Here's a detailed deep dive into Computer Hardware, focusing on the CPU, RAM, and Storage Architectures, explained in a practical and easy-to-understand format with diagrams, examples, and comparisons.

**1. Central Processing Unit (CPU)**

**What is it?**

The CPU is the brain of the computer, responsible for processing instructions from programs.

**Key Components:**

|  |  |
| --- | --- |
| **Component** | **Function** |
| **ALU (Arithmetic Logic Unit)** | Performs calculations and logic operations. |
| **CU (Control Unit)** | Directs operations of the processor. |
| **Registers** | Small, fast storage locations for temporary data. |
| **Cache (L1, L2, L3)** | Fast memory that stores frequently used data. |

**Performance Factors:**

|  |  |
| --- | --- |
| **Factor** |  |
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