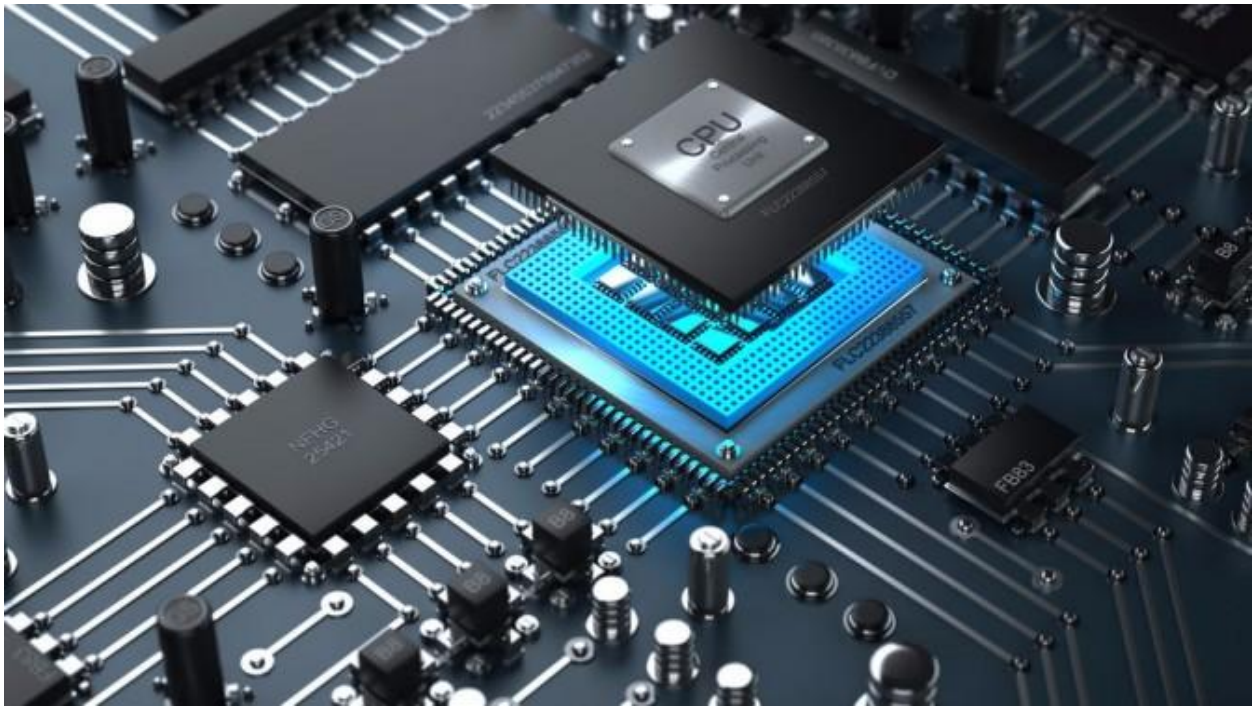
Group Activity

Interrupts - Short I/O Wait

Interrupts - Long I/O Wait

Bus Architecture



Abhishek M.L.D - TG/2018/378
C.P. Walathara - TG/2018/392
Jayaweera W.M.P.N - TG/2018/392

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Interrupts - Short I/O Wait

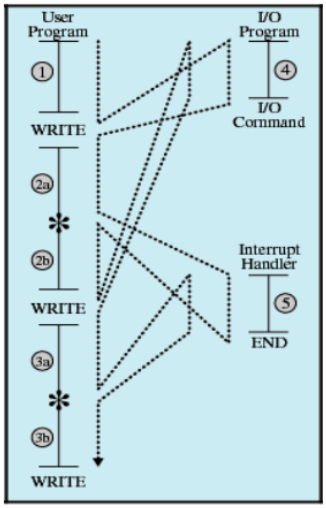
Interrupts

➔ Interrupt the normal sequencing of the processor
➔ Provided to improve processor utilization
- most I/O devices are slower than the processor
- processor must pause to wait for device
- wasteful use of the processor

➔ OS is driven by interrupts

Steps of Short I/O Wait

1. Process start from user program
2. If need information from a user
3. Get information from I/O program
4. Return with information and resume processing
5. Receiving interrupt transfers control to interrupt handler
6. Interrupt handler processes data
7. Resume processing
8. Needs information from a user
9. Get information from I/O program
10. Return with the information and resume processing
11. Receiving interrupt transfers control to interrupt handler
12. Interrupt handler processes data
13. Resume processing

