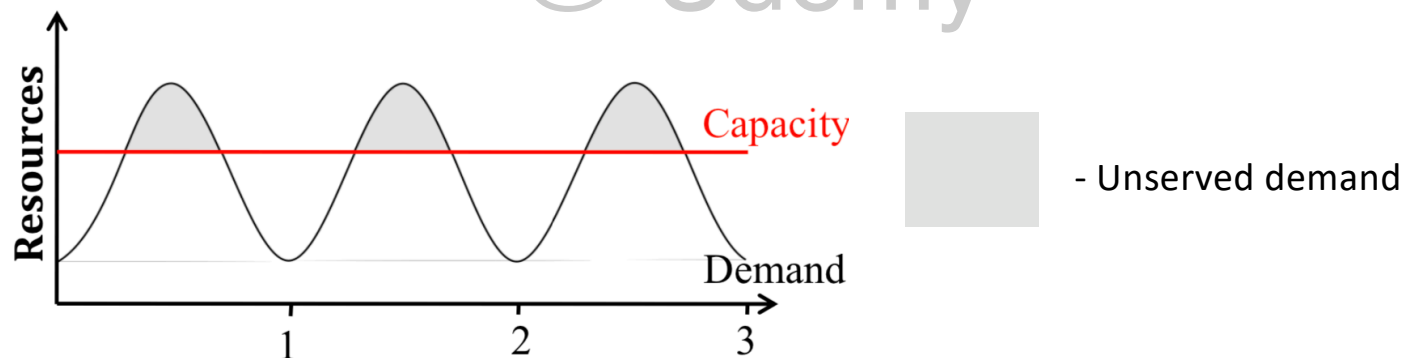
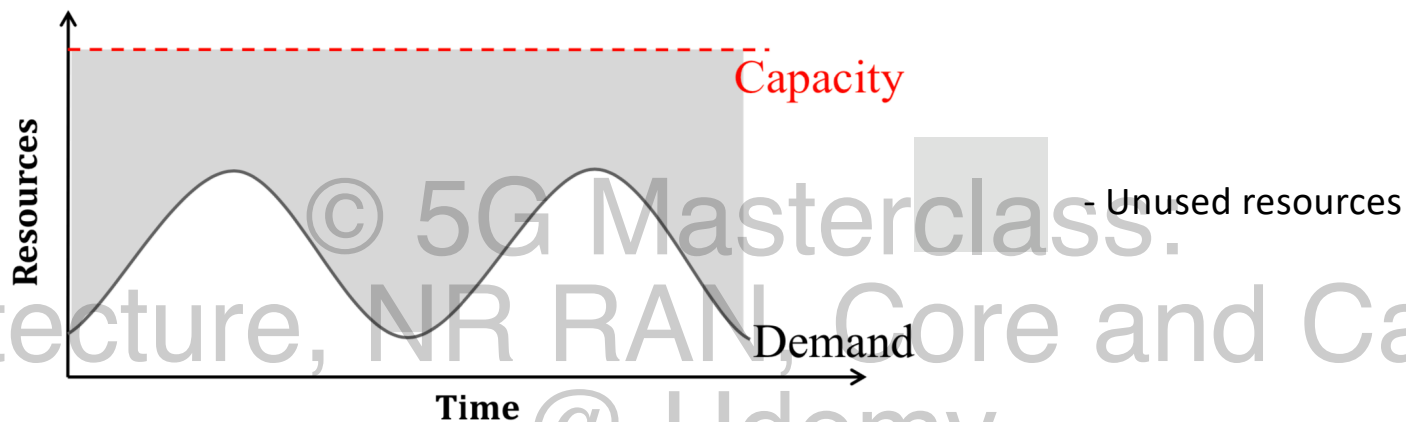


