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Master of
Cyber Physical Systems

INTERNATIONAL MASTER OF SCIENCE ON CYBER PHYSICAL SYSTEMS

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and is modified/improved by Dr. Ala' Khalifeh- German Jordanian

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Cloud Computing and BigData

Dr. Ala'a Khalifah

Cloud Computing

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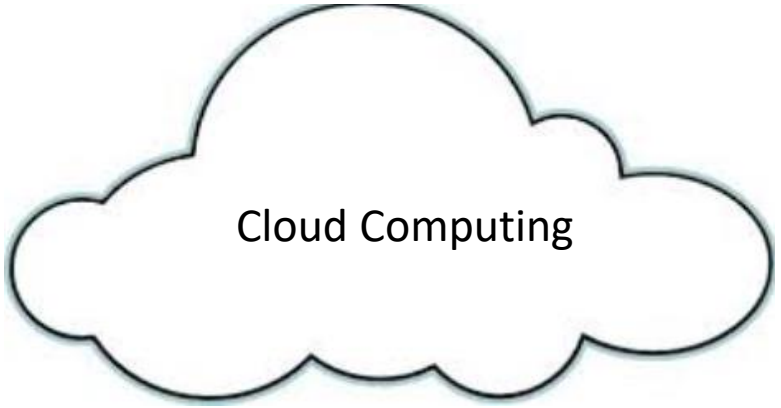
The National Institute of Standards and Technology's definition of cloud computing identifies "five essential characteristics":



- *1. On-demand self-service.*

Demand resources anytime and anywhere (e.g. server's resources, network)

- *2. Broad network access.*

Capabilities are available over the network and accessed through thin or thick client platforms (e.g., mobile phones, tablets, laptops, and workstations).

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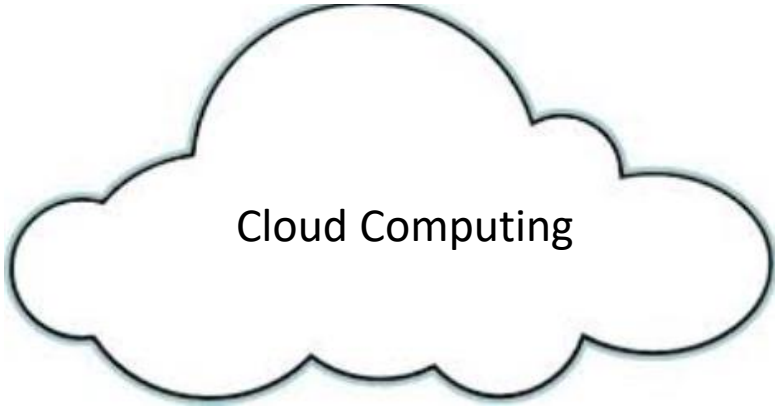

- *3. Resource pooling.*

The provider's computing resources are pooled (grouped) to serve multiple consumers according to consumer demand.

- *4. Rapid elasticity.*

Capabilities can be elastically provisioned and released, in some cases automatically, to scale rapidly outward and inward commensurate with demand

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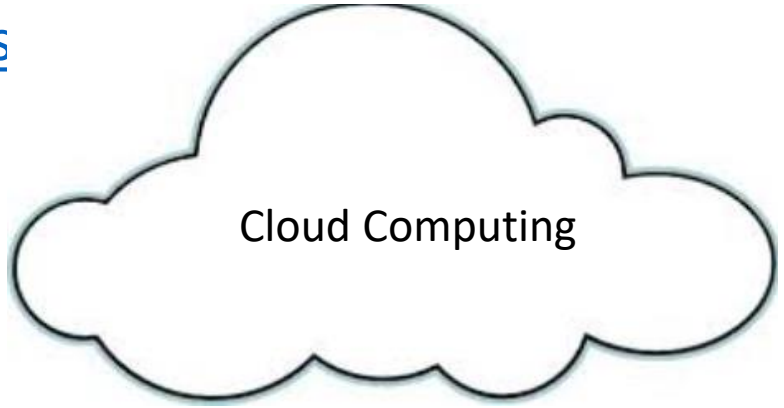

- *5. Measured service.* Cloud systems automatically control and optimize resource use by leveraging a metering capability at some level of abstraction appropriate to the type of service (e.g., storage, processing, bandwidth, and active user accounts).

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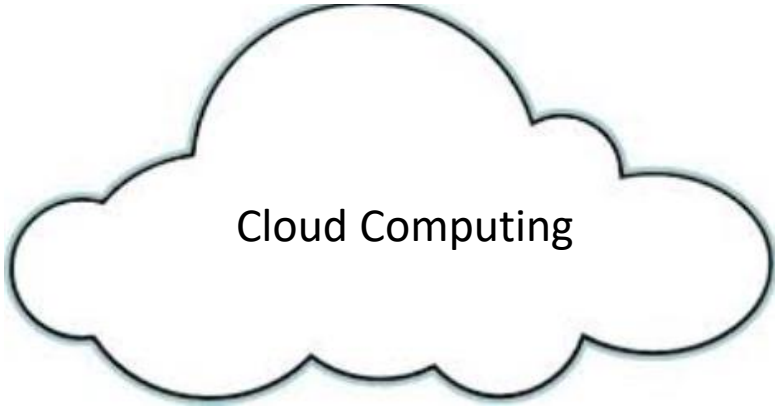

Big Data is a set of lage-size data generated from different resources such as: Statistics Marketing , Mobile applications, IoT etc.

