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**MONITORING INFORMATION AND CONTROL FLOW ON PaaS FOR CLOUD
COMPUTING INFRASTRUCTURE AND SERVICES**

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ABSTRACT

An adaptive distributed monitoring architecture is implemented under "MonPaaS", open source software for integrating Nagios and Google apps Engine and also to evaluate the performance and scalability in cloud computing infrastructure for cloud provider and the cloud consumers. This architecture serves as a Monitoring Platform-as-a-Service to each cloud consumer and provider. It enables cloud consumer to customize the monitoring metrics and define resources or services to be monitored. The cloud provider sees overall infrastructure of the services provided to each cloud consumer. Configuring, implementing, logging and using a dispersed, highly-extensible system for monitoring and ensuring end-to-end, security, performance of virtual public cloud applications.

KEYWORDS: Abstractive, Monpaas, virtualization, Google AppEngine, PCMONS, Nagios.

INTRODUCTION

Monitoring allows users to run and control entire virtual machine instances deployed across a variety of physical resources and enables users familiar with existing Grid and HPC systems to explore new cloud computing functionality while maintaining access to existing, familiar application development software and Grid middle-ware. we are collecting information of system resources to facilitate decision making by other components in Cloud environment. Extending the prevailing monitoring methods in Grid computing named Push&Pull (P&P) for Cloud computing They have proposed a user_oriented resource monitoring model named Push&Pull (P&P) for Cloud computing, which engage the both above two models, and switching these models intelligently according to user's requirements and monitored resource's status. Presenting a service level agreement (SLA) between the cloud provider and cloud user's for satisfying their demands. Bringing the a distributed monitoring plan, which facilitates fine grained monitoring for applications and demonstrating with a prototype system implementation to tracing the resource usage by a customer is useful in helping him to analyze and derive the resource requirements.. Deploying a private cloud within the organization using only open source solutions and integrating with traditional gadget like Nagios. However, there is a momentous development work to be done while integrating these tools . Using PCMONS itself as open-source tool it may be adapted for use by cloud telephony providers to gather and centralize monitoring information. Google app engine :It's a platform hosting of web applications are hosted and running to deploy programs technologies that use JVM as Ruby the usage of different frameworks. Limit of 1 GB of hosting (virtual million pages visited per month for application exceeds this level per demand, totally dynamically. Virtualization of computers, software resembles an entire machine inside of another one. One of the main challenges associated to cloud computing monitoring is the lack of information and control with regards to the customization of the monitoring metrics that the cloud customers have over the rented cloud resources.

EXISTING SYSTEM

The open source cloud computing stacks for managing private clouds infrastructures, i.e. Infrastructure-as-a-Service (IaaS), like OpenStack1, Apache CloudStack2, Snooze3, Open Nebula , and Eucalyptus enables enterprises to update the management plane of their data centre in order to optimize the usage of the computational resources according to

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the constantly changing business requirements of their institution. On the other side, public cloud vendors like Amazon EC2, Microsoft Azure and Rackspace enable cloud consumers to extend their infrastructure beyond the physical boundaries of their hardware by renting third party computational resources in a pay-as-you-go model enabling the creation of an elastic infrastructure. Despite of the well-known advantages of cloud computing such as the important cost reduction in hardware acquisition and the optimization in the usage of hardware resources, cloud computing also demands important challenges which have to be seriously addressed in order to provide really attractive solutions for the business market. One of the main challenges associated to cloud computing monitoring is the lack of information and control with regards to the customization of the monitoring metrics that the cloud customers have over the rented cloud resources

PROBLEM STATEMENT

Retrieving monitoring information about cloud provider and cloud consumer is not an easy task. We cannot retrieve the overall information we can just see the overview of cloud consumers whose storage spaces we cannot know about the remaining free spaces available, last date of application etc.

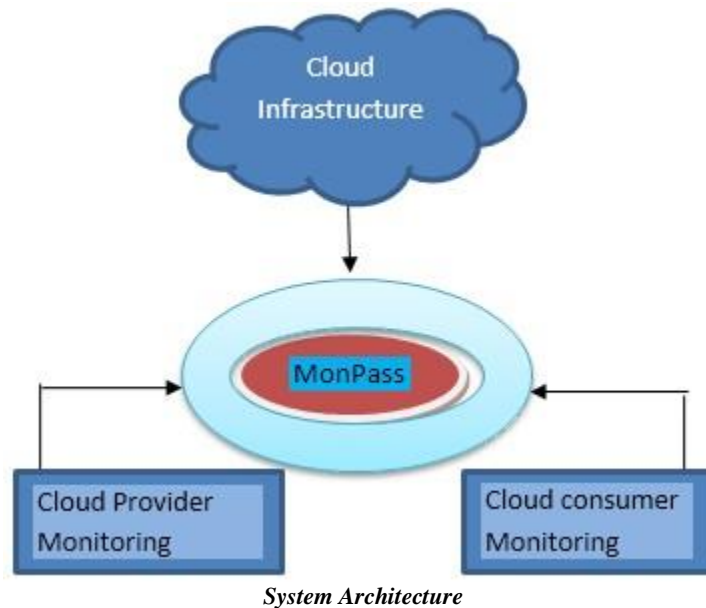
In the base paper, the authors proposed a novel architecture and tool to monitor the. Resources or services defined by the cloud consumer. The authors developed IaaSMon, an open-source and free monitoring solution. This architecture provides an overview about the status of the complete cloud computing infrastructure. Our improvement was based on the assimilation between Nagios, a known enterprise-class open source monitoring software and OpenStack, a well-known open cloud compute stack for infrastructures. This first was important to provide information about the infrastructure to the cloud provider. However, the improvement does not solve the problem of the lack of information and control from the point of view of the clients of cloud infrastructures.