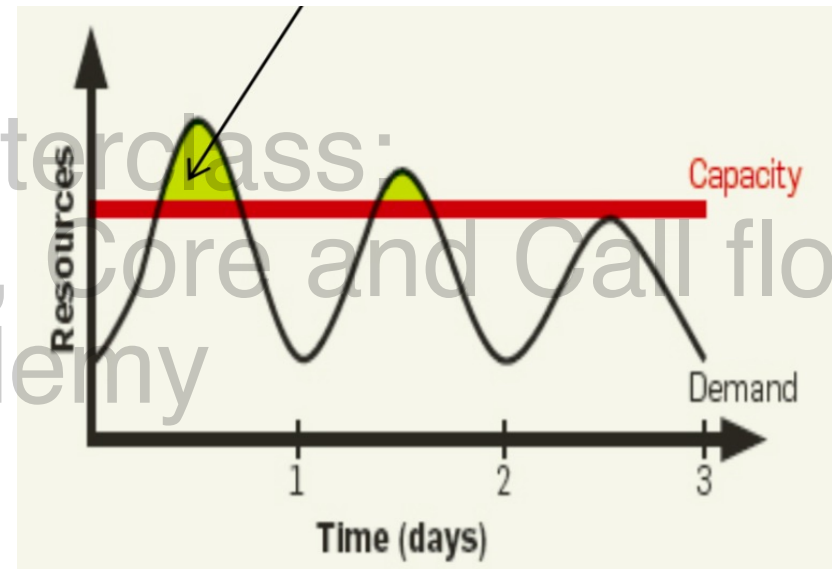
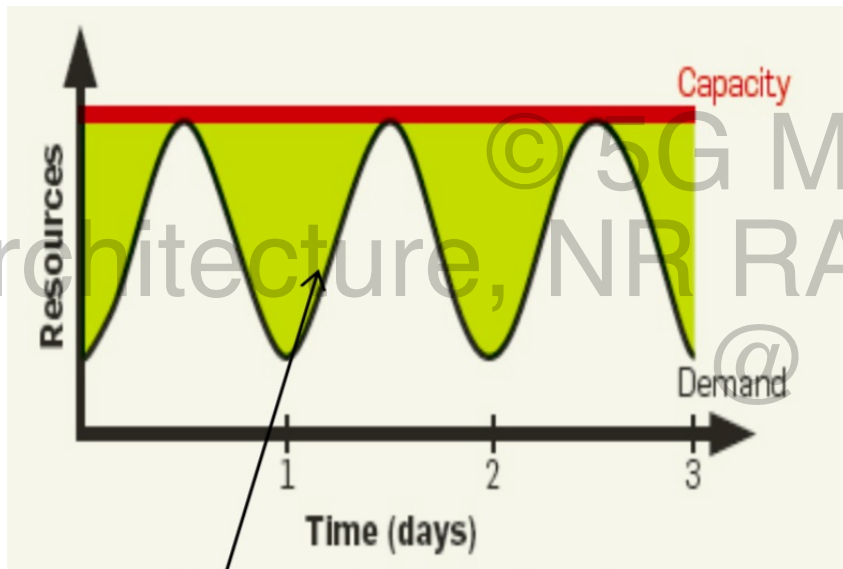
5G: Key
Enabling
Technologies

VIRTUALIZATION AND CLOUD

Server based systems



Server based systems



"Average server utilization is 5% to 20%"

Cloud computing

“on-demand availability of [computer system resources](#), especially [data storage](#) and [computing power](#), without direct active management by the user.”

