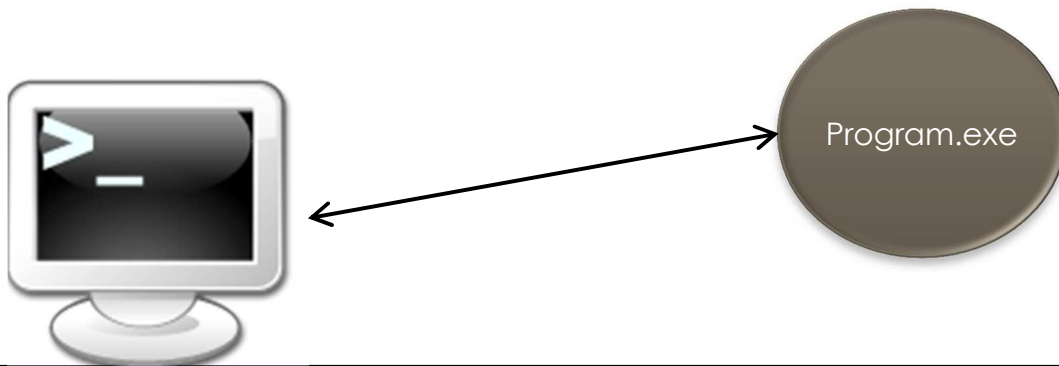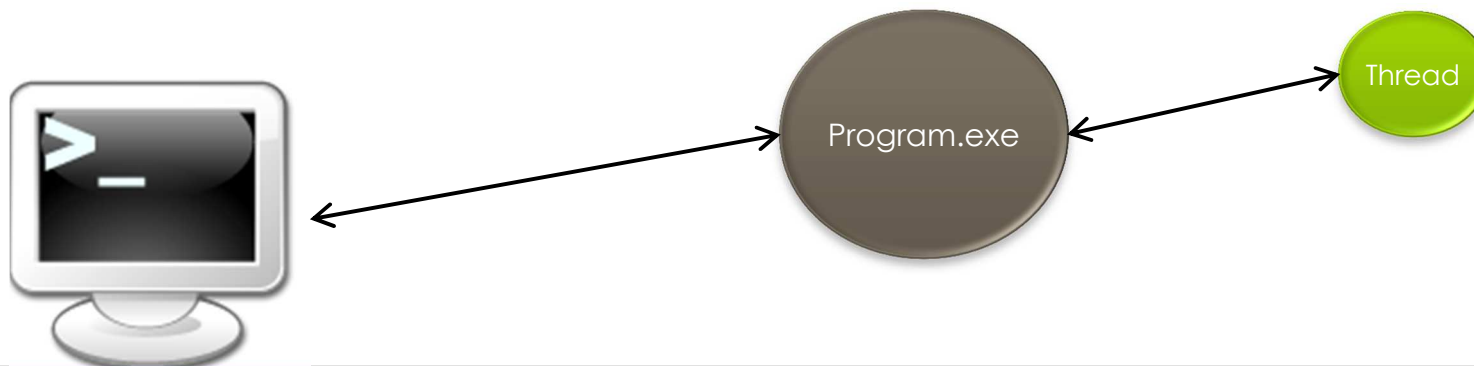# WiBit.Net™

IPC

What is a Process?

- An instance of a currently executing program.

Program.exe

What is a Thread?

