

Welcome to Section 2

Computer Components

Computer Hardware

Ware:

- Merchandise, product, goods etc.
- Computer hardware includes the physical parts of a computer, such as the case, central processing unit, monitor, mouse, keyboard, computer data storage, graphics card, sound card, speakers and motherboard. (*Wikipedia*)



My definition:

- Anything you can touch in computer world is a hardware

Software or Operating System

- Software is a written set of instructions that tell the computer what to do
- Operating system is a software which runs on top of a hardware
- Without operating system the hardware is a piece of brick
- The OS supports a computer's functions, such as scheduling tasks, executing applications, and controlling peripherals

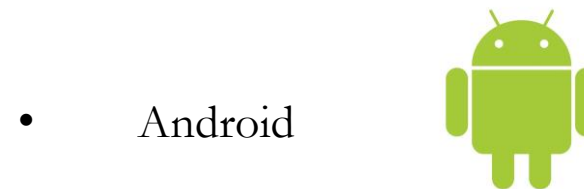


Software or Operating System

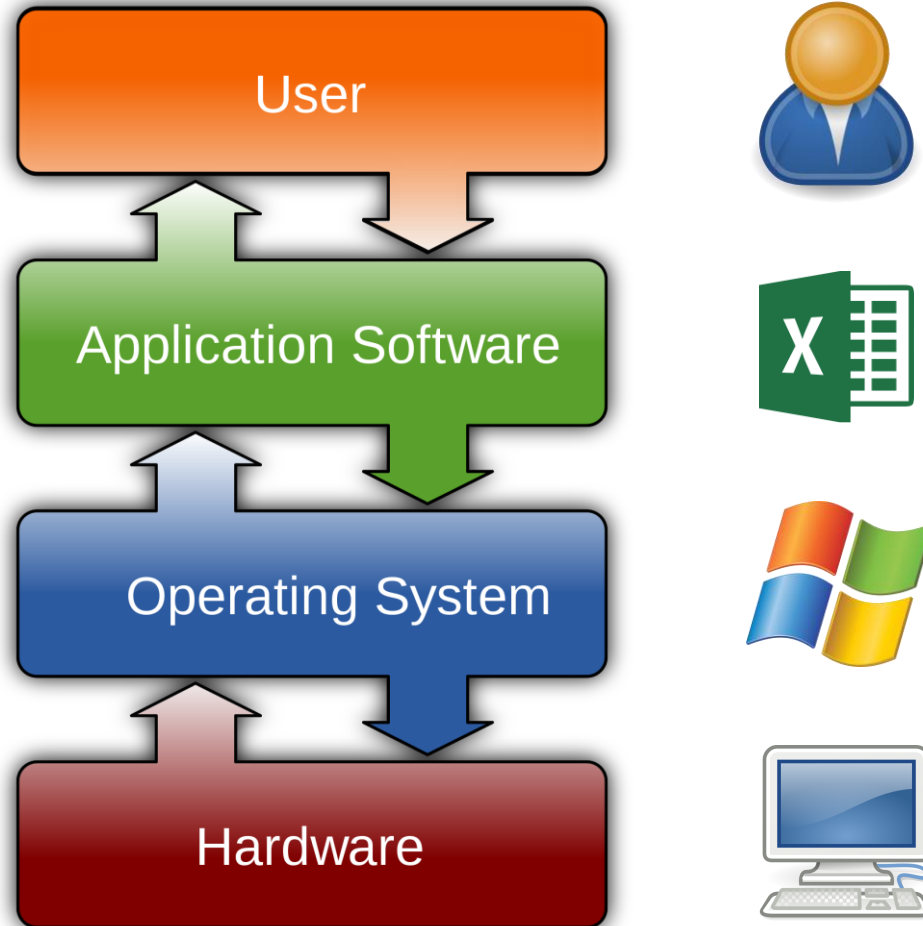
Example of Desktop/Laptop Operating Systems



