© 2015 IJSRSET | Volume 1 | Issue 5 | Print ISSN : 2395-1990 | Online ISSN : 2394-4099
Themed Section: Engineering and Technology

Monitoring Cloud Resources Based on SAAS Community using Cloud Bee Live Cloud Service

Sapna Choudhary, Amarjeet Kurmi, Abhishek Dubey
Shri Ram Group of Institutions, Jabalpur, Madhya Pradesh, India

ABSTRACT

Distributed computing is present popular expression in the business sector. It is worldview in which the assets can be utilized on per use premise subsequently diminishing the expense and unpredictability of administration suppliers. Distributed computing guarantees to cut operational and capital expenses and all the more essentially give it a chance to divisions concentrate on vital ventures as opposed to keeping datacenters running. It is a great deal more than straightforward web. It is a build that permits client to get to applications that really dwell at area other than client's own PC or other Internet-associated gadgets. There are various advantages of this build. Case in point other organization has client application. This suggests that they handle expense of servers, they oversee programming redesigns and relying upon the agreement client pays less i.e. for the administration just. In this proposition Distributed registering, with its on-enthusiasm provisioning capacity on shared resources has ascended as another perspective for diminishing IT costs. In this thesis, we demonstrate the basic arranging of a provisioning structure that streamlines the course of action of complex application organizations on a Cloud base. We will exhibit the thought of Composite Appliance and clear up how it can be executed and used to streamline organization endeavors and to decrease costs. We layout the extensibility and inclinations of our setup with a model course of action containing a 3-level application advantages that are passed on and composed thusly without manual intercession on a game plan of virtual machines cases in a Cloud.

Keywords: Cloud Bee, Provisioning, Cloud Computing Services, Security Assertion Markup Language, Advancement Of Structured Information Standards, Openid, Cloudbees Platform

I. INTRODUCTION

The term Cloud first appeared in the early 1990s, referring mainly to large ATM networks. Cloud computing began in the beginning of this century, just a short nine years ago with the advent of Amazon‘s web-based services. Less than three years ago, Yahoo and Google announced plans to provide cloud computing services to some countries largest universities: Carnegie Mellon, University of Washington, Stanford and MIT [8]. The IBM quickly announced plans to offer cloud computing technologies. More recent entries into the encounter include well-known companies: Sun, Intel, Oracle, SAS and Adobe. All of these companies invested mightily in cloud computing infrastructure to provide vendor-based cloud services to the masses [10].

Cloud computing has become a buzzword of today. Cloud Computing is not a completely new concept; it has intricate connection to the established Grid Computing paradigm, and other relevant technologies such as utility computing, cluster computing, and distributed systems in general [10]. The term cloud is used as a metaphor for the internet.

Cloud Computing is a concept of computing in which dynamically scalable and often virtualized resources are provided as a service over the internet. Cloud Computing consists of hardware and software resources made available on the internet as managed by third-party services. These services typically provide access to advanced software applications and high-end networks of server computers [3].

To get Cloud Computing to work, three things are required: thin clients (or clients with a thick-thin switch), grid computing, and utility computing. Grid computing links disparate computers to form one large infrastructure, harnessing unused resources. Utility computing is paying for what users use on shared servers like consumers pay for a public utility such as electricity, gas, and so on [9].

1.2.1 Characteristics of Cloud

There is a level of consensus emerging around the characteristics of cloud computing, or the capabilities that must be adhered to an offering to be considered a cloud. These include [14]:

- Pay as you go – payment is variable based on the actual consumption by the customer.
- Highly abstracted – server hardware and related network infrastructure is highly abstracted from the users.

