CHAPTER 11
COMPUTER HARDWARE

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SECTION I
COMPUTER SYSTEMS
CASE I STUDY

COMPUTER SYSTEMS
CONSIST OF INPUT, OUTPUT, STORAGE AND CONTROL COMPONENTS.
TRENDS INCLUDE MAINFRAME, MIDRANGE, MICRO AND PDAS.
MICROCOMPUTER AS KNOWN AS THE PC.
SOME ARE WORKSTATION COMPUTERS.

COMPUTER SYSTEMS
NETWORK COMPUTERS: BUSINESS COMPUTING PLATFORM
OTHER BUSINESS RELATED MACHINES: PDAS. PERSONAL DIGITAL ASSISTANTS.
INFORMATION APPLIANCES INCLUDE SET TOP BOXES AND PDAS.
COMPUTER TERMINALS SUCH AS NETWORK TERMINALS AND ATM MACHINES.

COMPUTER SYSTEMS
MIDRANGE COMPUTERS: MANAGE NETWORK OF PCS AND TERMINALS.
MAINFRAME: LARGE FAST COMPUTING SYSTEMS. MAIN MEMORY ANYWHERE FROM 100S OF MEGS TO GIGS.
SUPER COMPUTERS: DESIGNED FOR SCIENCE, ENGINEERING AND BUSINESS.

COMPUTER SYSTEMS
BASIC TERMINOLOGY TO KNOW:
CPU: CENTRAL PROCESSING UNIT
ALU: ARITHMETIC LOGIC FUNCTIONS
OUTPUT: VIDEO DISPLAYS
STORAGE: PRIMARY STORAGE INCL. MEMORY, NON REMOVABLE STORAGE.
REAL WORLD CASE I

Basic Synopsis: Compute Farms a good idea as they allow for multiple people to access one server with all information.

BTG: Blackstone technology Group serves this purpose.

Compute Farms: servers pooled together to create single computing resource optimized for CPU and memory intensive applications.

BTG states that compute farms cost a fraction of the cost of what centralized systems cost b/c they harness the computing resources of cheaper hardware.

Company believes they can be successful in the financial, digital and oil and gas markets as well.

SECTION II

COMPUTER PERIPHERALS & REAL WORLD CASE II

IN THIS SECTION THE FOLLOWING TOPICS ARE DISCUSSED:

PERIPHERALS
INPUT TECHNOLOGIES
OUTPUT TECHNOLOGIES
BASIC STORAGE TERMINOLOGY
REAL WORLD CASE II

PERIPHERALS

WHAT IS IT: ANY INPUT, OUTPUT AND OR SECONDARY STORAGE DEVICE THAT IS ATTACHED TO A COMPUTER SYSTEM.

EG. POINTING DEVICES, EXTERNAL MASS STORAGE, AND ANY OTHER DEVICES DIRECTLY CONNECTED TO THE SYSTEM

POINTING DEVICES

ELECTRONIC MICE, TRACKBALLS, POINTING STICKS, TOUCHPADS.
MAGNETIC STRIP, SMART CARDS, DIGITAL CAMERAS
THESEE ARE USED TO AID IN NAVIGATION THROUGHOUT A GRAPHICAL USER INTERFACE.
GUI: WHAT YOU SEE ON YOUR COMPUTER SCREEN.

OUTPUT DEVICES

GRAPHICS CARDS
PRINTER DEVICES
SOUND DEVICES
VOICE RECOGNITION
VIDEO MONITORS
LIQUID CRYSTAL DISPLAYS, CATHODE RAY TUBE DISPLAYS.
BASIC STORAGE TERMINOLOGY
- COMPUTER STORAGE FUNDAMENTALS:
  - BITS AND BYTES. ALL INFORMATION IS STORED USING DIGITS 0 AND 1.
  - 0 IS OFF AND 1 IS ON.
  - KILOBYTES, MEGABYTES, GIGABYTES, TERABYTES, PETABYTES.
- PRIMARY STORAGE DEVICE: MEMORY CHIPS: DIRECT ACCESS OR RANDOM ACCESS. RAM. MAGNETIC DISK DRIVES ARE DASD(DIRECT ACCESS STORAGE DEVICES).

TERMINOLOGY
- RAM: RANDOM ACCESS MEMORY
- ROM: READ ONLY MEMORY
- FLOPPY DISKS: MAGNETIC DISKETTES USUALLY WITH 1440 KILOBYTES OF STORAGE SPACE, SUPERDISKS UP TO 120 MEGABYTES
- HARD DISK: ANYWHERE UP TO SEVERAL TERABYTES OF STORAGE.

TERMINOLOGY
- RAID: REDUNDANT ARRAYS OF INDEPENDENT DISKS. USED IN MASS STORAGE
- CD-ROM TECHNOLOGY. DVD-ROM/DVD-RAM TECHNOLOGY
- WORM: WRITE ONCE READ MANY (CDR TECHNOLOGY)
- CDRW ALLOWS MULTIPLE WRITES AND READS

REAL WORLD CASE II
- Longs Drugs and Textron
- Want to get rid of "Fat Clients"
- Fat Clients refer to individual machines and software on those machines.
- Computer Network Model more effective in that one server has all software and can be accessed from anywhere
- More effective way of upgrading.

REAL WORLD CASE II
- Instead of sending out multiple IT professionals to do jobs, one person can do more than one job at the same time
- Costs are significantly reduces with use of this model.
- Smart Card utilization allows for users to swipe card, log into network and start upgrading all software.