Example of Mobile OS



Software or Operating System

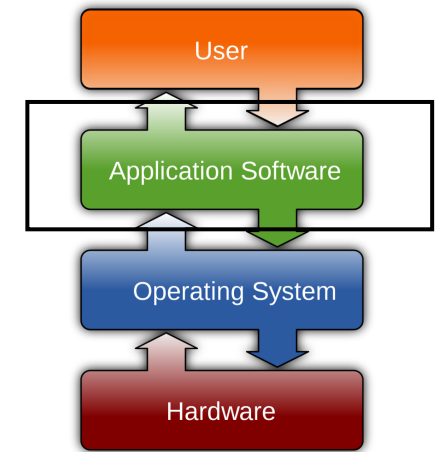


Applications

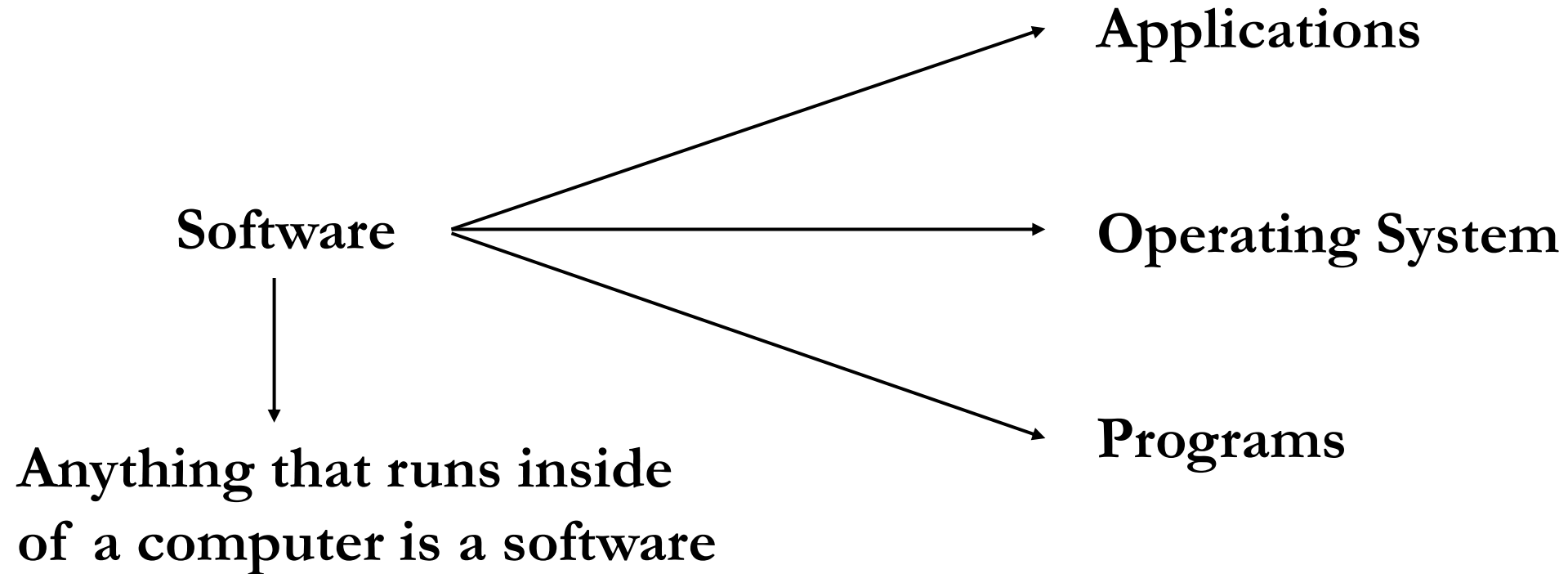
- Application is also one of the computer components
- Application is a program or combination of programs designed for users to perform certain tasks

Examples of Application:

- Microsoft Word, Excel, PowerPoint etc.
- Internet browser
- Accounting or Finance applications (ERP, SAP etc.)
- Apps that runs on mobile devices



