

Cloud Computing Terms:

Advertising-based pricing model: A pricing model whereby services are offered to customers at low or no cost, with the service provider being compensated by advertisers whose ads are delivered to the consumer along with the service.

Amazon EC2: Amazon's Elastic Compute Cloud Web service, which provides resizable computing capacity in the cloud so developers can enjoy great scalability for building applications.

Amazon S3: Amazon Simple Storage Services — Amazon's cloud storage service.

Billing and service usage metering: You can be billed for resources as you use them. This pay-as-you-go model means usage is metered and you pay only for what you consume.

CDN: Content delivery network — a system consisting of multiple computers that contain copies of data, which are located in different places on the network so clients can access the copy closest to them.

Cloud: A metaphor for a global network, first used in reference to the telephone network and now commonly used to represent the Internet.

Cloud Application: a software application that is never installed on a local machine — it's always accessed over the Internet. The "top" layer of the Cloud Pyramid where "applications" are run and interacted with via a web-browser. Cloud Applications are tightly controlled, leaving little room for modification. Examples include: Gmail or Salesforce.com.

Cloud Arcs: short for cloud architectures. Designs for software applications that can be accessed and used over the Internet. (Cloud-architecture is just too hard to pronounce.)

Cloud as a service (CaaS): a cloud computing service that has been opened up into a platform that others can build upon.

Cloud Bridge: running an application in such a way that its components are integrated within multiple cloud environments (which could be any combination of internal/private and external/public clouds).

Cloud Broker: An entity that creates and maintains relationships with multiple cloud service providers. It acts as a liaison between cloud services customers and cloud service providers, selecting the best provider for each customer and monitoring the services.

Cloudburst: what happens when your cloud has an outage or security breach and your data is unavailable. The term cloudburst is being use in two meanings, negative and positive:

Cloudburst (negative): The failure of a cloud computing environment due to the inability to handle a spike in demand.

Cloudburst (positive): The dynamic deployment of a software application that runs on internal organizational compute resources to a public cloud to address a spike in demand.

Cloudcenter: A datacenter in the “cloud” utilizing standards-based virtualized components as a datacenter-like infrastructure; example: a large company, such as Amazon, that rents its infrastructure.

Cloud client: computing device for cloud computing. Updated version of thin client.

Cloud Computing: A computing capability that provides an abstraction between the computing resource and its underlying technical architecture (e.g., servers, storage, networks), 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.” This definition states that clouds have five essential characteristics: on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured service.

Narrowly speaking, cloud computing is client-server computing that abstracts the details of the server away; one requests a service (resource), not a specific server (machine). **Cloud computing** enables Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). Cloud computing means that infrastructure, applications, and business processes can be delivered to you *as a service*, over the Internet (or your own network).

Cloud Enabler: A general term that refers to organizations (typically vendors) who are not cloud providers per se, but make available technology, such as cloudware, that enables cloud computing. Vendor that provides technology or service that enables a client or other vendor to take advantage of cloud computing.

Cloud envy: used to describe a vendor who jumps on the cloud computing bandwagon by rebranding existing services.

Cloud governance and compliance: Governance defines who’s responsible for what and the policies and procedures that your people or groups need to follow. Cloud governance requires governing your own infrastructure as well as infrastructure that you don’t totally control. Cloud governance has two key components: understanding compliance and risk and business performance goals.

Cloud Hosting: A type of internet hosting where the client leases virtualized, dynamically scalable infrastructure on an as-needed basis. Users frequently have the choice of operating system and other infrastructure components. Typically cloud hosting is self-service, billed hourly or monthly, and controlled via a web interface or API.

Cloud Infrastructure: The “bottom” layer—or foundation—of the Cloud Pyramid is the delivery of computer infrastructure through paravirtualization. This includes servers, networks and other hardware appliances delivered as either Infrastructure Web Services or “cloudcenters”. Full control of the infrastructure is provided at this level. Examples include GoGrid or Amazon Web Services.

Cloud Manageability: You need a consistent view across both on-premises and cloud-based environments. This includes managing the assets provisioning as well as the quality of service (QoS) you’re receiving from your service provider.

Cloud OS: also known as platform-as-a-service (PaaS). Think Google Chrome.

Cloud Operating System: A computer operating system that is specially designed to run in a provider's datacenter and be delivered to the user over the Internet or another network. Windows Azure is an example of a cloud operating system or "cloud layer" that runs on Windows Server 2008. The term is also sometimes used to refer to cloud-based client operating systems such as Google's Chrome OS.

Cloud-Oriented Architecture (COA): A term coined by Jeff Barr at Amazon Web Services to describe an architecture where applications act as services in the cloud and serve other applications in the cloud environment. An architecture for IT infrastructure and software applications that is optimized for use in cloud computing environments. The term is not yet in wide use, and as is the case for the term "cloud computing" itself, there is no common or generally accepted definition or specific description of a cloud-oriented architecture.