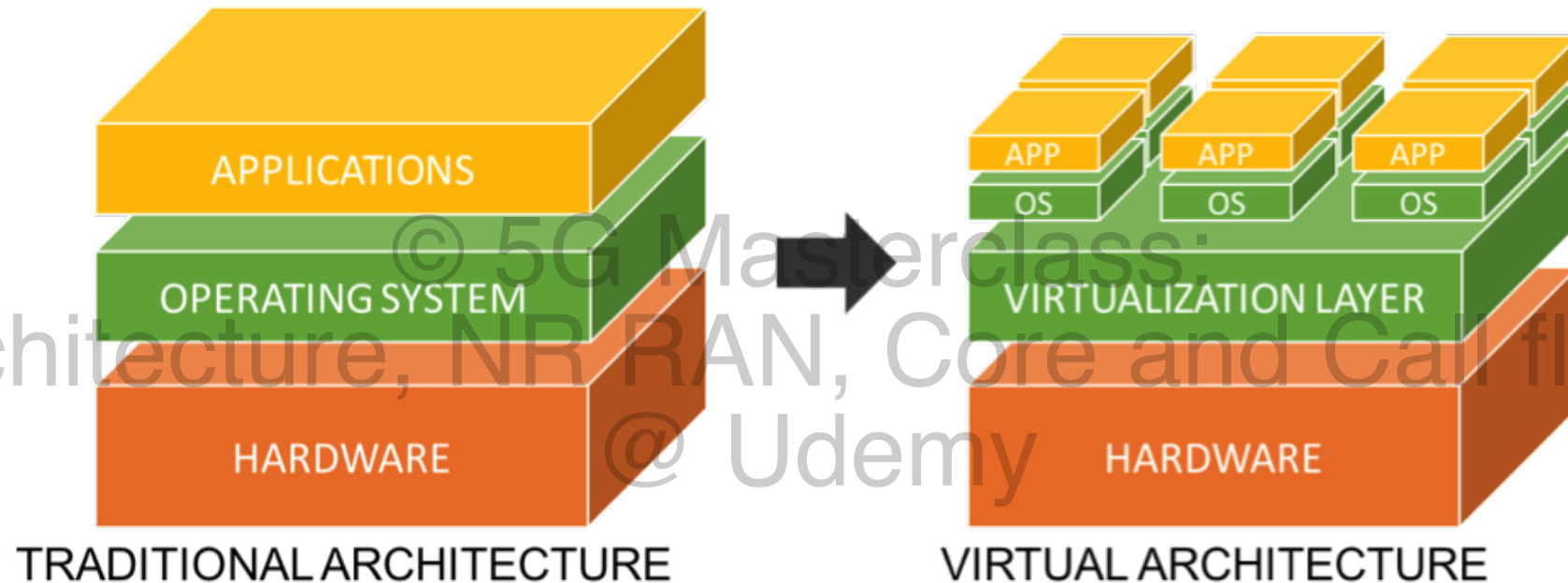
Example: Gmail Enterprise

- On demand storage
- On demand user accounts

Essential Characteristics - NIST

- On-demand self service
 - a consumer can unilaterally provision computing capabilities without human interaction with the service provider
- Broad Network Access
 - capabilities are – available over the network
- Multi-tenancy resource pooling
 - provider's computing resources are pooled to serve multiple consumers
- Rapid elasticity
 - capabilities can be rapidly and elastically provisioned
- Measured Service
 - metering capability of service/resource abstractions