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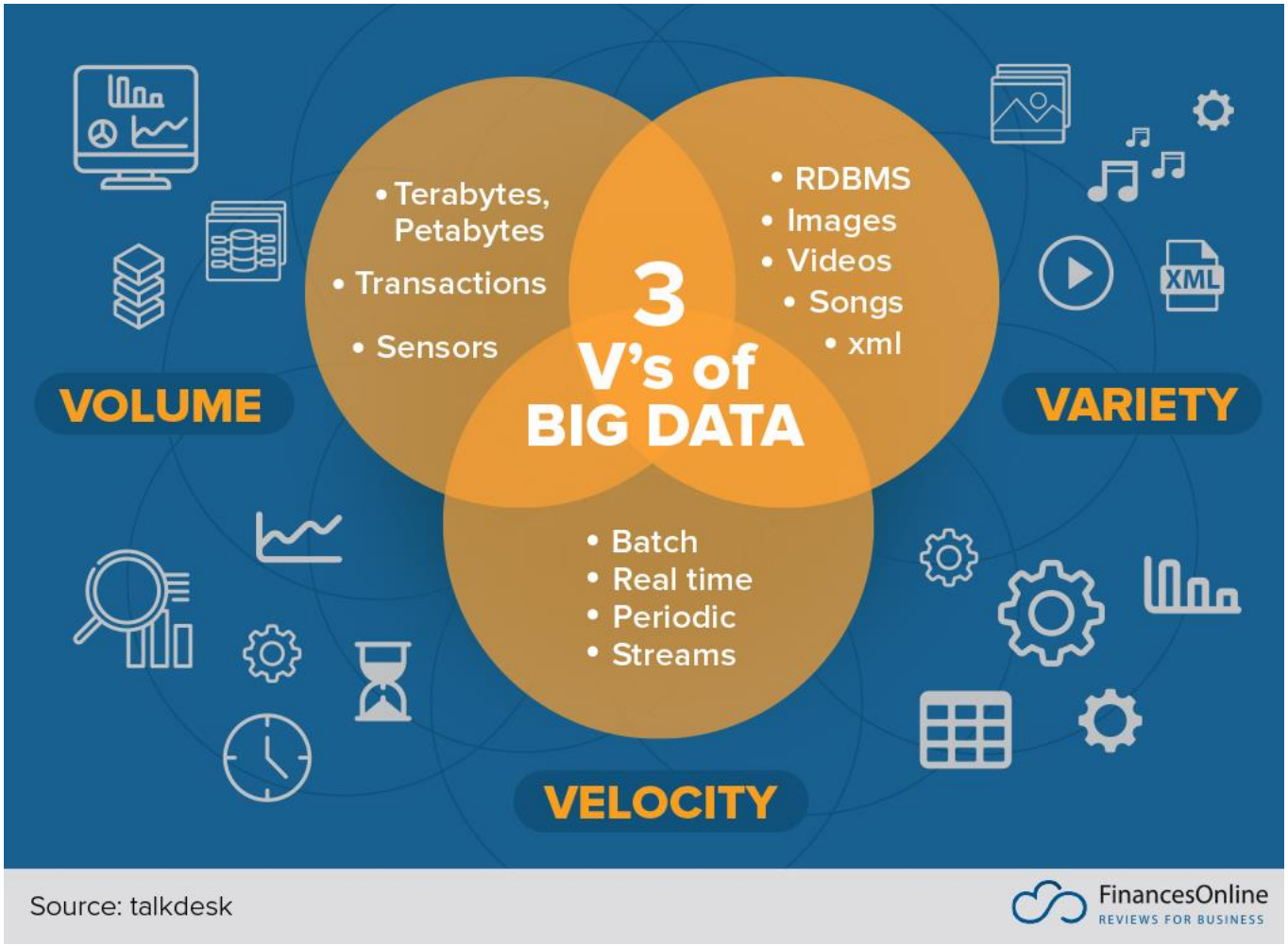

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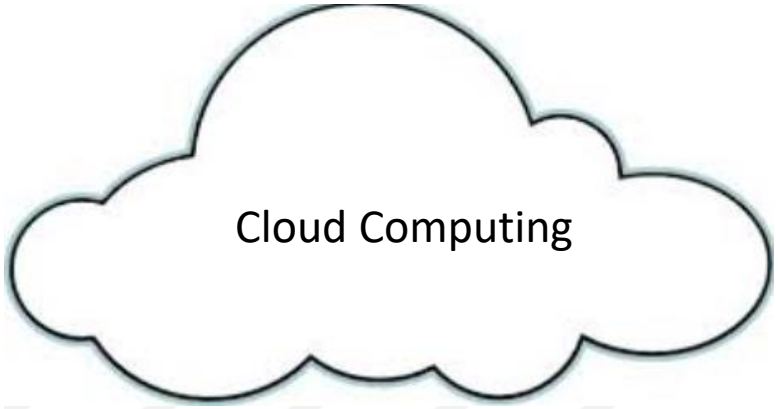

Interactive Questions

- Have you ever used a cloud infrastructure?
- Did you hear about Amazon Web Services (AWS) or MS Azure?
- Have you ever worked with Big Data?
- Do you think that "incurring high cost" is the main burden behind moving to the cloud?
- Do you think that a cloud infrastructure is less costly compared with traditional data center?