II. METHODS AND MATERIAL

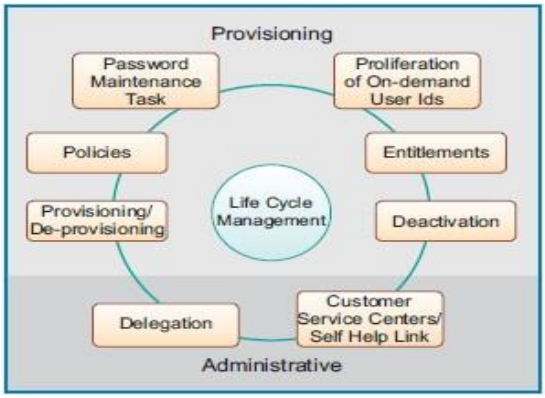
RELATED WORK

2.1 Cloud Identity Management

Managing identities and access control for enterprise applications remains one of the greatest challenges facing IT today. While an enterprise may be able to leverage several Cloud Computing services without a good identity and access management strategy, in the long run extending an organization‘s identity services into the cloud is a necessary precursor towards strategic use of on-demand computing services. Supporting today‘s aggressive adoption of an admittedly immature cloud ecosystem requires an honest assessment of an organization‘s readiness to conduct cloud-based Identity and Access Management (IAM), as well as understanding the capabilities of that organization‘s Cloud Computing providers [10].

2.1.1 Identity Lifecycle Management

Lifecycle management incorporates an integrated and comprehensive solution for managing the entire lifecycle of user identities and their associated credentials and entitlements. Functionally, it is divided into two components — the provisioning component and the administrative component. Administrative component defines delegations rules, providing self-service components to change personal details or make requests to the users. Delegation of administrative rights to local group or process-in-charge is crucial for a volatile and dynamic cloud based scenarios. Decentralizing the tasks will reduce the load on the authenticator component and also save time in making access control decisions [3]. Figure 2.1 illustrates the various components of lifecycle management. In cloud, provisioning means just-in-time or on-demand provisioning and de provisioning stands for real time de-provisioning. Just-in time provisioning indicates the federation of user accounts without sharing prior data, based on some trust model.



2.1.2 Security Assertion Markup Language (SAML)

The Organization for the Advancement of Structured Information Standards (OASIS) developed SAML as an XML-based specification for exchanging security information. Currently at Version 2, SAML defines syntax and exchange mechanisms for three kinds of assertions:

1. Authentication assertions, which are declarations about a user's identity
2. Attribute assertions, which contain particular details about a user
3. Authorization decision assertions, which specify what the user is allowed to do on a particular site

2.1.3 OpenID

OpenID is another way to achieve identity federation. It is centric around user, open and decentralized framework. It makes single sign on very easy to be achieved as user can have multiple logins and there is no requirement of predefined trust. It is mainly

authentication protocol mainly achieved through attribute exchange.

III. PROPOSED ALGORITHM

CloudBees Platform

The CloudBees Continuous Delivery Platform is unique in its integrated support of development, deployment and runtime activities. Most CI offerings focus on development time, while PaaS and DevOps tools tend to focus on runtime and deployment. A continuous delivery solution really needs to encompass both of these areas. But, continuous delivery isn't a one-size-fits-all proposition – most companies have existing investments, processes and constraints they need to live within and make use of. CloudBees development services give you the tools to build and manage a continuous delivery pipeline on-premise or in the cloud, or to use a mixture of on-premise and cloud resources. Our runtime services include our award winning PaaS that is already integrated with our development services and an ecosystem of best-of-breed partner services as well as an ability to deploy on-premise or to other PaaS offerings.

Proposed Algorithm for Provisioning Application and Resources:

for each request with QoS constraints:
resources←available_resources for the requested application;
Jobs_pending←number of jobs in the queue;
effort ← (Jobs_pending /resources)× averageJobsRuntime;
if effort > Remaining_Time_application then
additionalResources ←(Jobs_pending×averageJobsRuntime) / Remaining_Time_application;
CALL_New_Releics(job_Id);
// for resource provisioning
else
toRelease ← 0;
if Jobs_pending < resources then
toRelease ← Jobs_pending − resources;
end
else
Jobs_pending ← Jobs_pending + Jobs_running;
effort ← (Jobs_pending /resources)× averageJobsRuntime;
if effort < Remaining_Time_application then
toRelease←resources (Jobs_pending×averageJobsRuntime) /Remaining_Time_application;
end
end
CALL_New_Relics_Relaese_resources(job_Id);
end

System Deployment

For deploying and evaluation of proposed provisioning following setup has been arranged

1. Deploying services on **cloudbees.**
2. Configuring and install of **New Relics**
3. Implementation of proposed provisioning algorithm on **cloudBee** and **New Relics.**

Following are the steps for provisioning:

Step 1: firstly we have developed the web based application in J2EE.

