Information Technology HARDWARE

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Hardware in IT Systems

- Hardware is perhaps the most important component of an IT system.

- Most software systems in the world are hardware oriented. This means that IT systems are hardware dependent and the type of software, personnel and database management that you use will mainly depend on hardware.

- Hence, a proper understanding of hardware concepts is very essential to IT Management.

- Selecting the right hardware is crucial to success.

Hardware in IT Systems

- Computer and IT hardware can become more obsolete with time then any other IT item.

- Regardless of the industry, hardware is essential to the survival of the industry and most modern hardware may be essential to sustaining an advantage over the competitors.

- Evaluating new hardware options and figuring out how to integrate them with existing legacy systems is an ongoing responsibility in most organizations.

IT Hardware

- It hardware consists of several different types of physical equipment that is used for input, processing, storage, output, and the connectivity of the system.

- Computers, workstations,

- Mainframes

- Printers

- Monitors, Keyboards, Mouse

- Cameras, Microphones

- Modems

- Network Equipment

Types of Computers

- Personal Computers
- Server Computers
- Workstations
- Mainframe Computers
- Notebooks / Netbooks
- Microcomputers
- Mobile Computers / PDA
- Industrial Computers
- Cash Transaction Devices

Personal Computers

- Personal computers or PCs are the most common type of computers found today.

- Almost all homes possess a personal computer in the western world.

Servers

- Especially in corporate environments, the need for specialized computers to control all other computers is an important need.

- The access to common data, storage and security of corporate data & information policy as well as use of peripherals (such as printer) is implemented by servers.

- A server will basically determine the boundaries of your workstation or PC.

- Most e-commerce applications depend on servers

Workstations

- Workstation is a PC without the capability to store information personally. Workstations are basically small dummy terminals that work off a server. All work done is based and stored on a server

- Usually a workstation has a monitor and a keyboard

Mainframe Computers

- Actually mainframe computers are the first computer ever invented.
- They are used in large enterprises for extensive computing applications that are accessed by thousands of users.
- Mainframes are perfect for centralized schemes for IT control and accessibility, especially in global applications
- A typical IBM mainframe can handle one billion transactions per day.
- A typical use of mainframe computers is on international airline reservations across the aviation industry.

Super Computers

- Super computers such as the Cray computer are designed to do billions of calculations per minute and mostly they are used for design, complex weather, disaster analysis and military applications.

- They need temperatures below zero in order to function properly.

Notebooks / Netbooks

- The trend nowadays is the use of notebooks or netbooks as mobile computing has taken a serious root in international business

- Now, everyone wants to carry their work to home and to meetings. Thus notebooks / netbooks are the best way to do this.

- Notebook is a portable computer with all the necessary hardware, while a netbook is more of a small notebook without an optical drive and it is geared toward connecting to the net.

- Nowadays for couple of hundred dollars, you can purchase a netbook.

PDA (Personal Digital Assistant)

- PDA is the smallest form of a personal computer.

- It will have the processing capability of a computer in a limited fashion.

- With a PDA, you will be able to write reports, create spreadsheets, read PDF documents, access the net and your emails and store data.

- PDA allows you to work anywhere and anytime

Mobile Computing

- Mobile computing is perhaps the greatest trend in international business. Now, people want to be in touch with the internet and with each other 24 hours a day and as a result mobile devices have multiplied.

- Most Smartphones are IT capable such as the Iphone and Blackberry

- PDA's are also a big part of mobile computing as you can do most of the things that you do with a computer.

- 3G services as well as EDGE technology has allowed mobile telecommunications and internet to be widely and cheaply available all over the world.
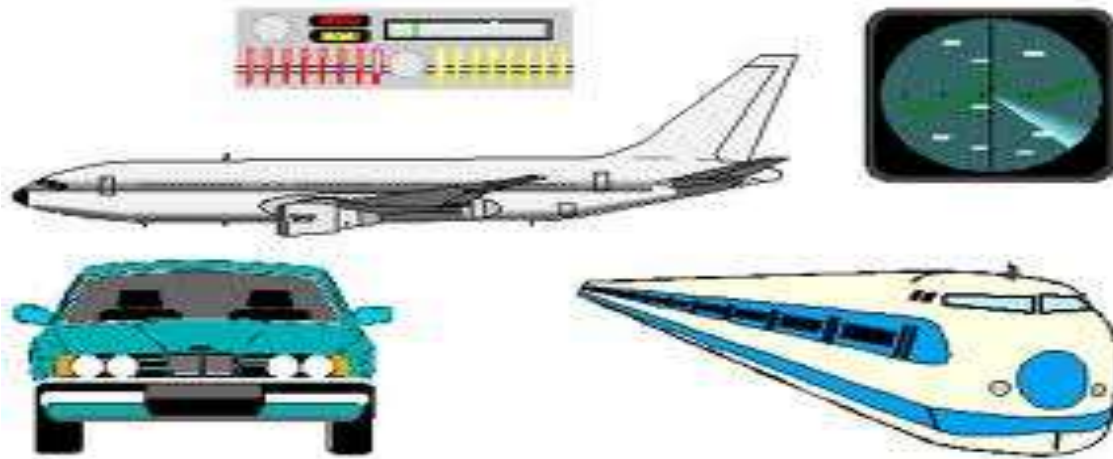
Industrial Computers

- There are many special industrial computers that are used in production and businesses.

- The first type of industrial computers are automation computers used in production facilities.

- The second type of industrial computers are rugged computers used in places like traffic lights and air controllers etc.

Embedded Computers

- Embedded Computers are miniaturized computers that are linked to sensors to provide a specific function.

- Some examples of embedded computers include computers in your car, computers in an advanced air conditioning system etc.

Network Devices

- Network devices allow computers to exchange data with each other.

- Networks can be Local Area Network or a Wide Area Network

- Modems, Switches, Hubs, Routers, Bridges, Power Injectors and Wireless Gateways are some of the typical Network devices

Cash Transaction Devices

- Lot of cash transactions take place with specially integrated computers to handle these transactions.

- These include Automated Teller Machines (ATM) which are computers designed for a specific purpose in hardware and software

- Point of Sale (POS) terminals for debit card and credit card transactions and they are used in stores.

Advanced Computing Devices

- Wearable Computing
- Embedded Computers
- Active Badges
- RFID Tags
- Smart Cards
- Memory Buttons