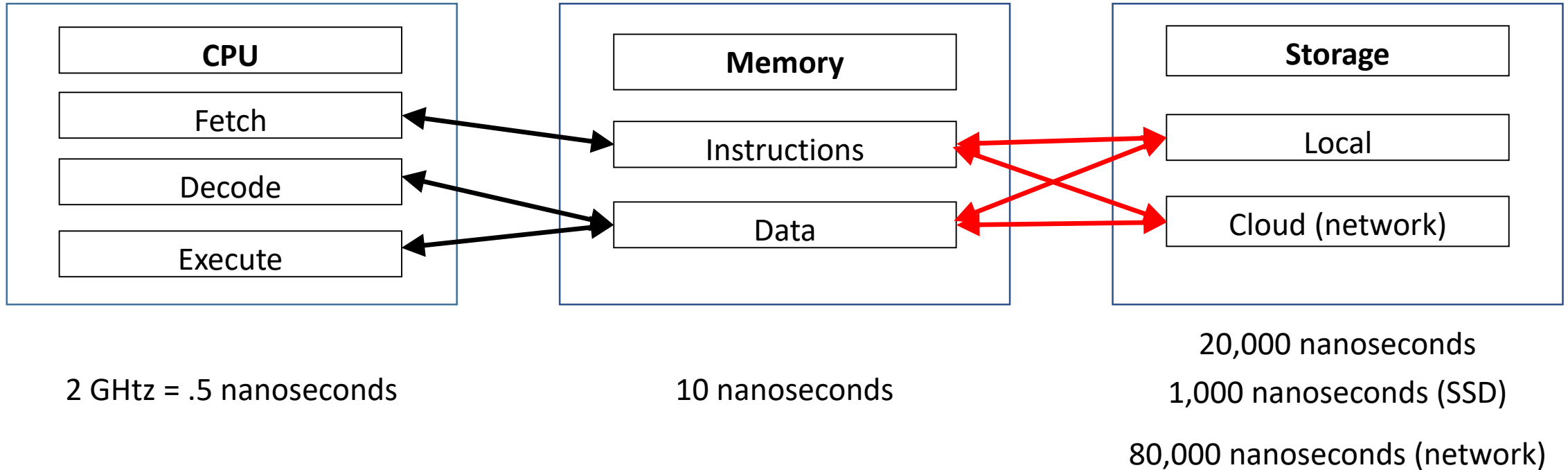
1 foot

10 feet

3.5 to 7,500 miles

Task Manager tells you what is physically going on:
1. **What program is using most of the CPU cycles**
2. **What program is taking up most of the memory and how much memory is available**
3. **How much information is coming from the disks and the network**

Task Manager

File   Options   View

Processes | Performance | App history | Startup | Users | Details | Services

Name	1% CPU	43% Memory	0% Disk	0% Network
Apps (7)				
> Bing Desktop Application (32 bit)	0%	3.2 MB	0 MB/s	0 Mbps
Calculator	0%	10.2 MB	0 MB/s	0 Mbps
> Malwarebytes Tray Application ...	0%	5.9 MB	0 MB/s	0 Mbps
Microsoft Edge	0%	29.5 MB	0 MB/s	0 Mbps
> Microsoft PowerPoint (32 bit)	0%	78.2 MB	0 MB/s	0 Mbps
> Microsoft Word (32 bit)	0%	61.4 MB	0 MB/s	0 Mbps
> Task Manager	0.2%	14.0 MB	0 MB/s	0 Mbps
Background processes (74)				
> Acronis Scheduler 2	0%	1.0 MB	0 MB/s	0 Mbps
Acronis Scheduler Helper	0%	1.1 MB	0 MB/s	0 Mbps
Acronis TIB Mounter Monitor (3...	0%	1.0 MB	0 MB/s	0 Mbps
Acronis True Image Monitor (32...	0.6%	5.8 MB	0 MB/s	0 Mbps
> Adobe Acrobat Update Service	0%	0.4 MB	0 MB/s	0 Mbps

Fewer details   End task

Executing a Single Instruction

CPU	Memory	Storage
Fetch	Instructions	Local
Decode	Data	Cloud (network)
Execute		

20,000 nanoseconds

2 GHtz = .5 nanoseconds   10 nanoseconds   1,000 nanoseconds (SSD)

80,000 nanoseconds (network)

20 X Slow Down
Size of processor cache
Number of tasks running

2,000 to 160,000 X Slow Down
Size of memory
Number of tasks running
Type of storage

Most Important Speed Issues for NEW PC

1. Having Enough Memory

   - 4 GB minimum, 16 GB great!

