

Computer Systems – Activities 1

UD 03. HARDWARE COMPONENTS

Computer Systems
CFGS DAW

Sergio García / Alfredo Oltra

sergio.garcia@ceedcv.es

alfredo.oltra@ceedcv.es

2022/2023

Versión:220602.1753

Licencia



Reconocimiento - NoComercial - CompartirIgual (by-nc-sa): No se permite un uso comercial de la obra original ni de las posibles obras derivadas, la distribución de las cuales se debe hacer con una licencia igual a la que regula la obra original.

Nomenclatura

A lo largo de este tema se utilizarán distintos símbolos para distinguir elementos importantes dentro del contenido. Estos símbolos son:

🔔 Actividad opcional. Normalmente hace referencia a un contenido que se ha comentado en la documentación por encima o que no se ha hecho, pero es interesante que le alumno investigue y practique. Son tipos de actividades que no entran para examen

👁 Atención. Hace referencia a un tipo de actividad donde los alumnos suelen cometer equivocaciones.

UD03. HARDWARE COMPONENTS

Internal components. Activities

(1) What is the function of the battery that is in the motherboard? What happens when it runs out?

(2) In the documentation we have talked about some internal connectors, but there are others who have not said anything. For example, some MoBo have a WOL connector. Can you describe it and indicate what is its function?

(3) Following the previous question, there are still other internal connectors, like the ports I/O: IDE, FDD, SATA, USB, FireWire. Find out about them showing their shape (photo), as silk-screened on the MoBo, which connect, which speeds support, ...

(4) What is the difference between suspend and hibernate a computer? And between warm start and cold start? What is APM? And ACPI? What permit? Discuss it in forum.

(5) When a transmission is in parallel and when it is in serial mode? Define it. Share your opinion about what is faster in forum.

(6) Find one MoBo for Intel processors and one for AMD processors? What chipset incorporates? What features does each of them?

(7) For each of the MoBo's you have chosen in the activity 6. What memory distribution would you do? What kind of memory? Could you put ECC modules? How much it would cost (€)?

(8) 👁 For each of the MoBo you have selected in the activity 6, indicate where is the processor, northbridge, southbridge and BIOS.

(9) 👁 Answer the following questions:

1. Physical definition of processor, functions.
2. How does a dual-core architecture work?
3. Difference between multicore and multiprocessor system.
4. Which are the elements of a dual core CPU? Make a diagram.

(10) Analyzes the different ways of cooling that a processor can have. What is the sink? Why it has this shape?. Can the fan change its frequency to cool more? How it detects that it have to turn faster?

(11) Download the Everest, AIDA or similar application and analyzes your computer. Make a table in which all the elements studied so far appear and share them in forum.

(12) 🛠 Research and discuss your conclusions on the following topic: Monitoring the systems motherboard and equipment management.

(13) 🛠 Knowing a little bit of history is a good idea to place us in a context. Make a chronology of microprocessors for PCs, starting with the 8088. What is Moore's Law?