Cloud Computing and Latest Researches

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Abstract

Cloud computing refers to the applications delivered as services over the Internet. Cloud computing enables more energy-efficient use of computing power, especially when the computing tasks are of low intensity but under some circumstances cloud computing can consume more energy than conventional computing where each user performs all computing on their own personal computer (PC). In this paper it is described that how Cloud Computing serves as a computing paradigm, where large pool of system are connected in private or public networks, to provide dynamically scalable infrastructure, for application, data and file storage.

Keywords: ICT Architecture, Shared infrastructure, Network access, managed metering, Service models, Deployment models, Software as a Service (SAAS), Platform as a Service (PAAS), and Infrastructure as a Service (IAAS)

Introduction:

Cloud computing refers to the applications delivered as services over the Internet.The hardware and systems software in the data centers that provide those services. The services are referred to as Software as a Service (SAAS).and IAAS (Infrastructure as a Service) or PAAS (Platform as a Service).A style of computing where massively scalable IT-related capabilities are provided "as a service" to external customers using Internet technologies. Cloud Computing is a computing paradigm, where large pool of system are connected in private or public networks, to provide dynamically scalable infrastructure, for application, data and file storage[6]. Cloud computing is a model

for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.[1]
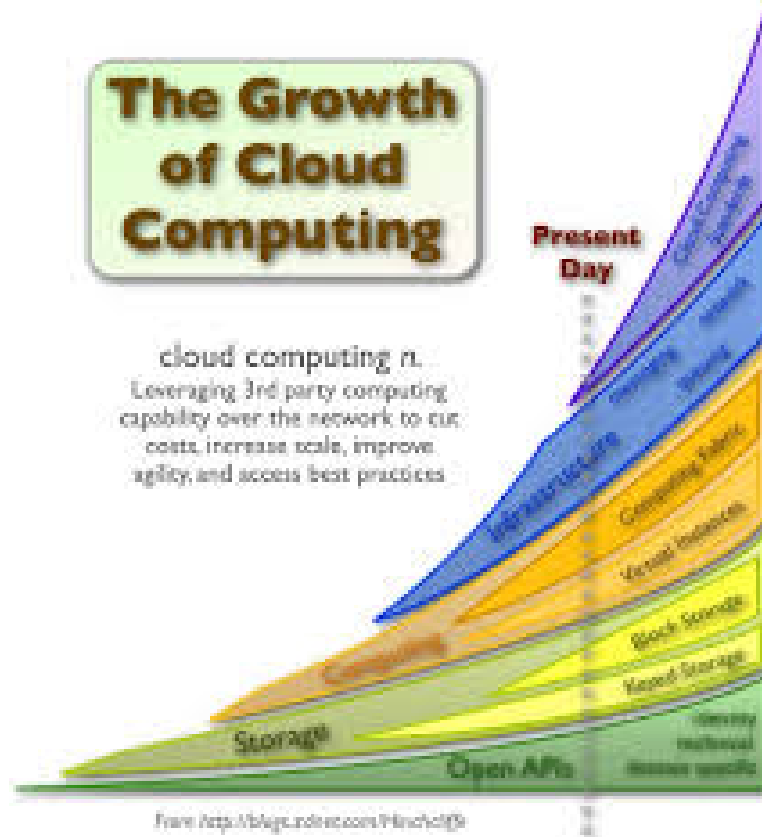

Fig 1 Cloud Computing Growth

Areas of Research

A few things that jump to mind as ripe areas for academic research on the cloud[2].

- Understanding and predicting performance at scale, with uncertain workloads and frequent node failures.
- Managing workloads across multiple datacenters with widely varying capacity, occasional outages, and constrained inter-datacenter network links.
- Building failure recovery mechanisms that are robust to massive correlated outages
- Managing dependencies in a large codebase that relies upon a wide range of distributed services like Chubby and GFS[7].
- Handling both large-scale upgrades to computing capacity as well as large-scale outages seamlessly, without having to completely shut down your service and everything it depends on

- Debugging large-scale cloud applications: tools to collect, visualize, and inspect the state of jobs running across many thousands of cores.

Researches
Nebulas
Distributed voluntary resources--those donated by end-user hosts are outlined in a way "--to form nebulas" that would potentially complement today's managed clouds from companies such as Amazon, IBM and Google. Nebulas could address the needs of service classes as we know more traditional clouds could not. It will provide more scalability, more geographical dispersion of nodes and lower cost. Possible users would include those rolling out experimental cloud services and those looking to offer free public services or applications.

Cloud Views:
Security issues are often raised whenever we talk about cloud computing, such as those involved with multiple customers having their data and applications sharing the same cloud resources.[4] Cloud Views is a Hadoop Base-supported common storage system being developed "to facilitate collaboration through protected inter-service data sharing's, public cloud providers must facilitate such collaboration--in the form of data driven, server side mashups--to ensure the market's growth through development of services.

Conclusion
This paper has reviewed and described that how Cloud Computing serves as a computing paradigm, where large pool of system are connected in private or public networks, to provide dynamically scalable infrastructure, for application, data and file storage. We have discussed the contributions that are available in this area from recent research and the researches that are to be done. We propose that cloud computing is the only way to have safe, effective clouds and managing highly distributed data and coping with failures. We have discussed about the nebulas and how it can enhance the scalability of cloud computing, discussed about cloud views and trusted cloud computing platforms that are playing an important and necessary role in enhancing the cloud computing.

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