- The result of a fork from a currently executing program into 2 or more concurrent tasks.
- Forking – The process of a parent process spawning a child sub process

Program.exe

Thread

Inter-Process Communication

- Methods used in software development to allow processes running on the same or different computers to communicate with each other
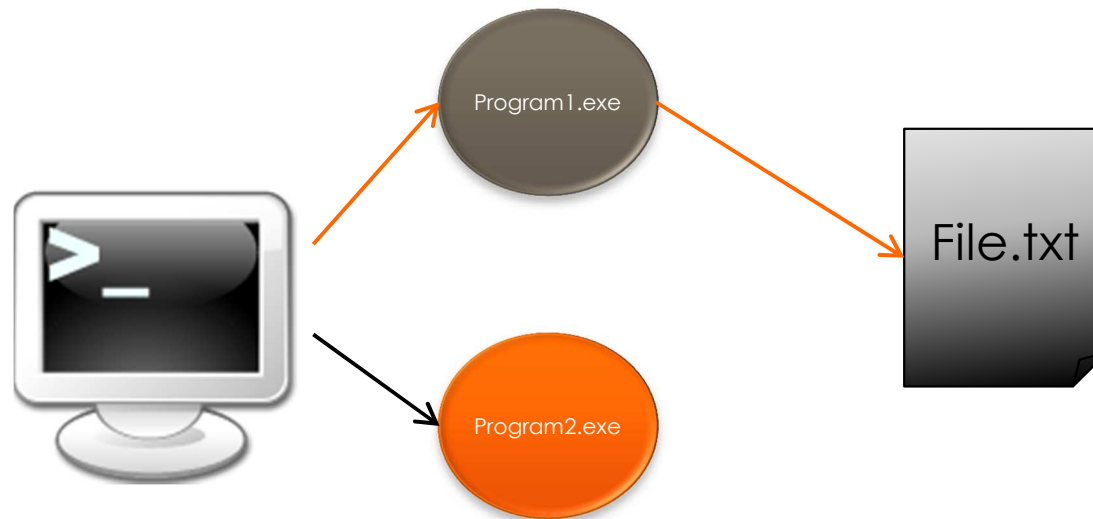
Basic Methods of IPC

- File
- Database
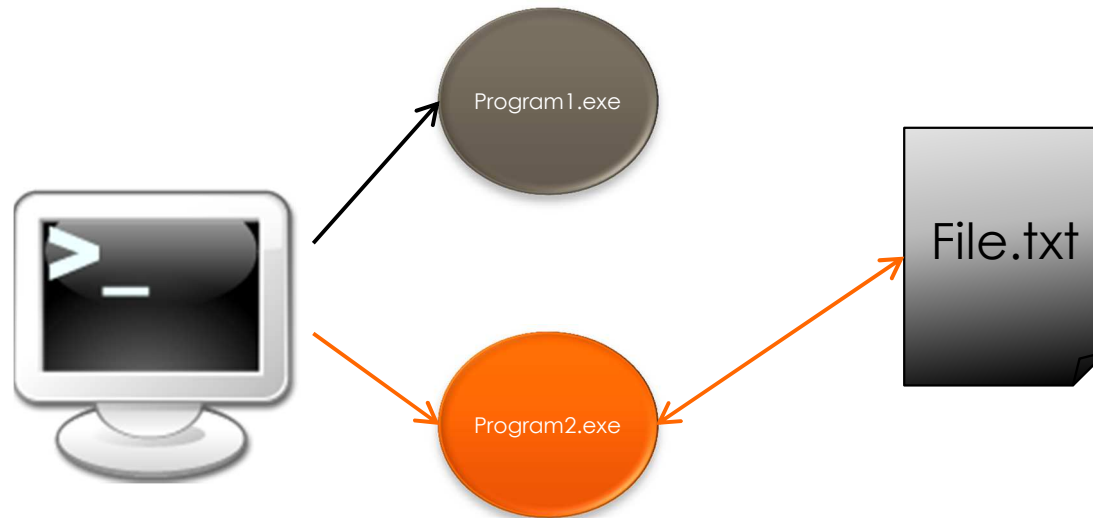- Signal / Event
- Network Socket