Cloud Platform: The "middle" layer of the Cloud Pyramid which provides a computing platform or framework (e.g., .NET, Ruby on Rails, or Python) as a service or stack. Control is limited to that of the platform or framework, but not at a lower level (server infrastructure). Examples include: Google AppEngine or Microsoft Azure.

Cloud Portability: The ability to move applications (and often their associated data) across cloud computing environments from different cloud providers, as well as across private or internal cloud and public or external clouds.

Cloud provider: A company that provides cloud-based platform, infrastructure, application, or storage services to other organizations and/or individuals, usually for a fee.

Cloud Providers: Computing service providers whose product/platform is based on virtualization of computing resources and a utility-based payment model.

Cloud Pyramid: A visual representation of Cloud Computing layers where differing segments are broken out by functionality. Simplified version includes: Infrastructure, Platform and Application layers.

Cloud Security: The same security principles that apply to on-site computing apply to cloud computing security.

Cloud Servers: Virtualized servers running Windows or Linux operating systems that are instantiated via a web interface or API. Cloud Servers behave in the same manner as physical ones and can be controlled at an administrator or root level, depending on the server type and Cloud Hosting provider.

Cloud Service Architecture (CSA): A term coined by Jeff Barr, chief evangelist at Amazon Web Services. The term describes an architecture in which applications and application components act as services on the cloud, which serve other applications within the same cloud environment.

Cloud Sourcing: outsourcing storage or taking advantage of some other type of cloud service.

Cloud Standards: A standard is an agreed-upon approach for doing something. Cloud standards ensure interoperability, so you can take tools, applications, virtual images, and more, and use them in another cloud environment without having to do any rework. Portability lets you take one application or instance running on one vendor's implementation and deploy it on another vendor's implementation.

Cloud Storage: A service that allows customers to save data by transferring it over the Internet or another network to an offsite storage system maintained by a third party.

Cloud Storm: connecting multiple cloud computing environments. Also called cloud network.

Cloudstorming: The act of connecting multiple cloud computing environments.

Cloudware: A general term referring to a variety of software, typically at the infrastructure level, that enables building, deploying, running or managing applications in a cloud computing environment.

Cloudwashing: slapping the word “cloud” on products and services you already have.

Cluster: A group of linked computers that work together as if they were a single computer, for high availability and/or load balancing.

Consumption-based pricing model: A pricing model whereby the service provider charges its customers based on the amount of the service the customer consumes, rather than a time-based fee. For example, a cloud storage provider might charge per gigabyte of information stored. See also *Subscription-based pricing model*.

Customer self-service: A feature that allows customers to provision, manage, and terminate services themselves, without involving the service provider, via a Web interface or programmatic calls to service APIs.

Data in the cloud: Managing data in the cloud requires data security and privacy, including controls for moving data from point A to point B. It also includes managing data storage and the resources for large-scale data processing.

Detection and forensics: Separating legitimate from illegitimate activity.

Disruptive technology: A term used in the business world to describe innovations that improve products or services in unexpected ways and change both the way things are done and the market. Cloud computing is often referred to as a disruptive technology because it has the potential to completely change the way IT services are procured, deployed, and maintained.

Elasticity and scalability: The cloud is elastic, meaning that resource allocation can get bigger or smaller depending on demand. Elasticity enables scalability, which means that the cloud can scale upward for peak demand and downward for lighter demand. Scalability also means that an application can scale when adding users and when application requirements change.

Elastic computing: The ability to dynamically provision and de-provision processing, memory, and storage resources to meet demands of peak usage without worrying about capacity planning and engineering for peak usage.

Encryption: Coding to protect your information assets.

External cloud: Public or private cloud services that are provided by a third party outside the organization. A cloud computing environment that is external to the boundaries of the organization.

Funnel cloud: discussion about cloud computing that goes round and round but never turns into action (never “touches the ground”)

Google App Engine: A service that enables developers to create and run Web applications on Google’s infrastructure and share their applications via a pay-as-you-go, consumption-based plan with no setup costs or recurring fees.

Google Apps: Google’s SaaS offering that includes an office productivity suite, email, and document sharing, as well as Gmail, Google Talk for instant messaging, Google Calendar and Google Docs, spreadsheets, and presentations.

HaaS: **Hardware as a service;** see *IaaS*.

Hosted application: An Internet-based or Web-based application software program that runs on a remote server and can be accessed via an Internet-connected PC or thin client. See also *SaaS*.

Hybrid cloud: A networking environment that includes multiple integrated internal and/or external providers. Hybrid clouds combine aspects of both public and private clouds.

IBM Smart Business: IBM’s cloud solutions, which include IBM Smart Business Test Cloud, IBM Smart Analytics Cloud, IBM Smart Business Storage Cloud, IBM Information Archive, IBM Lotus Live, and IBM LotusLive iNotes.