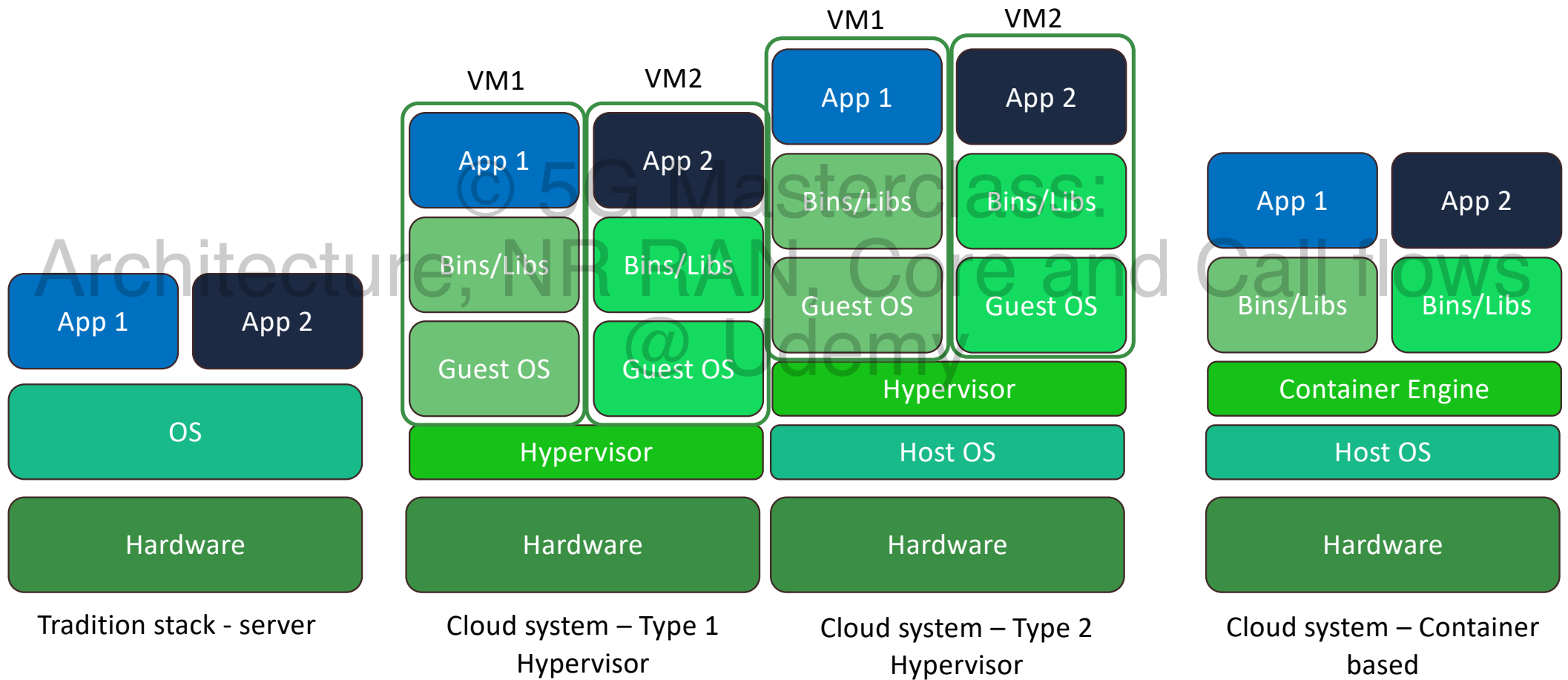
Virtualization



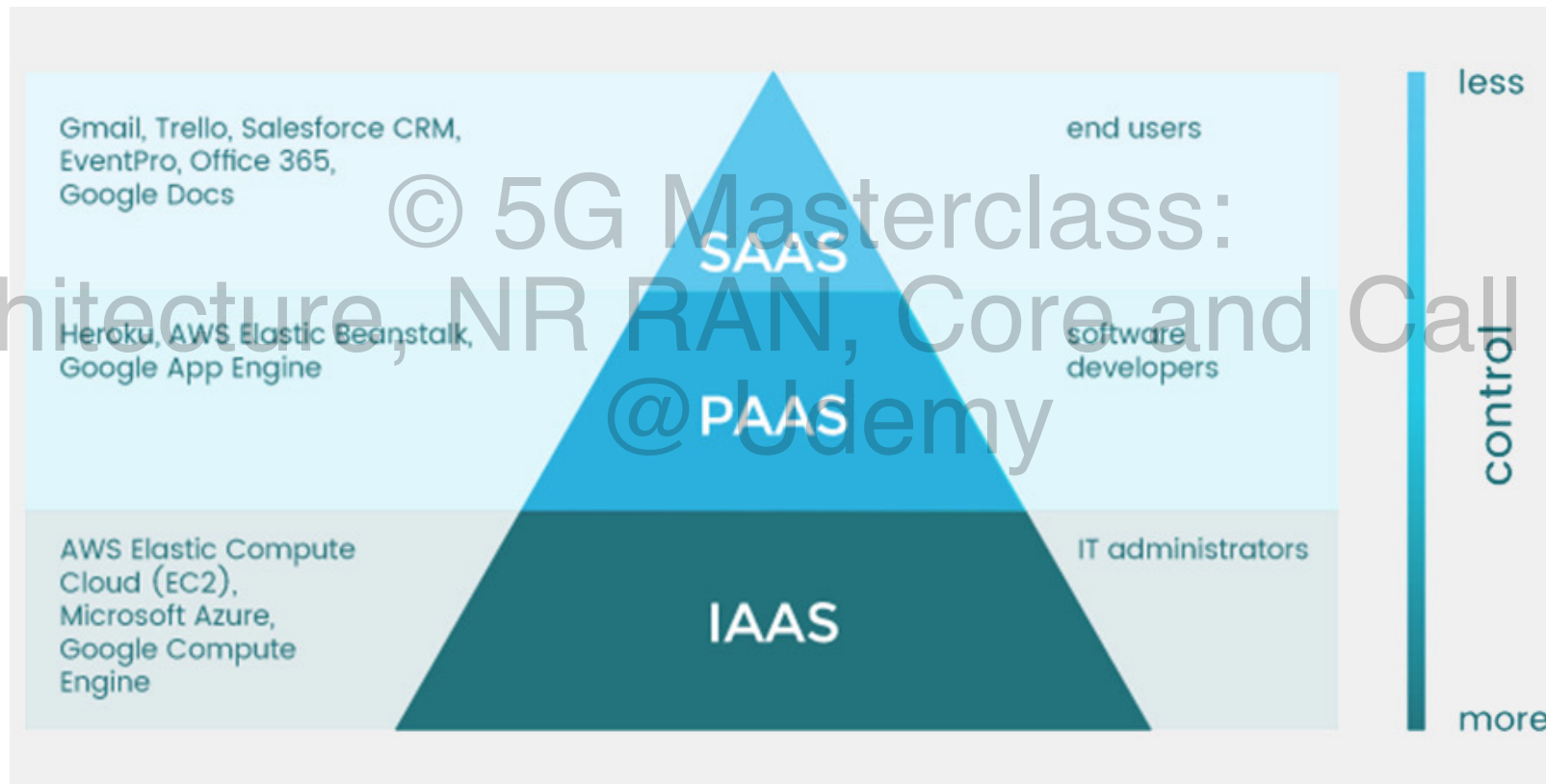
Virtualization is the process of running a virtual instance of a computer system in a layer abstracted from the actual hardware.

It is the process of creating a software-based, or virtual, representation of something, such as virtual applications, servers, storage and networks.

