Analysis on Cloud Classification using Accessibility

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ABSTRACT

In this paper, Cloud classification has been demonstrated using accessibility factor of distinct Cloud clusters. Group and non-group Cloud structures have been classified using its direction of scope of activities. Each type of Cloud is further divided into different clusters based on its unique status, such as reachable cluster, non-reachable cluster, basin cluster, momentary cluster, and initiation cluster. Set theory has been applied to realize our proposed Cloud system.

Keywords: Cloud, Connection Factor, Group Cloud, Non-Group Cloud, Non-Reachable Cluster, Reachable Cluster

INTRODUCTION

Background

Now-a-days, Cloud (http://en.wikipedia.org/cloud_computing) is one of the famous topic in research. Cloud services fetch information from different machines or storage systems organized in a distributed manner (Spinnato, Albada, Sloot, 2004). It is a helpful concept for those people who wish to save their data into some online storage which are globally scattered for main- tain security (Armoni, 2002). Cloud storage is an online storage which can be accessed by the authentic users over the Internet from any devices throughout the globe (Xu, Tang, Lee, 2006). Cloud architecture is based on distributed architecture (Buschmann, Henney, Schmidt, 2007). Cloud maintains a complex structure for easy access to programs and storage using available resources (Banerjee, Kundu, Bhaumik, Sinha Babu, Dattagupta, 2012). Cloud architecture needs genuine management between all the related modules (Spinnato, Albada, Sloot, 2004). Cloud typically communicates among the bi-directional data to synchronize using integrated facilities (Hart, McKenney, Brown, 2006). Therefore, synchronization is required for interaction in case of databases and movable devices for executing several communications using serial or parallel modes producing comprehensive solutions using transparency feature of distributed computing (http://en.wikipedia.org/wiki/Distributed_computing). Security

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issue is efficiently handled in Cloud systems measuring important information using specific mechanisms (Tai, 2009). Cloud shows several ways to architect and manage resources with computing powers (Kundu, Banerjee, Saha, 2010). A client typically establishes an account for log into specific Web sites to build and deploy application systems into a Cloud for services (Kundu, Banerjee, 2010). Cloud systems typically contain Web applications having HTTP services, relational databases, hardware & software based infrastructures, message queues (http://www.vmware.com/files/pdf/techpaper/cloud-infrastructure-architecture-case-study.pdf). E-commerce application services are also required to provide a customized technology to deploy into the Cloud which requires use of persistent storage built on reliable technologies (Sun, 2012). Cloud architecture should have the ability to increase or decrease the computing resources on demand basis using existing virtualization techniques as a function of business intelligence (http://www.tcs.com/SiteCollectionDocuments/White%20Papers/HighTech_Whitepaper_Business_Intelligence_Cloud_0412-1.pdf). E-commerce application services are also required to provide a customized technology to deploy into the Cloud which requires use of persistent storage built on reliable technologies (Sun, 2012). Cloud architecture should have the ability to increase or decrease the computing resources on demand basis using existing virtualization techniques as a function of business intelligence (http://www.tcs.com/SiteCollectionDocuments/White%20Papers/HighTech_Whitepaper_Business_Intelligence_Cloud_0412-1.pdf).

Cloud is created using typical distributed network structure available and accessible through Internet maintaining typical network topologies to facilitate the users round the clock basis (Xin, Baldine, Mandal, Heermann, Chase, Yumerefendi, 2011). Cloud maintains distinct services, either private or public, for the users to be facilitated on demand basis. In this modern era of computer, everyone wishes to have some idea about classification. A classifier has several types of implementations in different sectors of science and technology. Classifier is typically considered as a tree structure having featured inputs and outputs (Moretti, Steinhaeuser, Thain, Chawla, 2008). Typical classification has been clarified as reflecting evolutionary gaps and fundamental interaction between systems or modules. The systems of present era have had common roots in the past having same family members of the tree structure. The investigator in case of Cloud system inherits the customized modeling of the Cloud structure as a set of dynamic clusters (Pakin, 2007). Difficulties in evaluating behavior of a Cloud system from distinct Cloud clusters or designing a new Cloud architecture to realize the desired behavior have prolonged effects in different applications. An analytical formulation is reported in this paper to analyze state changing activities of a Cloud. A lot of researchers in the field of Cloud have tried to establish mathematical formalisms of computing models. There are a lot of research works available for designing Cloud architecture (Spinnato, Albada, Sloot, 2004).

Our proposed classification shows different types of Cloud structures based on its accessibility between specific source nodes and destination nodes.

**Main Goal**

Main goal is to classify distinct types of Cloud and its clusters based on the accessibility measurement.

**Motivation**

Cloud computing within a network environment has become an attractive option for delivering high performance on a range of applications. Cloud has been based on advances in technology areas like local-area and wide-area networking. The paper proposes a classification technique of Cloud providing high services and less maintenance to the users.

**RELATED WORKS**

**Past Researches**

Distributed network has distributed entities as applications (Andrews, 2000). The structural components are arranged in distributed manner for execution of clients’ requests in different servers with highly efficient and controlled high speed data transmission having typical scheduling. Server assignment based on specific computations is calculated. Homogeneous computers are considered in the same cluster. Various standards of devices have been enforced for improved choice of
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