**Milestone 0: Topic selection**

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Topic: Cloud Architecture [and the case of Amazon AWS]

Description:

Everyone has an opinion on what is cloud computing. It can be the ability to rent a server or a thousand servers and run a geophysical modeling application on the most powerful systems available anywhere. It can be the ability to rent a virtual server, load software on it, turn it on and off at will, or clone it ten times to meet a sudden workload demand. It can be storing and securing immense amounts of data that is accessible only by authorized applications and users. It can be supported by a cloud provider that sets up a platform that includes the OS, Apache, a MySQL™ database, Perl, Python, and PHP with the ability to scale automatically in response to changing workloads. Cloud computing can be the ability to use applications on the Internet that store and protect data while providing a service — anything including email, sales force automation and tax preparation. It can be using a storage cloud to hold application, business, and personal data. And it can be the ability to use a handful of Web services to integrate photos, maps, and GPS information to create a mashup in customer Web browsers.

Cloud computing architecture refers to the components and subcomponents required for [cloud computing](http://en.wikipedia.org/wiki/Cloud_computing). These components typically consist of a front-end platform (fat client, thin client, mobile device), back end platforms (servers, storage), a cloud based delivery, and a network (Internet, Intranet, [Intercloud](http://en.wikipedia.org/wiki/Intercloud)). Combined, these components make up cloud computing architecture.

Cloud Architectures are designs of software applications that use Internet-accessible on-demand services. Applications built on Cloud Architectures are such that the underlying computing infrastructure is used only when it is needed (for example to process a user request), draw the necessary resources on-demand (like compute servers or storage), perform a specific job, then relinquish the unneeded resources and often dispose themselves after the job is done. While in operation the application scales up or down elastically based on resource needs.

AWS:

Amazon Web Services (AWS) is a collection of [remote computing](http://en.wikipedia.org/wiki/Remote_computer) services (also called [web services](http://en.wikipedia.org/wiki/Web_service)) that together make up a [cloud computing](http://en.wikipedia.org/wiki/Cloud_computing) platform, offered over the Internet by [Amazon.com](http://en.wikipedia.org/wiki/Amazon.com). The most central and well known of these services are [Amazon EC2](http://en.wikipedia.org/wiki/Amazon_EC2) and [Amazon S3](http://en.wikipedia.org/wiki/Amazon_S3). The service is advertised as providing a large computing capacity (potentially many servers) much faster and cheaper than building a physical server farm.

Reference:

1. Wikipedia---Cloud Computing Architecture
2. Wikipedia---Amazon Web Service
3. Cloud Architectures---Jinesh Varia (June 2008)
4. Introduction to Cloud Computing Architecture White Paper 1st Edition (June 2009)