Applications / Software



Other IT Components

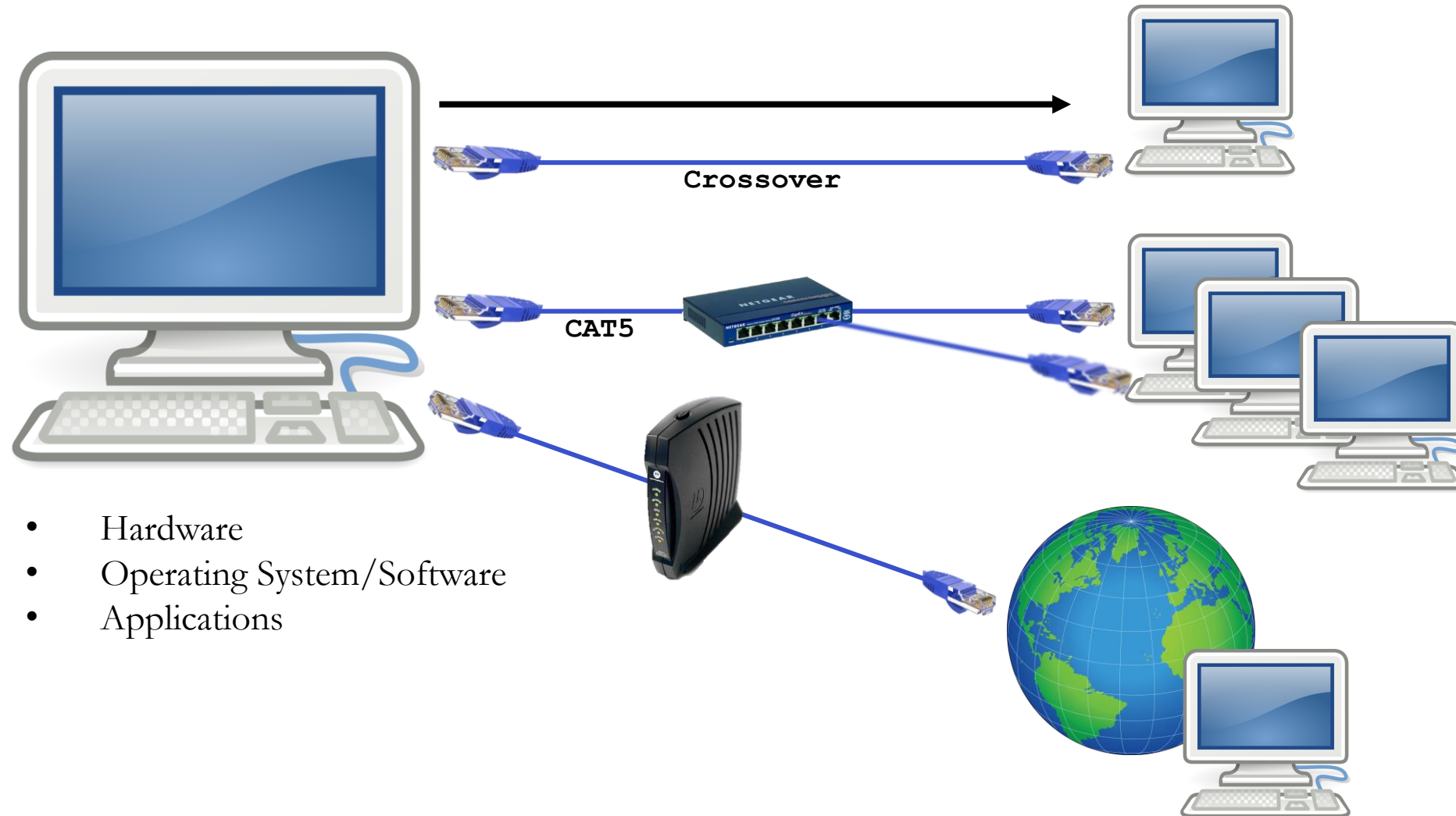
3 Basic Computer Components

- Hardware
- Operating System/Software
- Applications

Other Components

- Networking

Networking



- Hardware
- Operating System/Software
- Applications

Database

- Another component of IT or computers

Database

- Data is a collection of facts, such as numbers, words, measurements, observations or just descriptions of things. E.g. your name, age, height, weight, etc. are some data related to you. A picture, image, file, pdf, etc. can also be considered data.

- System
- Foundation
- Hub
- Central location



Database

A database is an organized and systematic collection of data generally stored and accessed electronically from a computer system. Databases make data management easy

Database

- **Question**

Data can be stored in a spreadsheet or a text document as well so why we need a database?

