What is Memory Latency (CL)

and how it affects to the perfomance of our computer

Franco Larrea 1º ASIR

What is it?

- A RAM module’s CAS latency is how many clock cycles in it takes for the RAM module to access a specific set of data in one of its columns and make that data available on its output pins, starting from when a memory controller tells it to.

CAS = (Column Address Strobe or Signal)

How to calculate the frequency?

- The market sells the transfer rate as if it were the frequency.
- Current memories are DDR (DOUBLE data rate) type.
- So the "frequency" (transfer rate) is divided by two to get the actual frequency.

= 2666Mhz / 2 = **frequency**

How to calculate the latency?

- We need the **real latency**
- Can calculate with a simple formula.
- Is the next:

(1000 / real frequency) * CAS latency

Example

- 2666MHz
- CL16

Real frequency = 2666 / 2 = 1333MHz

Real latency = (1000 / 1333) * 16 = 12

How latency affects processor performance

The time it takes for the processor to access data in RAM is called memory **access latency**.

The less time it takes to do it, the better it will be for our computer performance.

Reference

- What Is CAS Latency in RAM? CL Timings Explained
- Qué es la latencia de la Memoria RAM y cuál es su importancia?
- CAS latency