

NIST SP800-145

-NIST Definition of Cloud Computing

1. From NIST's perspective, what are Cloud Computing's five essential attributes?

According to NIST, the five essential attributes of Cloud Computing are:

- On-Demand Self-Service—customer is in control of resources without needing to interact with service provider
- Broad Network Access—available over network through client platforms
- Resource Pooling—resources pooled to serve multiple consumers
- Rapid Elasticity—scalability (vertical and horizontal) should be able to scale rapidly
- Measured Service—leverage a metering capability to automatically control resource use

2. What are the three Cloud Computing service models that NIST cites?

NIST lists the following Cloud Computing service models:

- Software as a Service (SaaS)—ability to use provider's applications running on cloud infrastructure
- Platform as a Service (PaaS)—consumer deploys and controls application, but does not manage infrastructure
- Infrastructure as a Service (IaaS)—customer has control over operating systems, storage, deployed applications.

3. What are the four Cloud Computing deployment models that NIST cites?

The four Cloud Computing deployment models cited by NIST are:

- Private Cloud—on-premise or off-premise, provisioned for use by a single organization
- Community Cloud—provisioned for use by a specific community of consumers from organizations that have shared concerns
- Public Cloud—open for use by the general public. Exists on premises of cloud provider.
- Hybrid Cloud—composition of two or more distinct cloud infrastructures that remain unique entities but are bound together by technology that enables data and application portability