- Databases store information more efficiently, databases can handle volumes of information that would be unmanageable in a spreadsheet.
- Spreadsheets have record limitations whereas databases do not
- Compared to databases, spreadsheets can require a large amount of hard-drive space for data storage
- Joining records is a lot easier in DB than compared to text or spreadsheets.



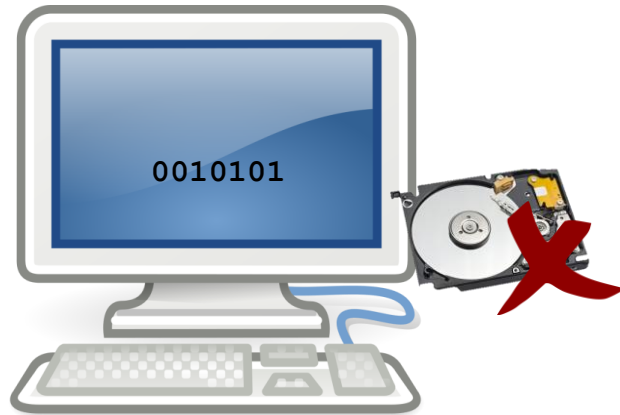
Storage

- Storage is a place in your computer where data is saved
- It can be a simple hard drive or solid-state drive
- Storage can be internal or external
- In IT world storage is another extended component which is a collection of multiple redundant disks also referred to as disk library that is used mostly in corporate world to store large volume of data



Storage

Home

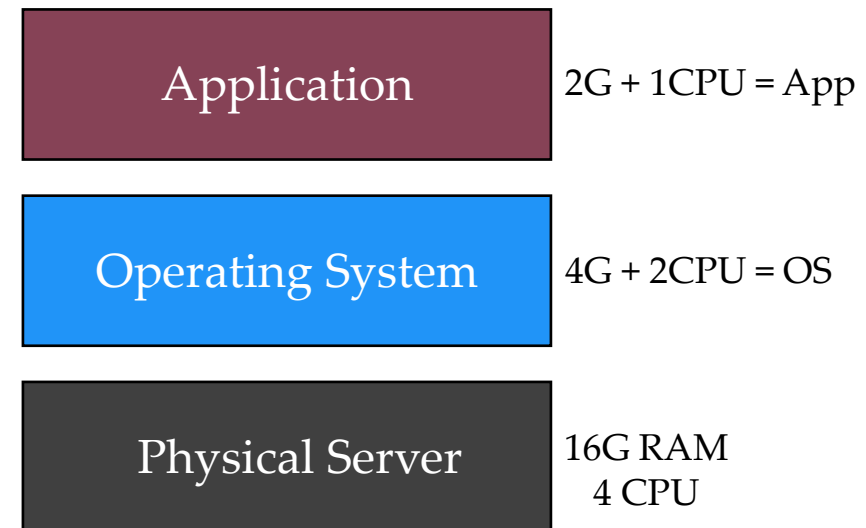
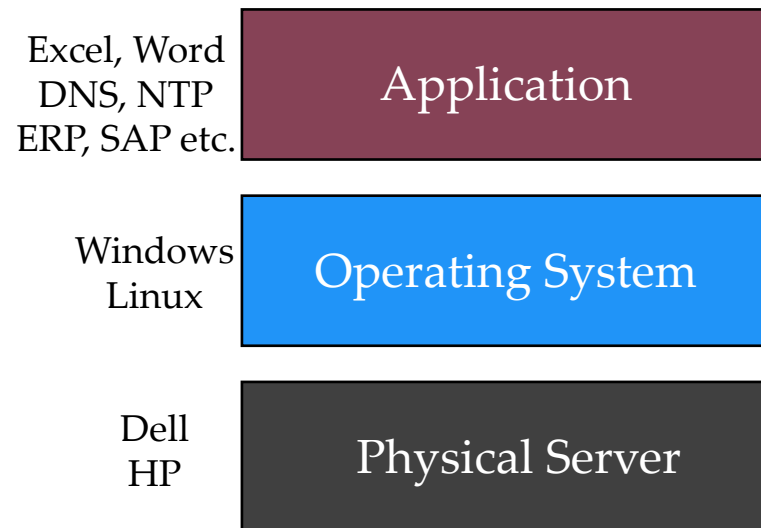


