Theory 1: First Clearly Define What It Is

Theory 1: You cannot productively discuss cloud computing without first clearly defining what it is.

Cloud computing can be confusing since everyone seems to have a different definition of cloud computing. Without having a sound definition to operate upon discussing and analyzing is not effective. If one can't define what it is, how can one tell what is good, secure, sufficient or not?

Cloud computing is essentially a set of capabilities applicable to all aspects of IT from acquisitions, infrastructure, architecture, development, deployment, operations, automation, optimization, manageability, cost, et. al. Based on an individual's background and experience, cloud means different things to different people. A clear baseline of cloud computing is needed to avoid miscommunication and misunderstanding.

Credit: http://blogs.technet.com/b/yungchou/archive/2011/03/03/chou-s-theories-of-cloud-computing-the-5-3-2-principle.aspx#sthash.m-NfiAD1p.dpuf

http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf

Theory 2: Define Essence & Scope

Theory 2: The 5-3-2 principle defines the essence and scopes the subject domain of cloud computing.

Employ the 5-3-2 principle as a message framework to facilitate the discussions and improve the awareness of cloud computing. The message of cloud computing itself is however up to individuals to formulate. A system administrator and an application developer may have a very different view of cloud computing. Processes, operations and tasks may be at variance, the characteristics of cloud computing should nevertheless be consistent. Stay with this framework and focus on translating the capabilities of cloud computing into business values to realize the applicability of cloud computing to an examined business scenario..

Theory 3: The 5-3-2 Principle of Cloud

Theory 3: The 5-3-2 principle of cloud computing describes the 5 essential characteristics, 3 delivery methods, and 2 deployment models of cloud computing.

The 5-3-2 principle is a simple, structured, and disciplined way of conversing cloud computing. 5 characteristics, 3 delivery methods, and 2 deployment models together explain the key aspects of cloud computing. A cloud discussion is to validate the business needs of the 5 characteristics, the feasibility of delivering an intended service with SaaS, PaaS, or IaaS, and if public cloud or private cloud the preferred deployment model.

5-3-2 Principle of Cloud Computing

5 Essential Characteristics of Cloud Computing

■**On-Demand Self Service** - customer can order service via the web or another method at any point in time, which becomes immediately available for use.

■**Ubiquitous Network Access** - widespread, heterogeneous network accessibility for commonly used computing devices.

■**Location Transparent Resource Pooling** - the aggregation of physical compute resources into a logical 'pool' that is dynamically allocated in a multi-tenancy capacity across broad application service requirements.

■**Rapid Bi-Directional Elasticity** - additional capacity remains available and accessible on an 'as needed' basis, and is recovered to the pool when no longer needed.

■**Measured Service with Pay per Use** - all variables of resource consumption are tracked as used by the users and automatically billed for their usage.

3 Delivery Methods

The 3 delivery methods of cloud computing are:

■**SaaS - Software as a Service.** SaaS applications are designed for end-users, delivered over the web.

■**PaaS - Platform as a Service.** PaaS is the set of tools and services designed to make coding and deploying those applications quick and efficiently.

■**IaaS - Infrastructure as a Service.** IaaS is the hardware and software that powers it all – servers, storage, networks, and operating systems.
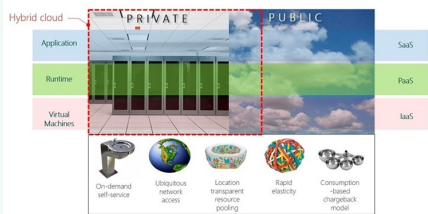
2 Deployment Methods

The 2 deployment methods of cloud computing are:

■**Public cloud**, is intended for public consumption

■**Private cloud**, the infrastructure is dedicated to an organization.

☐ **Private Cloud** assumes inside a private data center, on premises or hosted off premises by a 3rd party.

☐ **Hybrid Cloud** deployment extends the private cloud concept with resources being deployed between On and Off premises.

The 5-3-2 Principle of Cloud Computing