IPC Method: File

- Multiple processes / threads reference a file system to send messages to each other
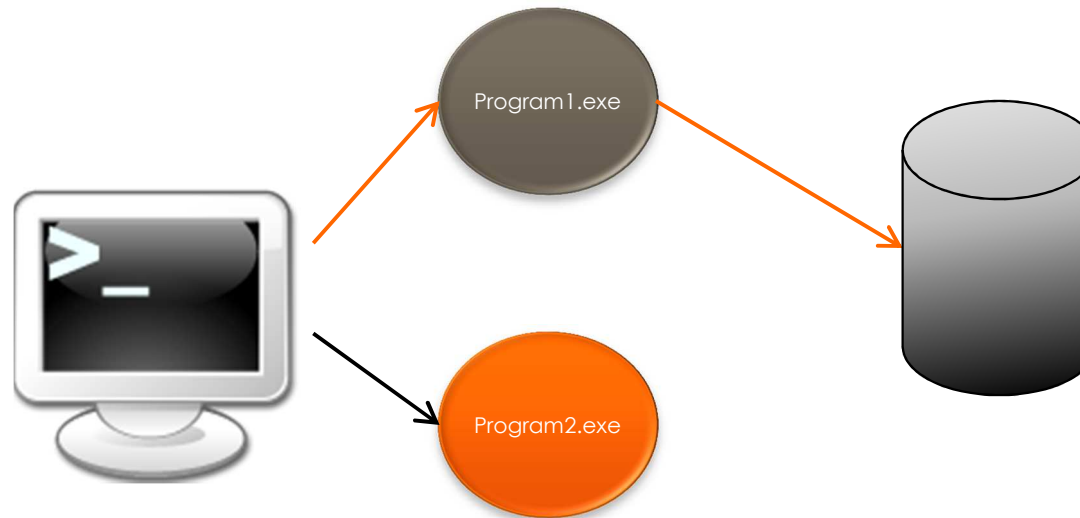
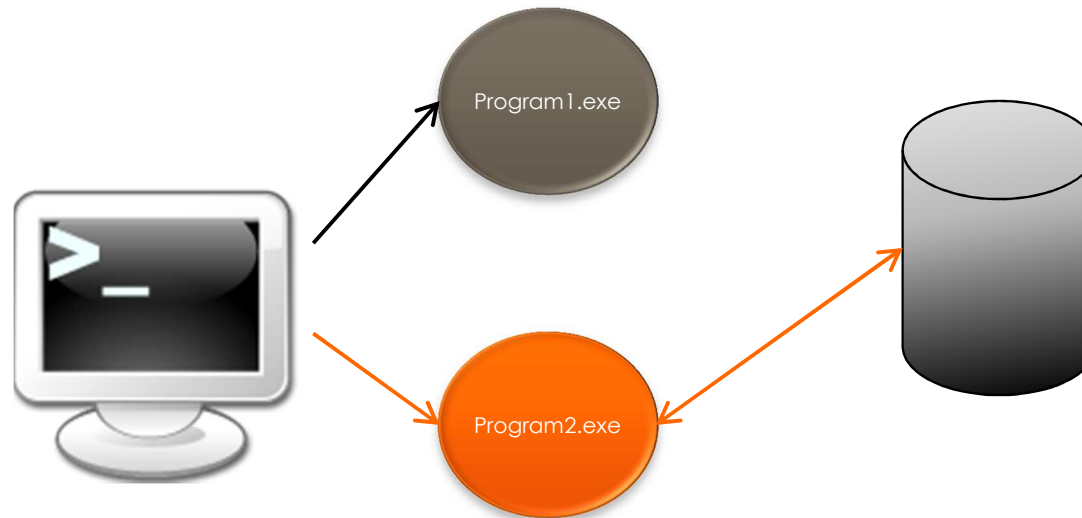# IPC Method: File

