

Cloud Computing a Internet Based Computing

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Abstract- In this paper we will discuss about Cloud Computing a Internet Based Computing. Services can be accessed from anywhere in the world by multiple devices. The cloud model leads to basically two different kinds of clouds: private and public. The public clouds are those that offer IT services to any customer over the Internet. Private clouds offer IT services to a predefined group of customers, with access through Internet or private networks. You might have also heard about internal and external clouds. The former are a subgroup of the private clouds, and provide services within the same company or corporate group. The latter may be public or private and provide services to other companies.

Keywords: Infrastructure-as-a-service (IaaS), platform-as-a-service (PaaS) and software-as-a-service (SaaS).

Introduction:

Cloud computing is the use of computing resources (hardware and software) that are delivered as a service over a network (typically the Internet). For example, email. The name comes from the common use of a cloud-shaped symbol as an abstraction for the complex infrastructure it contains in system diagrams. Cloud computing entrusts remote services with a user's data, software and computation.

End users access cloud-based applications through a web browser or a light-weight desktop or mobile app while the business software and user's data are stored on servers at a remote location. Proponents claim that cloud computing allows

companies to avoid upfront infrastructure costs, and focus on projects that differentiate their businesses instead of infrastructure. Proponents also claim that cloud computing allows enterprises to get their applications up and running faster, with improved manageability and less maintenance, and enables IT to more rapidly adjust resources to meet fluctuating and unpredictable business demand.

In the business model using software as a service (SaaS), users are provided access to application software and databases. Cloud providers manage the infrastructure and platforms that run the applications. SaaS is sometimes referred to as "on-demand software" and is usually priced on a pay-per-use basis. SaaS providers generally price applications using a subscription fee.

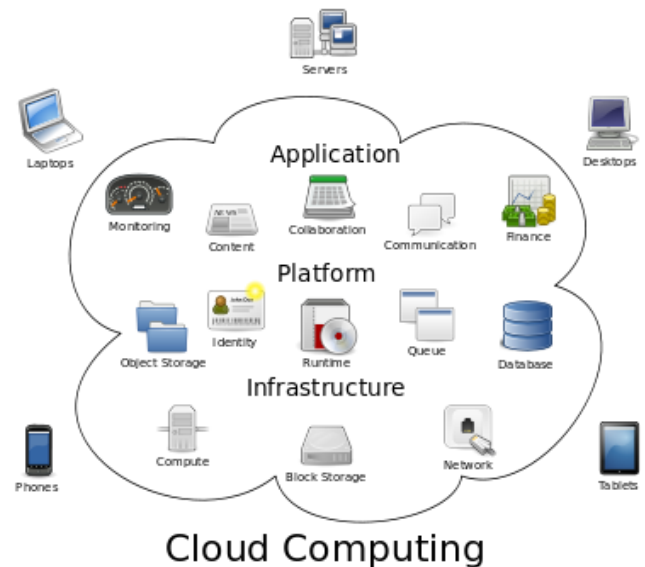


Figure Showing Cloud Computing

Categories:

IT services provided through the cloud are grouped into three categories:

- IaaS provides the processing environment (servers, storage, load balancers, firewalls). These services can be implemented through different technologies, virtualization being the most common one, but there are implementations that use grid technologies or clusters.
- PaaS provides an environment for developing and running applications. Authentication, authorization, session management and metadata are also part of this service.
- SaaS is the most advanced and complex cloud model. The software services provide functionalities that solve user problems, whether it's an individual or an employee of a company. Some examples of solutions that are now offered under the SaaS model include: business intelligence, Web conference, e-mail, office automation suites and sales force automation.
- The benefits of this model are clear and very attractive: to access a comprehensive service, eliminate investments, defer some costs and eliminate others, increase agility of IT areas, increase user mobility and improve the availability of services.
- However, given the novelty of the model, there are some aspects that have not yet been resolved, and as in all work environments, there are

risks that must be taken into account when assessing how, when and for what to use this new tool that is available to IT areas of companies.

Models:

Community cloud: Community cloud shares infrastructure between several organizations from a specific community with common concerns (security, compliance, jurisdiction, etc.), whether managed internally or by a third-party and hosted internally or externally. The costs are spread over fewer users than a public cloud (but more than a private cloud), so only some of the cost savings potential of cloud computing are realized

Hybrid cloud:

Hybrid cloud is a composition of two or more clouds (private, community or public) that remain unique entities but are bound together, offering the benefits of multiple deployment models. Such composition expands deployment options for cloud services, allowing IT organizations to use public cloud computing resources to meet temporary needs. This capability enables hybrid clouds to employ cloud bursting for scaling across clouds.

Cloud bursting is an application deployment model in which an application runs in a private cloud or data center and "bursts" to a public cloud when the demand for computing capacity increases. A primary advantage of cloud bursting and a hybrid cloud model is that an organization only pays for extra compute resources when they are needed.

Cloud bursting enables data centers to create an in-house IT infrastructure that supports average workloads, and use cloud resources

from public or private clouds, during spikes in processing demands

Private cloud:

Private cloud is cloud infrastructure operated solely for a single organization, whether managed internally or by a third-party and hosted internally or externally. Undertaking a private cloud project requires a significant level and degree of engagement to virtualize the business environment, and requires the organization to reevaluate decisions about existing resources. When done right, it can improve business, but every step in the project raises security issues that must be addressed to prevent serious vulnerabilities.

They have attracted criticism because users "still have to buy, build, and manage them" and thus do not benefit from less hands-on management,^[65] essentially "[lacking] the economic model that makes cloud computing such an intriguing concept

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