The NIST Cloud Computing Project
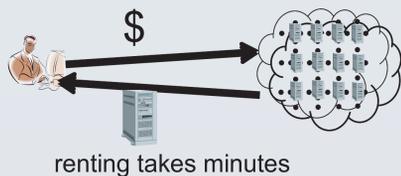
Goal: To enable the secure and effective use of cloud computing

What is NIST doing?

- Designing security assessment and authorization solutions
- Catalyzing industry development of cloud standards
- Producing technical guidance on architectures and security
- Researching modeling and simulation of cloud systems
- Supporting the Federal Cloud Computing Initiative

Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction.
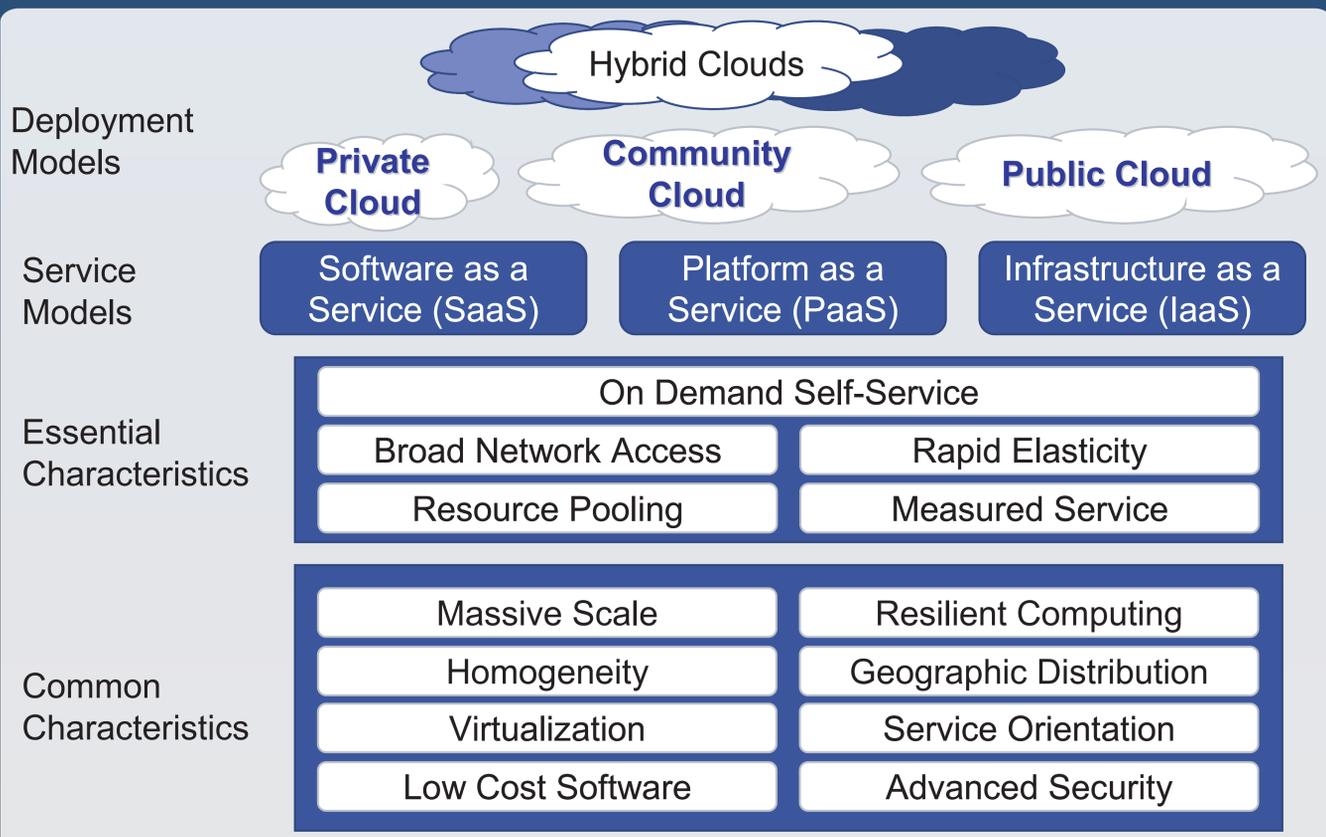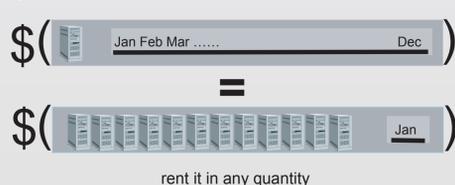
1 On-demand self service

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renting takes minutes

2 Ubiquitous network access

anywhere / any device

3 Metered use

=

conserve resources

4 Elasticity

$(| Jan Feb Mar ……. Dec)

=

$(| Jan)

rent it in any quantity

5 Resource pooling

off   off   on

reduces cost

Deployment Models	Hybrid Clouds		
	Private Cloud	Community Cloud	Public Cloud
Service Models	Software as a Service (SaaS)	Platform as a Service (PaaS)	Infrastructure as a Service (IaaS)

Essential Characteristics

On Demand Self-Service	
Broad Network Access	Rapid Elasticity
Resource Pooling	Measured Service

Common Characteristics

Massive Scale	Resilient Computing
Homogeneity	Geographic Distribution
Virtualization	Service Orientation
Low Cost Software	Advanced Security