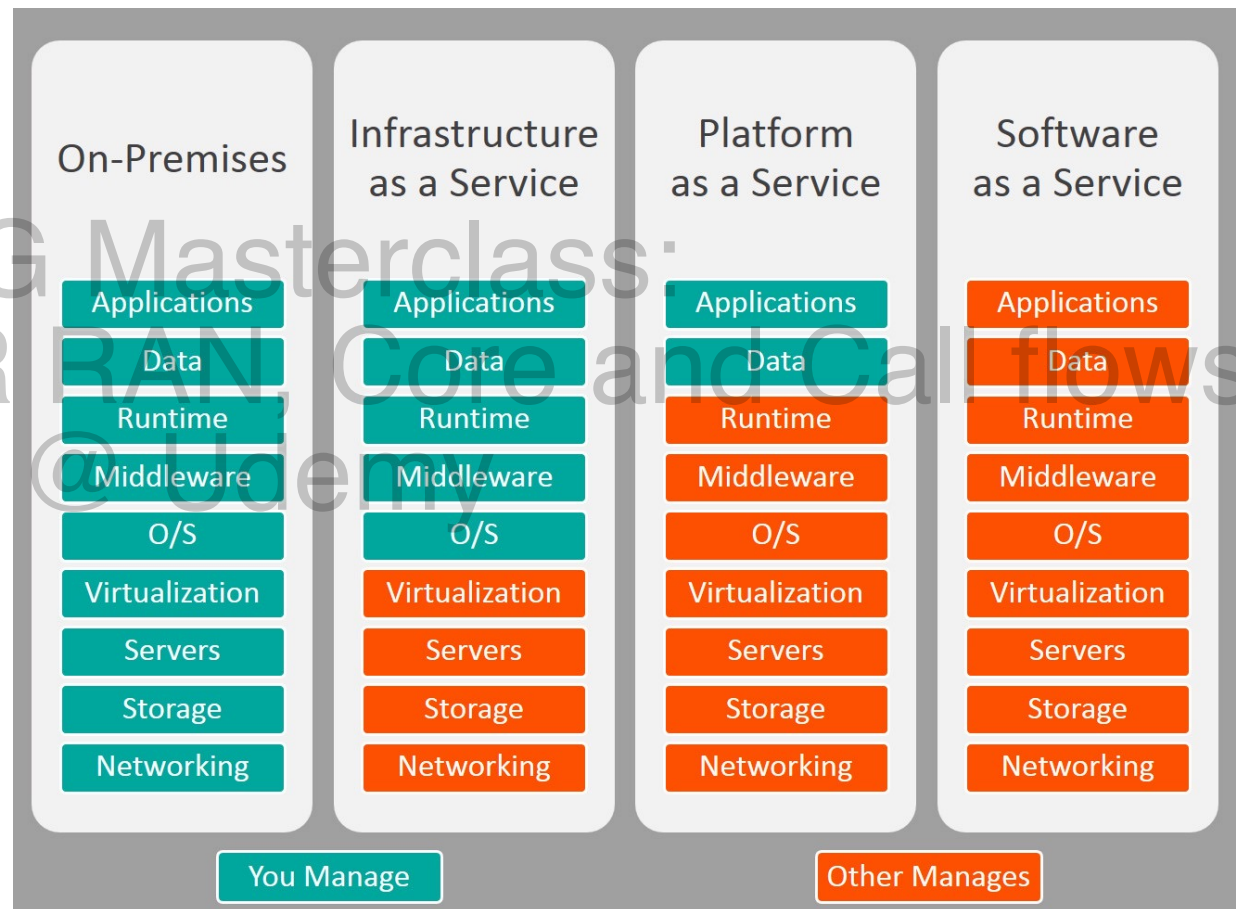
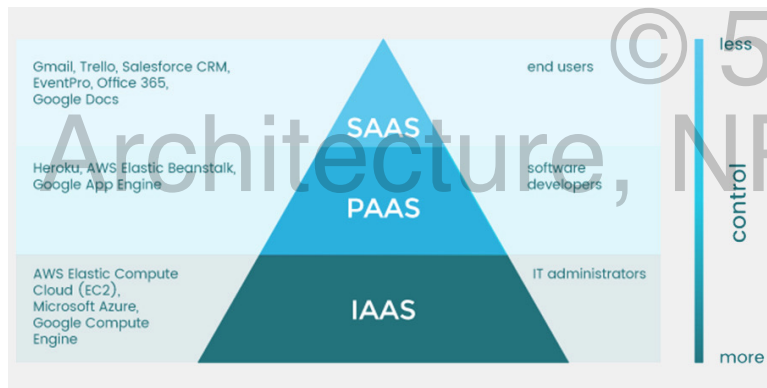
Cloud computing



Cloud Computing Services



Cloud Computing Services



Summary

- Server based Systems
- Cloud computing
- Virtualization
- Essential Characteristics of cloud
- Cloud computing services

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THANK YOU