Corporate



Virtualization

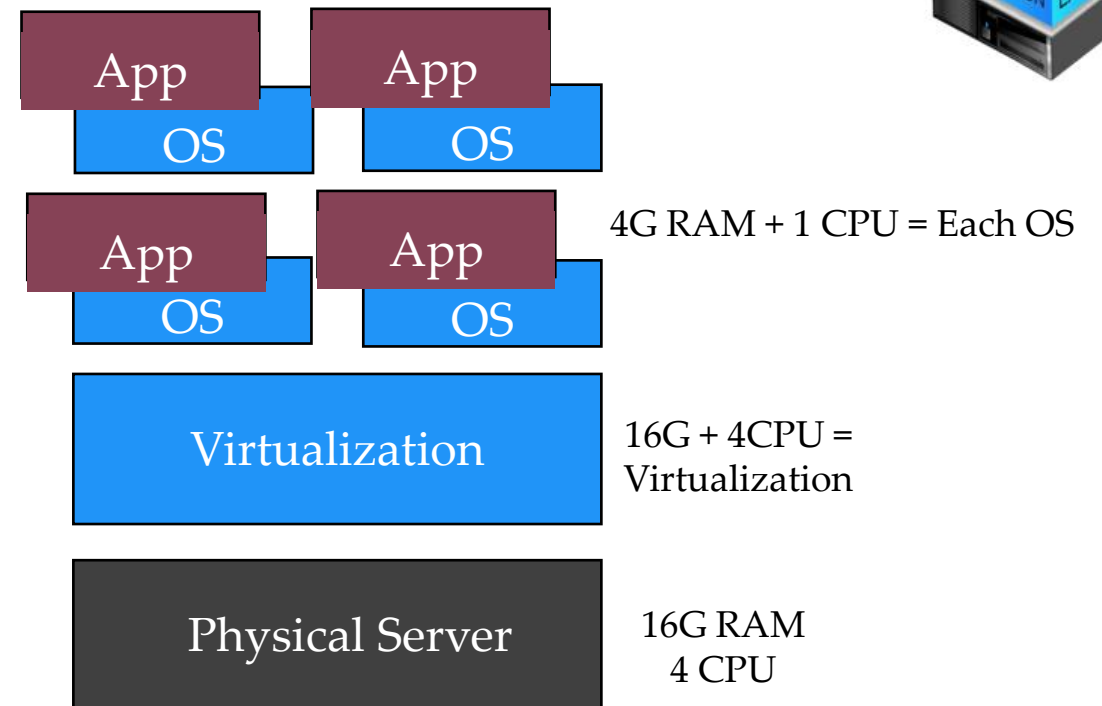
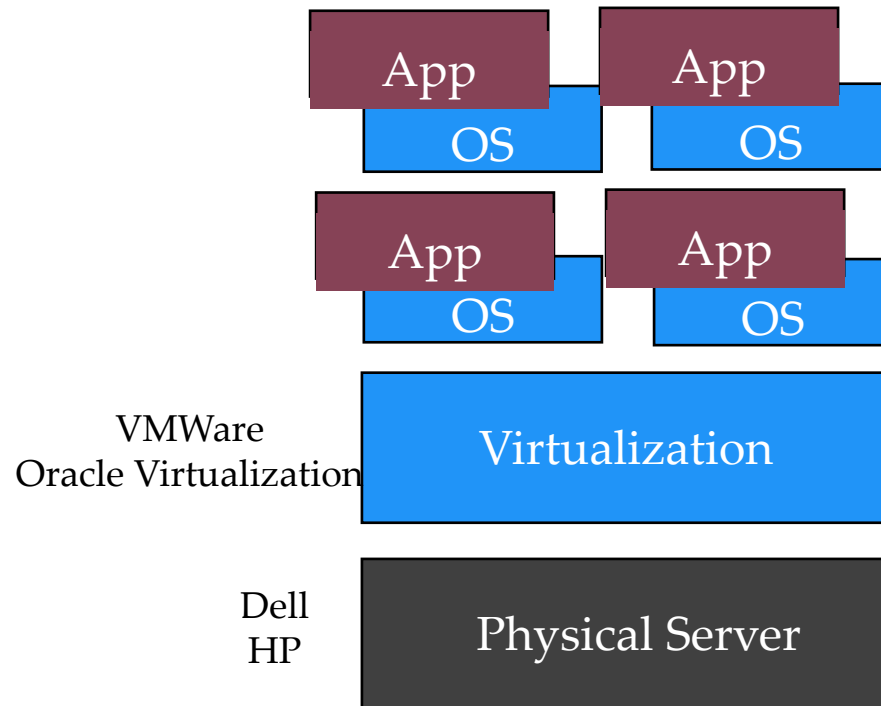
- What is Virtualization?
 - Let's understand the physical system configuration



