CPiO Cloud

A simple guide to cloud

The Cloud

Information, data or applications stored and made available via the internet for access anywhere. You only pay for the amount of computing resource you use. **Cloud Application** - a software application that is typically not installed on a local machine – its core functionality is always accessed over the internet. The 'top' layer of the **Cloud Pyramid** where applications are run and interact with via a web-browser. Cloud applications are tightly controlled leaving little room for modification when deployed in a multi-tenanted model. Examples include: gmail and salesforce.com.

Cloud as a Service (CaaS)

A cloud computing service that has been opened up into a platform that others can build upon.

Cloud Computing

A computing capability that provides an abstract 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
• Measured service

Narrowly speaking, cloud computing is client-server computing that abstract 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 process can be delivered to you as a service, over the internet or to your own network.

Cloud Hosting

A type of internet hosting where the client leases virtualised, dynamically scalable infrastructure on an as-needed basis. Users frequently have the choice of operating system and other infrastructure components. Typical 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** delivering computer infrastructure through para-virtualisation. This includes servers, networks and other hardware appliances delivered either as **Infrastructure Web Services or Cloud Centres**. Full control of the infrastructure is provided at this level. Examples include: GOGrid or Amazon Web Services.

Cloud Security

The same security principles that apply to on-site computing apply to cloud computing security, though typically with much more enhanced levels of protection.

Cluster

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

Hosted Application

An internet-based or web-based application software programme that runs on a remote server and can be accessed via an internet-connected PC or thin client. Also see **Software as a Service (SaaS)**.

Hybrid Cloud

A networking environment that includes multiple integrated internal or external providers. Hybrid clouds combine aspects of both public private clouds. An example: Someone taking only ERP or CRM in the cloud, but keeping all other services such as email, on-premise or with another provider.

Infrastructure as a Service (IaaS)

Cloud infrastructure Services (IaaS) delivers computer infrastructure, typically a platform virtualisation environment, as a service. Rather than purchasing servers, software, data centre space or network equipment, clients buy those resources as a fully outsourced service. This service is typically billed on a utility computing basis and amount of resources consumed, therefore, the cost will typically reflect the level of activity. It is an evolution of web hosting and virtual private server offerings. This service with all aspects of the hardware, backup and virtualisation stack managed, with the end user only then managing the software layer.

Private Clouds

Private virtualised cloud data centres sitting inside your provider's firewall. It may also be a private space dedicated to your company within a cloud provider's data centre; an internal cloud behind the organisation's firewall. The company's IT department provides data software and hardware as a service to its customers – the people who work for the company. Vendors love the words 'private cloud'. Essentially the same as **Software as a Service (SaaS)** and **Infrastructure as a Service (IaaS)**, but NOT exposed to the internet, i.e. a private link to the data centre from the client network(s).

Software as a Service (SaaS)

Cloud Application Services; applications are delivered

over the internet by the provider so that they 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 providers host the software so that 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 (CRM) as a service. Typically this type of service is delivered with an SLA and has a structured change control process to protect the service.

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

Desktop as a Service (DaaS)
A form of virtual desktop infrastructure (VDI) in which the VDI is outsourced and handled by a third party. Also called 'Hosted Desktop Services' and is frequently delivered as a cloud service along with the apps needed for use on the virtual desktop, often referred to as Hosted Desktop.

Online Backup
Online back up means to back up the data from your hard drive to a remote server or computer using a network connection. Online backup technology leverages Internet and cloud computing to create an attractive off-site storage solution with little hardware requirement for any business, any size.

Multi-tenancy
Can be economical because software development and maintenance costs are shared. In cloud computing the meaning of multi-tenancy architecture has broadened

because of new service models that take advantage of virtualisation and remote access. A software-as-a-service (SaaS) provider, for example, can run one instance of its application on one instance of a database and provide web access to multiple customers. In such a scenario, each tenant's data is isolated and remains invisible to other tenants.

Single-tenancy
Single-tenancy is an architecture in which a single instance of a software application and supporting infrastructure serves one customer which can also be customised to meet the specific needs of the customer. In the software-as-a-service (SaaS) delivery model, a customer is called a tenant.

Software as a Service (SaaS)
A software delivery method that provides access to software and its functions remotely as a web-based service. SaaS allows organisations to access business functionality at a cost that is typically lower that paying for licenced applications as SaaS pricing is based on a monthly fee.

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