

# **What is Computer Architecture/Org**

## **Arch**

Design, structure, functionality of computer usually at high level

What a computer does

Interaction between components in system and hard/software

## **Org**

How works together

Lower level

Circuit design, signal pathways, processor design, control logic

## **Processor types**

x86 for Intel AMD, MIPS workstations/servers, ARM mobile

Windows 64 bit could be a superset of 32 bit; maybe on linux

## **x86 cpu arch**

Data flows between ALU, I/O, CPU, memory

ALU: Arithmetic Logic Unit (Combinational Logic)

Driver: tells how to talk to device

## **Registers**

Register: a unit of memory inside the CPU itself; smallest data holding unit in processor

Registers more efficient than RAM

Move data into register to do operations on data

EAX = accumulator

EBX = base

ECX = counter

EDX = data

ESI = source index

EDI = destination index

### **nasm syntax**

Data usually goes right to left