8G and 2CPU
Resources are under utilized

Virtualization

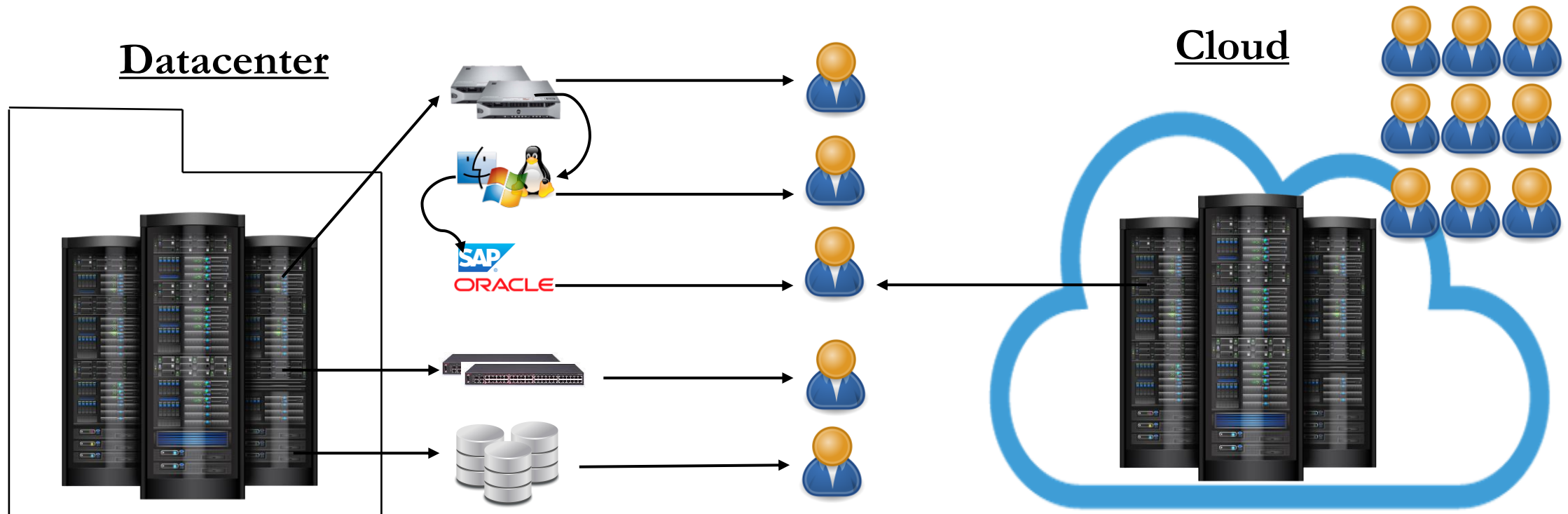
- Now let's look at virtualization



All resources are fully utilized

Cloud

- Cloud computing is the on-demand availability of computer system resources, especially data storage and computing power, without direct active management by the user. The term is generally used to describe data centers available to many users over the internet



IT Security

- Security is another extended component of IT
- Computer security, cybersecurity or information technology security is the protection of computer systems and networks from information disclosure, theft of or damage to their hardware, software, or electronic data, as well as from the disruption or misdirection of the services they provide. *Wikipedia*
- IT security prevents malicious threats and potential security breaches that can have a huge impact on your organization. When you enter your internal company network, IT security helps ensure only authorized users can access and make changes to sensitive information that resides there. IT security works to ensure the confidentiality of your organization's data
- Security can be applied at the following level:
 - Hardware
 - Operating System
 - Application
 - Network
 - Storage
 - Database
 - Virtualization / Cloud