IPC Method: File

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IPC Method: Database

- Multiple processes share information based on a single point of data storage

- Can be similar to the File method if database is a local file
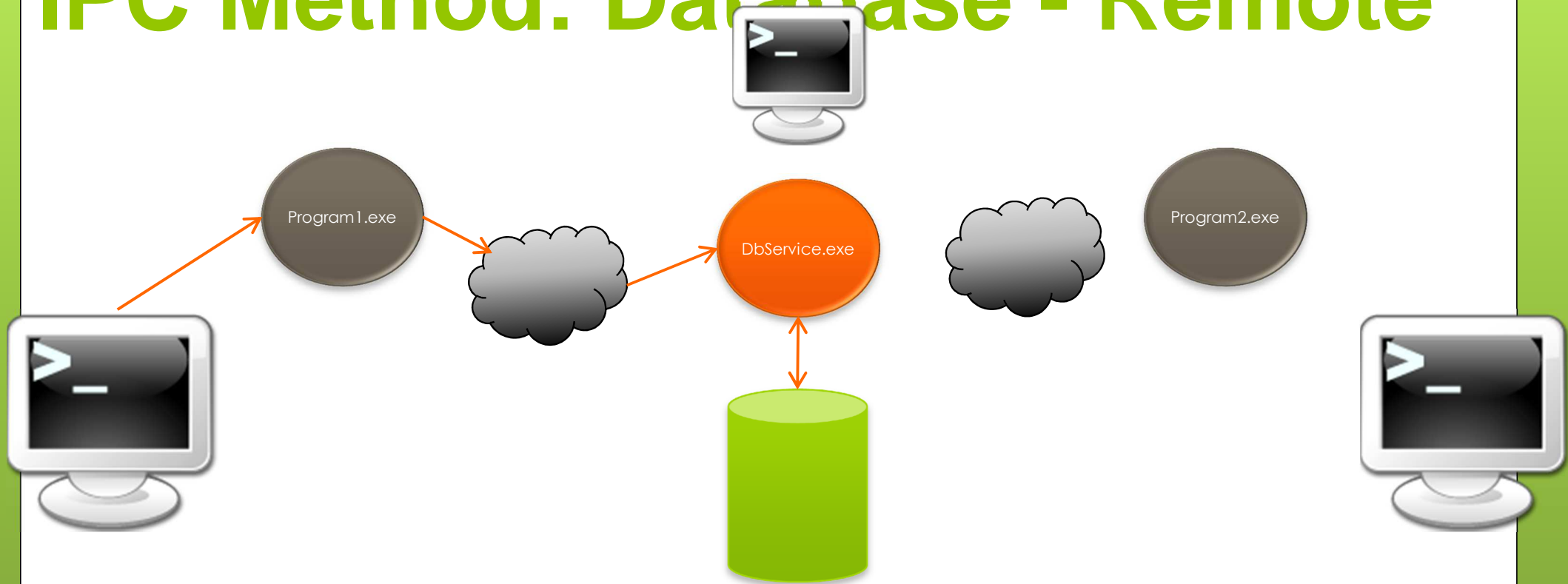
  - Different because of DBMS
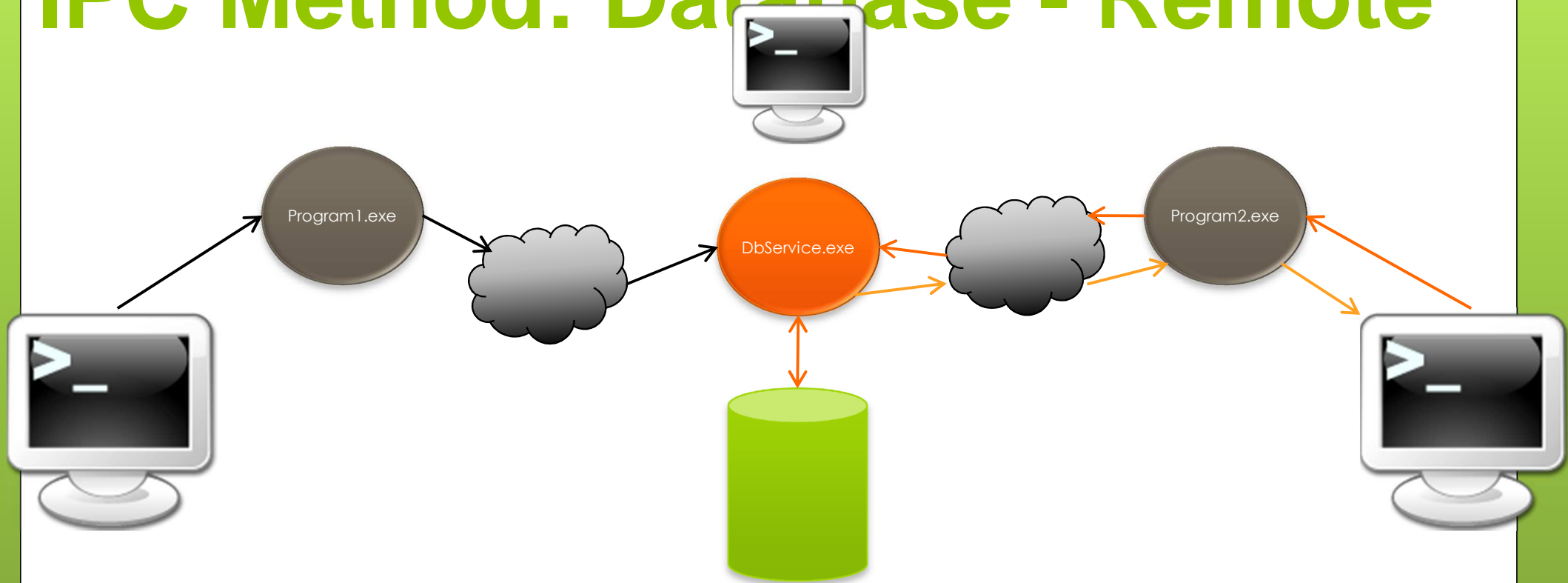
IPC Method: Database - Local