2. Solid State Hard Drive

3. Processor speed and cache sizes

   - Intel "I" series is safe, the newer the better
   - I3 is fine for standard home use
   - I7 is best for compute intensive stuff like video editing

"Why is my PC running so slow?!?!"

Understand	Understand what you are dealing with
Reboot	Reboot the PC - This is the most frequent fix!
Look	Look for obvious problems
Dig	Dig deeper if there is time
Don't break	If you can't fix it, don't break it! We are "members helping members" and sometime paid technicians must do the work.

Understand what you are dealing with

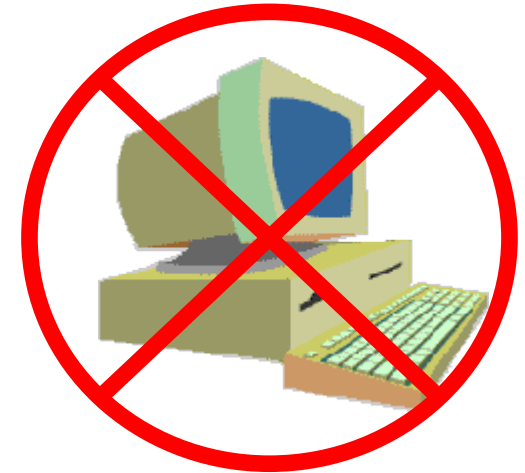1. Right Click on Start and select System

   Processor – Dual Core Pentium or better, 2 GHz or faster

          All the Intel I processors should be OK

   Memory – 4 GB or more (2 GB only in tablet type PC)

2. Open File Explorer and click on This PC

   Insure 20 GB free space

   Not much can be done if these conditions are not met. Time to recommend a new PC

Start with a reboot
This is the most frequent fix!

- Click on Start/Power/Restart
  - Many users just shut the lid of their laptop or hit the power button or just walk away and think it restarts when they do this.
- As it restarts
  - Observe how long it takes to start
  - What messages are given during the start up

  A lengthy restart may just happen because it hasn't restarted in a while, but also could indicate too many start up programs and services. Messages during startup may point at unwanted programs.
- If it is very slow for some time after startup
  - Task Manager/Process and note what services are taking up CPU, memory and disk

Look for obvious problems

1. Have a conversation to understand when the slow down happened and how quickly it seemed to happen

2. If the problem started at a specific point in time
   1. Go to Control Panel/Add Remove Programs and see what may have been installed when it started
   2. Go to Task Manager/Startup and look for programs which may have been installed at that time

3. If it is a slowing down over time, Look for the common problems first
   1. Too many "helping" programs running
   2. Too many startup programs – Memory is overcommitted
   3. Malware or virus

1. Remove all Redundant Helping Programs

- Look in the system tray for programs that are running and supposedly helping performance or looking for bad stuff
  - Make sure there is only one anti virus
  - Make sure there is only one anti malware
  - Either delete everything else or set it to not run at startup

  Example

  Malwarebytes free is wonderful, Malwarebytes Pro runs in startup and will slow the PC down.

  Register cleaners and other stuff are really PUPs

2. Too Many Startup Programs

- Right Click on Start and open Task Manager / Startup
  - Disable anything that isn't absolutely needed
  - Restart and test after disabling services, they can always be reenabled!

3. Malware and Viruses

- Go to Control Panel / Uninstall Programs
  - Scan the list for bad stuff!
  - Sort the list by install date and see what happened when the problems started
  - Attempt to uninstall programs that are bad or installed when the problem started and are not needed by the member
- Go to the Browser's "manage add-ons"
  - Look at Toolbar, Search and Accelerator add-ons
  - Disable any that are not known and needed
- Run Malwarebytes free and do what it says.
  - Best to run as administrator
  - May need to run twice if there is a lot of stuff (20 or more things found)
  - Insure when done that you don't have it running the "Pro Trial"

The Bad Guys

Examples of "Potentially Unwanted Programs"

Web Assistant

MyPcBackup

MySearchDial

Safe Search

Incredibar

PCSpeedUp

MyWebSearch

Mindspark Interactive

Conduit

Outfox TV

SeverWeatherAlerts

Questions / Experience

- Remember

We are "members helping members"

Don't leave the PC worse than you found it!