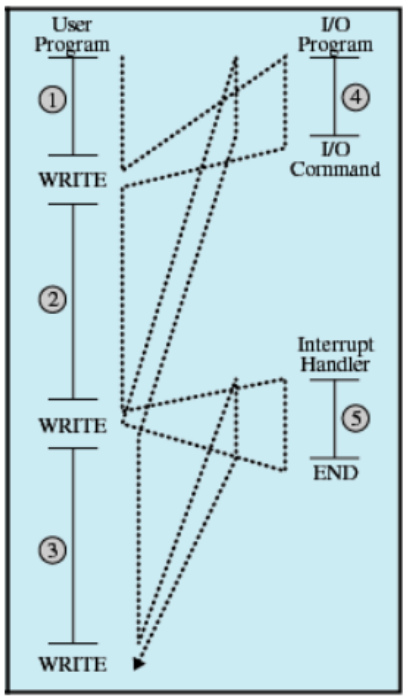


(b) Interrupts; short I/O wait

Interrupts - Long I/O Wait

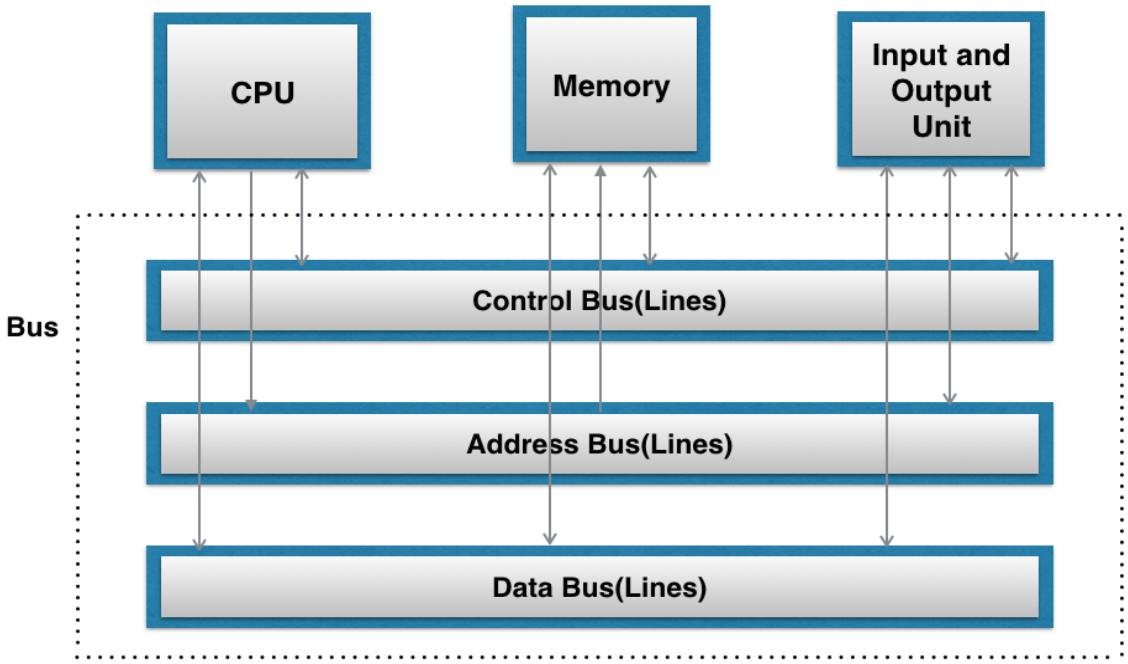
Steps of Short I/O Wait

1. Process start from user program
2. If need information from a user
3. Get information from I/O program
4. Return with information and resume processing
5. Receiving interrupt continue
6. Needs information from a user
7. Get information from I/O program
8. Return with the information and resume processing
9. The interrupt, Transfers control to the interrupt handler
10. Interrupt handler processes data
11. Resume processing
12. Receiving interrupt continue
13. Need information from user
14. Get information from I/O program
15. Return with the information and resume processing
16. The interrupt, Transfers control to the interrupt handler
17. Interrupt handler processes data
18. Resume processing



(c) Interrupts; long I/O wait

Bus Architecture



What is Bus Architecture?

Bus is a group of wires that connects different components of the computer. It is used for transmitting data, control signal and memory address from one component to another. A bus can be 8 bit, 16 bit, 32 bit and 64 bit. A 32 bit bus can transmit 32 bit information at a time.

Type of bus

- Data Bus
- Control bus
- Address bus

What is the Data Bus?

A data bus is a set of connectors or wires on a computer or device that provides transport for data.It is unidirectional for input and output devices and bi-directional for memory and CPU.

What is the Control Bus?

Control bus carries a control signal. CU of CPU uses control signal for controlling all the components. It is unidirectional from CPU to all other components.

What is the Address Bus

Address bus carries a memory address. A memory address is a numerical value used for identifying a memory location. Computers perform all its tasks through the memory address. CU of CPU sends memory address to all the components.

Some control signals are:-

- Memory read
- Memory write
- I/O read
- I/O Write
- Opcode fetch

-END-