IPC Method: Database - Local

IPC Method: Database - Remote

Program1.exe

DbService.exe

Program2.exe

IPC Method: Database - Remote

Program1.exe

DbService.exe
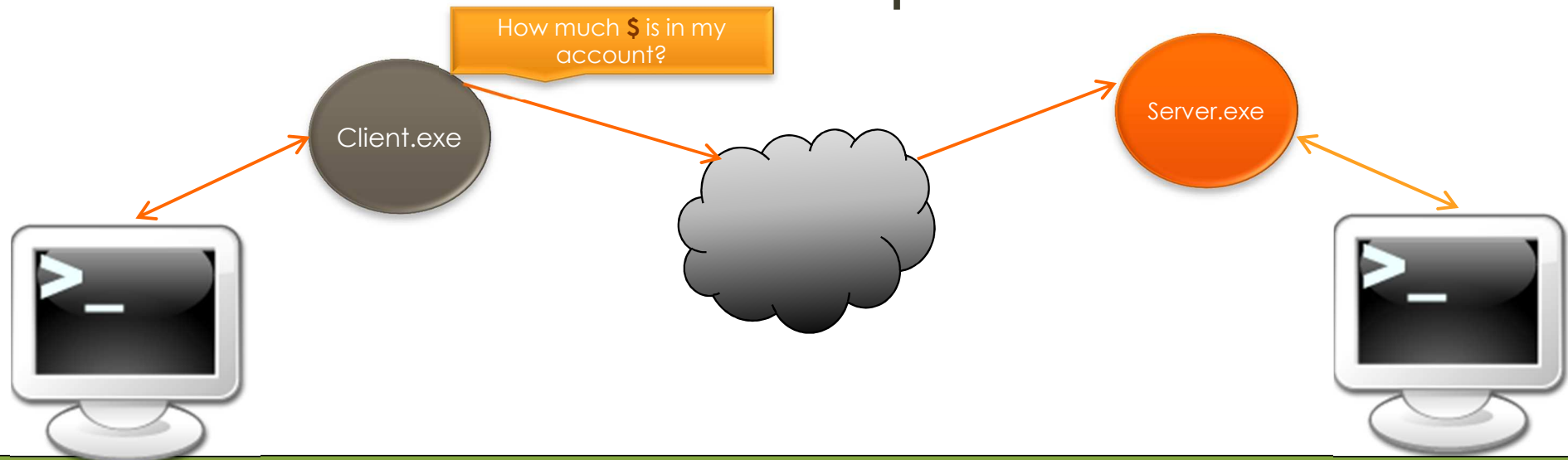
Program2.exe

IPC Method: Signal

- A message sent to a process to notify it that an event has occurred

- Interrupts the normal flow of the executing program

- Examples
  - CONTROL+C
    - SIGINT
      - Terminate current process
  - CONTROL+Z
    - SIGTSTP
      - Pause current process

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IPC Method: Event

- A message sent to a process to notify it that an expected event has occurred
- Does not necessarily interrupt the flow of the executing program
- Examples
  - Mouse click
  - Keyboard button pressed
  - New file created
  - TCP Message received
  - Mouse hover over

IPC Method: Network Socket

- A network protocol (ex: TCP/IP) interface that allows for incoming messages to be received from other local or remote processes

How much **$** is in my account?

Client.exe
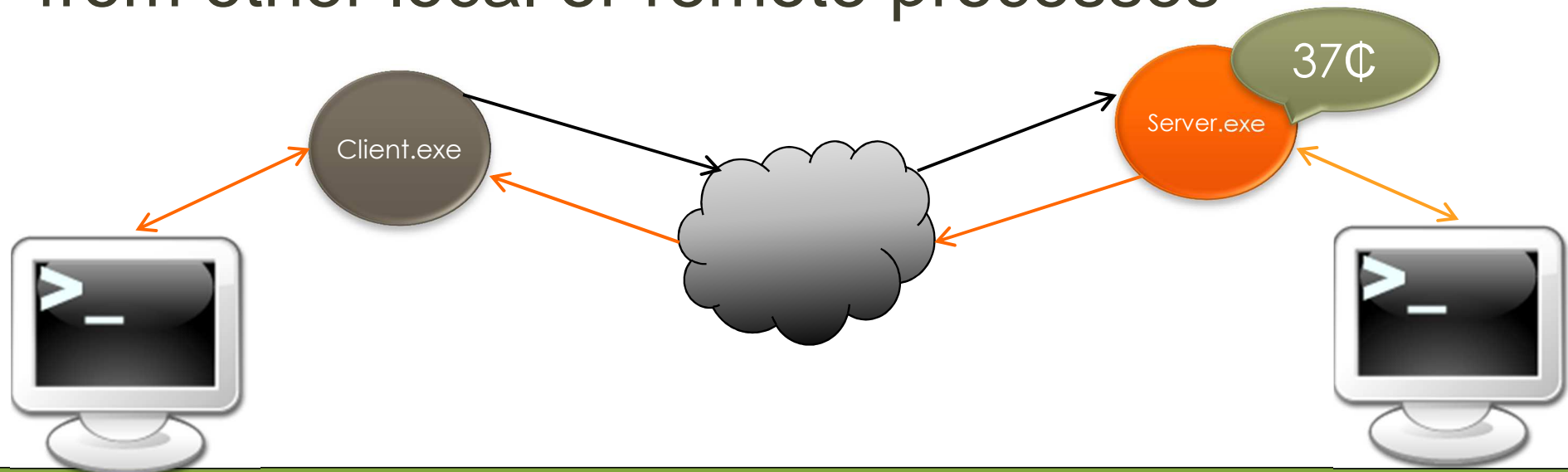
Server.exe

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IPC Method: Network Socket

- A network protocol (ex: TCP/IP) interface that allows for incoming messages to be received from other local or remote processes

Client.exe

Server.exe

37¢

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The End?