WORKING OF PROPOSED SYSTEM

To overcome the problems in the existing we using a novel monitoring architecture addressed to the cloud provider and the cloud consumers. This architecture offers a Monitoring Platform-as-a-Service to each cloud consumer that allows to customize the monitoring metrics. The cloud provider sees a overall outline of the framework whereas the cloud consumer sees automatically her cloud resources and can define other resources or services to be monitored. This can be done by means of an adaptive distributed monitoring architecture automatically deployed in the cloud infrastructure. As a first step, we need to develop MonPaas, a free and open-source monitoring solution which gives an overview status of the complete cloud computing infrastructure. Our improvement is based on the integration between Nagios, a well-known activity-class open source monitoring software with the Google app engine. Secondly, we need to provide information about the infrastructure to the cloud provider about the lack of information and control from the point of view of the consumer of cloud infrastructures. We propose the architecture with multi-tenant supports for both cloud consumer and cloud providers. The architecture is able to provide disaster recovery capabilities, load balancing.

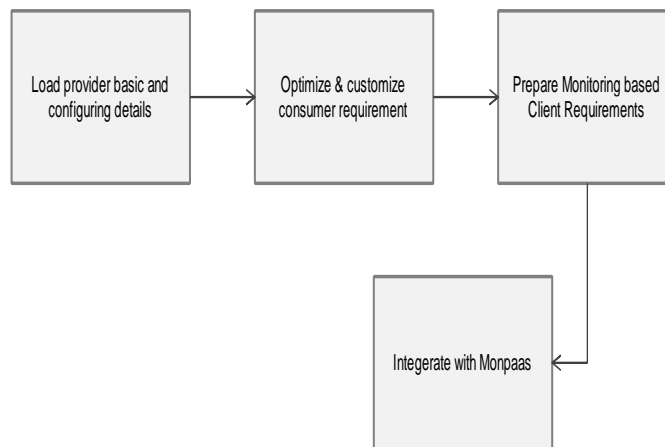
- Adaptive monitoring and self-configuration among other advanced features of the monitoring technologies.
- We allowing the cloud consumer to customize their own metrics, services and resources, creating a real monitoring Platform-as-a-Service for cloud computing infrastructures and services.
- Reporting, alerting and action scripting. Operational insight needed for cloud capacity planning and cloud management.
- In depth insight into health of the monitored cloud and cloud services. Relationship between cloud performance and behavior of hosted applications.
- With cloud monitoring we gain predictive analytics to capture trending data.

End-to-end visibility into the performance of cloud services and their internal infrastructure.



Cloud consumer monitoring

In this section , we get The basic details about configuring load provider with synchronized details of cloud service including CPU utilization ,memory utilization ,disk I/O utilization and disk capacity.It must be desirable to monitor consumer workloads.Report on a long –running,experiment for the monitoring and continuous benchmarking of a number of cloud resources on a consumer’s perspective.



Cloud provider monitoring

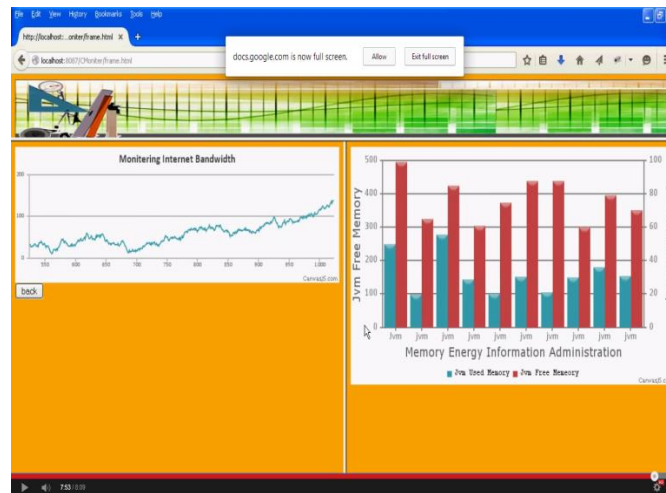
The organization that owns the information system or application is thus a provider of cloud services, and often relies to monitor the virtual infrastrucuter and alert them of any disruption of the offered services.Provider monitoring knows the consumers who requested and what kind of the request, how much they have requested,their storage spaces,time they have entered and log out.Often getting alerts about server health issues.



Active monitoring and Issue management

Cloud Infrastructure offers a dedicated issue management and server monitoring for cloud servers. Creating an active monitoring of our servers using a trained and Amazon certified engineers, architects and administrators. These trained Cloud provider i.e., admin manage our cloud personally with deep understanding of our systems and the backing of our proprietary management and monitoring platform. Lowest cost and more efficient utilization of our cloud infrastructure are guaranteed by constant optimization. Security reviews ,Risk mitigation ensures that the most reliable and fault tolerant systems. Two flavors of active Monitoring are

- 12 hours *7 days a week
- 24x7x365 Active Monitoring.



CONCLUSION

From this work I have concluded, First An adaptive distributed and highly scalable monitoring architecture for cloud computing infrastructures has been offered to the society. The architecture fulfills successfully all the requirements indicated in providing an architecture with multi-tenant support suitable for both cloud consumer and cloud providers. The cloud consumer to customize their own metrics, services and resources, creating a real monitoring Platform-as-a-Service for cloud computing infrastructures. Also, it has been proved that the monitoring architecture scales really well under different stressing workloads.

Second, we would get the complete information regarding the monitoring of each cloud consumers their storage spaces in cloud ,storage spaces they have utilized and available free spaces, evaluation of performances, speed of getting replies, usage periods, requested queries to the provider, validity, workload balancing, disaster recovery etc. These can be

done by integrating the Nagios tool with the google app engine. Monitoring services of the cloud consumer can take advantage of this feature

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