HDD, RAM, CPU, BUS Research Assignment

<< HiCoders Research Assignment>>

Erkan KAYA
16.06.2022

Index

The part that holds the parts in an electronic device together and enables communication between them is called the mainboard. In general, the mainboard found in every electronic device is, of course, also in computers. Now we will touch on some of the parts that connect on it and the structures that enable communication between them.

1. CPU (Central Progressing Unit)

It is a structure consisting of a large number of transistors (Billions) that allows you to receive and process the command and then return it from the output unit. It can actually be called the brain of an electronic device.

Processors have certain characteristics. These are different topics such as core numbers, data processing speeds, architectural structures. [1]

A single chip can have multiple cores that can perform multiple operations simultaneously. This directly increases the speed of the processor.

There are 2 types as 32bit and 64bit as architectural structure. These are also related to speed.

2. RAM (Random Access Memory)

It is a type of memory that temporarily incorporates information. In order for the processes to be executed quickly in computers, the CPU needs to quickly retrieve information from memory. So each time the information is not taken from the hard disk, but instead from the RAM, where the information is temporarily stored. So what does "temporarily" mean? Ram needs some power to store information. Thus, when the computer is shut down intentionally or unintentionally, all data in the RAM is deleted. Therefore, their memory is quite small compared to the hard disk.

RAM should always be compatible with the mainboard. They should also be compatible with the CPU as well as their speed. Otherwise, the concept of the so-called "bottleneck" will appear. Bottleneck; is the event that the speed of either of the processor or RAM is low and the other slows down its speed.

There are two types: dynamic (DRAM) and static (SRAM). They differ from each other in terms of their structure. DRAM is a newer technology and is considerably faster than SRAM.

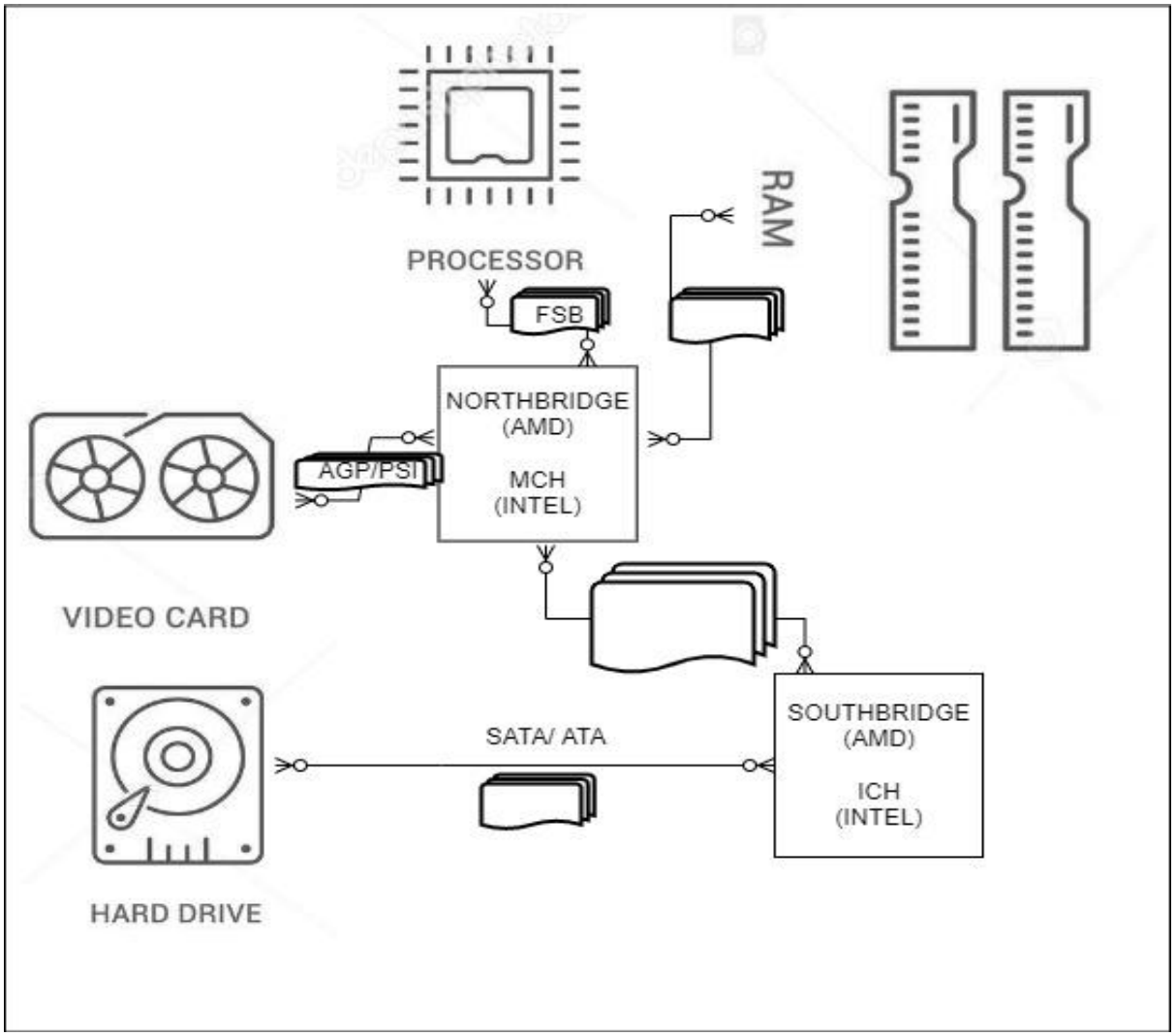
3. HDD (Hard Disk Drive)

They are structures in which information (as opposed to RAM) can be permanently provided on the computer. Unless deliberately deleted, the information may be retained here for as long as desired. Apart from what we have saved, programs, operating system codes are also kept on the hard disk.

With the new technology, the new storage unit SSD (Solid State Driver) has entered our lives. These hard drives, which are completely fixed and integrated with the circuit, have a very high speed.

4. BUS

They are the units that provide communication between the structures on the mainboard. It can be called with different cables and different names. For example, the structure that provides communication between the mainboard and the CPU is called "Front Side Bus" (FSB), while one of the structures that provides communication between the HDD and the mainboard is called SATA.



Bibliography

1. https://teknoloji.org/islemci-nedir-bilgisayar-islemcisi-cpu-ne-ise-yarar/