Step 2: upload the web application in cloud using codeenvy cloud SAAS community and set the parameters.

Step 3: open cloud bees PAAS and IAAS services after successful authentication and authorization.

Step 4: setup the configuration of application for provisioning and set the properties for deployment of application on cloud bees.

Step 5: deploy the application on cloud after that check the load statistics and system information on which application is running.

Step 6: result solve the problem of location of servers and virtualization mention in base paper.

IV. RESULTS AND DISCUSSION

Figure 4.1: This graph shows load statistics of resources after deploying application in cloud bees

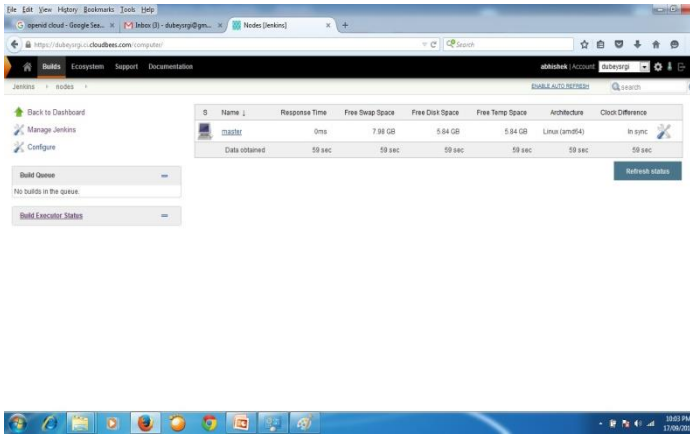


Figure 4.2: This shows the machine on which application is running

V. CONCLUSION

Cloud computing is the next step in utility computing. To leverage its advantages cloud security needs to be addressed as it poses to be one of the key challenges. In this paper Identity provisioning based on Policies can benefit the cloud providers to a large extent. In this thesis Show the benefits of the separation of resource provisioning from job execution management for application, cluster and grid computing, Introduce cloud bees as the Engine for the IAAS Infrastructure Present Cloud Computing as a paradigm for the on demand provision of resources as a service. Describe resources as the interoperability technology for the federation of clouds using Jenkins. Introduce the 3-tier project as the infrastructure technology to support the setup and deployment of services and resources on-demand across administrative domains.

VI. REFERENCES

[1] D. Povey, -Developing Electronic Trust Policies Using a Risk Management Model. In Proc. of the Secure Networking - CQRE (Secure)'99, International Exhibition and Congress, LNCS 1740, D¨usseldorf, Germany, pp. 1–16, Nov 30 - Dec 2 1999.

[2] D. Harrison McKnight, L. Larry and L. Norman, -Trust formation in new organisational relationships. In Information and Decision Sciences Workshop, pp.11- 16, Oct 1995.

[3] A. Gopalkrishnan, -Cloud Computing Identity Management SETLabs Briefings vol7 no7, 2009.

[4] Deloitte, Cloud computing-information security briefing CPNI, March.2010. Available at http://www.cpni.gov.uk/Documents/Publications/2010/2010007-ISB_cloud_computing.pdf

[5] J. Brodkin. -cloud computing security issues. Available at http://www.infoworld.com/d/security-central/gartner-seven-cloud-computing- security-risks-853, July 2008.

[6] T. Grob, Security analysis of the SAML single sign on browser/artifact profile. In Proc. of 19th Annual Computer Security Applications Conference, pp.298-308, 2003.

[7] P. Jadhwani, J. Mackinnon, M. Elrefal. -Cloud Computing-Building a Framework for Successful Transition. GTSI, Northern Virginia, 2009.

[8] S. Bennett, M. Bhuller, R. Covington. -Oracle-Architectural strategies for cloud computing , august 2009.

[9] A. Velte, T. Velte, R. Elsenpeter.-Your organization and cloud computing. In Cloud Computing-A practical Approach, McGraw-Hill, pp.35-36, 2010.

[10] J. Vaos, J. Zhang. -Cloud Computing, New Wine or Just a New Bottle?. IT Pro,vol11, pp.15-17, March/April 2009.