Identity management - Managing personal identity information so that access to computer resources, applications, data, and services is controlled properly.

Infrastructure as a Service (IaaS): Cloud infrastructure services or “Infrastructure as a Service (IaaS)” delivers computer infrastructure, typically a platform virtualization environment, as a service. Rather than purchasing servers, software, data center space or network equipment, clients instead buy those resources as a fully outsourced service. The service is typically billed on a utility computing basis and amount of resources consumed (and therefore the cost) will typically reflect the level of activity. It is an evolution of web hosting and virtual private server offerings.

Internal cloud: A type of private cloud whose services are provided by an IT department to those in its own organization.

Mashup: A Web-based application that combines data and/or functionality from multiple sources.

Microsoft Azure: Microsoft cloud services that provide the platform as a service (see PaaS), allowing developers to create cloud applications and services.

Middleware: Software that sits between applications and operating systems, consisting of a set of services that enable interoperability in support of distributed architectures by passing data between applications. So, for example, the data in one database can be accessed through another database.

On-demand service: A model by which a customer can purchase cloud services as needed; for instance, if customers need to utilize additional servers for the duration of a project, they can do so and then drop back to the previous level after the project is completed.

Pay as you go: A cost model for cloud services that encompasses both subscription-based and consumption-based models, in contrast to traditional IT cost model that requires up-front capital expenditures for hardware and software.

Personal cloud: synonymous with something called MiFi, a personal wireless router. It takes a mobile wireless data signal and translates it to wi-fi. It's pronounced ME-fi, as in "the personal cloud belongs to me — but if you're nice I'll let you connect."

Platform as a Service (PaaS): Platform as a service — Cloud platform services, whereby the computing platform (operating system and associated services) is delivered as a service over the Internet by the provider. The PaaS layer offers black-box services with which developers can build applications on top of the compute infrastructure. This might include developer tools that are offered as a service to build services, or data access and database services, or billing services.

Private clouds: Private clouds are virtualized cloud data centers inside your company's firewall. It may also be a private space dedicated to your company within a cloud provider's data center. An internal cloud behind the organization's firewall. The company's IT department provides software and hardware as a service to its customers — the people who work for the company. Vendors love the words "private cloud."

Public cloud: Services offered over the public Internet and available to anyone who wants to purchase the service.

Roaming workloads - the backend product of cloud centers.

SaaS Software as a Service - Cloud application services, whereby applications are delivered over the Internet by the provider, so that the applications don't have to be purchased, installed, and run on the customer's computers. SaaS providers were previously referred to as ASP (application service providers). In the SaaS layer, the service provider hosts the software so you don't need to install it, manage it, or buy hardware for it. All you have to do is connect and use it. SaaS Examples include customer relationship management as a service.

Salesforce.com: An online SaaS company that is best known for delivering customer relationship management (CRM) software to companies over the Internet.

Self-service provisioning: Cloud customers can provision cloud services without going through a lengthy process. You request an amount of computing, storage, software, process, or more from the service provider. After you use these resources, they can be automatically deprovisioned.

Service migration: The act of moving from one cloud service or vendor to another.

Service provider: The company or organization that provides a public or private cloud service.

Service level agreement SLA - A contractual agreement by which a service provider defines the level of service, responsibilities, priorities, and guarantees regarding availability, performance, and other aspects of the service.

Standardized interfaces: Cloud services should have standardized APIs, which provide instructions on how two application or data sources can communicate with each other. A standardized interface lets the customer more easily link cloud services together.

Subscription-based pricing model: A pricing model that lets customers pay a fee to use the service for a particular time period, often used for SaaS services. See also *Consumption-based pricing model*.

Utility computing: Online computing or storage sold as a metered commercial service in a way similar to a public utility

Vendor lock-in: Dependency on the particular cloud vendor and difficulty moving from one cloud vendor to another due to lack of standardized protocols, APIs, data structures (schema), and service models.

Vertical cloud: A cloud computing environment that is optimized for use in a particular industry, such as health care or financial services.

Virtual Private Cloud (VPC): A term coined by Reuven Cohen, CEO and founder of Enomaly. The term describes a concept that is similar to, and derived from, the familiar concept of a Virtual Private Network (VPN), but applied to cloud computing. It is the notion of turning a public cloud into a virtual private cloud, particularly in terms of security and the ability to create a VPC across components that are both within the cloud and external to it. e.g., the Amazon VPC that allows Amazon EC2 to connect to legacy infrastructure on an IPsec VPN.

Virtual private data center: Resources grouped according to specific business objectives.

Windows Live Services: Microsoft's cloud-based consumer applications, which include Windows Live Mail, Windows Live Photo Gallery, Windows Live Calendar, Windows Live Events, Windows Live Skydrive, Windows Live Spaces, Windows Live Messenger, Windows Live Writer, and Windows Live for Mobile.