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SAAS (Software As A Service) INTEGRATION ISSUES IN CLOUD COMPUTING

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ABSTRACT

Cloud Computing emerged as buzz word in the IT Industry. In this paper we have mentioned the list of the issues that are faced when the user is trying to integrate the systems. Cloud computing providing the three various cloud service such as Software as a Serivce (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS). Integration is the association between the systems that can be applied by any one service of the cloud computing but here we have talked about integration from the SaaS service point of view.

We have discussed the some list of the issues that are occurred when the SaaS integration is implementing.

Key words: Cloud Computing, Integration, Software as a Service.

I. INTRODUCTION

Cloud Computing is a model which providing universal, convenient, on-demand computing resources from the network (e.g., servers, storage, applications, and services). This cloud model is consisting of various features**,** three service models, and four types of cloud. Cloud Computing is defined as a type of computing which share resources on server or personal devices as well as handle all the resources from the network resources. Cloud computing work as service delivery platform for the service computing. Cloud computing provide the user network resources for the specified time period according to their requirement. Cloud provide the resources over the network and homogeneous platform that are available on the network (internet). Cloud is used for the multi tenancy and the virtualization.

Cloud computing refers to both the applications delivered as services over the Internet and the hardware and systems software in the data centers that provide those services. The cloud services are referred to as Software as a Service (SaaS),IaaS (Infrastructure as a Service) and PaaS (Platform as a Service) [2].

II. CLOUD ARCHITECTURE AND SERVICE

Fig 1. Shows the cloud computing architecture which is consisting of the three layers. Upper layer is known as SaaS that specified this layer is used to provide the service to the end user. Middle layer is PaaS means platform as a service means which allows the user to access the service that are available from the various vendor like applications and operating systems. Bottom layer specified that this layer allows the users or the company to access the resources from the various vendor such as data storage, networking related resources etc.

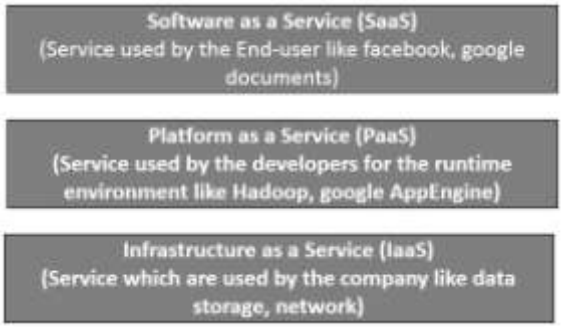

Fig 1. Cloud Architecture

Software as a Service (SaaS). TheSaaS means the ability to allow the user to run on the cloud infrastructure. Here the software or the applications are available from the client devices through the standard interface. User not manages all the cloud resources.

***Platform as a Service (PaaS)*.** ThePaaS means Platform as a Service capability provided user to deploy onto the cloud infrastructure or acquired applications created using programming languages, libraries, services, and tools supported by vendors.

Infrastructure as a Service (IaaS).TheIaaS means Infrastructure as a Service provided to the user to access the storage, networks, and other computing resources where the user is able to deploy and run arbitrary software, which can include operating systems and applications.

III. SAAS SERVICE IN CLOUD

SaaS or Software as Service is a way of delivering applications over the Internet—as a service.SaaS applications are sometimes called Web-based software, on-demand software, or hosted software.

Software as a Service (SaaS) is software that is provided over network or internet as service. These SaaSsoftwares can be accessed using web browsers or thin client. The actual software isn't installed on client machine but on SaaS provider's machine. Client or user can access this service based software by subscribing. There are some vendors who provide software using other SaaS provider services [2][3].

Users can use software as per their requirements,so no extra charges or need to buy license for each new version. As application is hosted on remote machine that is way any user can access it anytime using internet.Users not required to install software on their own machine. So software needs high configured or dedicated hardware, user doesn't need to buy any of them.Users can access this software from anywhere using

internet.SaaS providers also provide sharing of the data or document created such as document or reports can be shared with other users also.

Updates and upgrades are directly provided on SaaS platforms, users can access any new features without delay or needing to pay full price which they have to pay for new versions.Software vendors can charge users periodically or usage basis which is more profitable then selling software in full single time.As they are hosted on internet software vendors can get more customers and also global basis.

IV. INTEGRATION IN CLOUD SAASSERVICE

User is going to use the service which is provided by the vendor from the vendor server or machine, but in order to use that services user has to make connection or link with that server. So here the role of the integration is occurred where the linkage is required. Integration is having many characteristics like:

Connectivityis the ability of integration between the both source and target systems. Connectivity can be provided by the web service.

Semantic Meditationrefers to the ability to which demonstrate the differences between application semantics between two or more systems.Semantics means how the information gets understood, interpreted and represented within the information systems.

Data Meditationconverts the data from source data format to destination data format. In short it is data transformation process which convert the data from the one format to another format according to the source and the target systems

Data Migrationis the process of transferring the data between different systems, formats and storage types.Data migration means that the data in the old system is mapped to the new systems according to their require format.

Data Securitymeans the ability to insure that information extracted from the source systems has to securely place into target systems. It shows the when the data are transformed from the source to destination there is no tempering with data.

Data Integritymeans data is complete and consistent and it match with guaranteed, when data is getting mapped and maintained during integration operations.

Governancerefers to the processes and technologies which are howcontrol and accessed.

4.1 Lifecycle steps for Data Integration

Data Integration Lifecycle includes some steps like understanding, definition, design, implementation and testing.

Understandingin order to make integration it is required to understand the existing problem means defining the metadata that is native within the source system and the target system.

Definitionis the process which is identify the input from the previous step and defining it at high level. It is suggest that whatever the integration process is performed it is performed in the in the right direction.

Designis representing how the data are fetched from the one system and then updated in the target system.It is consider from the security point of view.

Implementationrefers as actually implementing the data integration solution within the selected technology. This means connecting the source and the target systems, implementing the integration flows as designed in the previous step.

Testingisassuring that the integration is properly designed and implemented and that the data synchronizes properly between the involved systems means source and target system. It also check whether the system and data are working according to the input or not.

V. ISSUES IN SAAS SERVICE INTEGRATION

Convenient	It is difficult to stop the user who using the current application and make him convince to use cloud based applications.
Time	When user is using SaaS as application from the internet then it is difficult to maintain the number of user if number of user are increased in big numbers.
Integration	When user use the SaaS as software it is also need to maintain the association between the softwares. So integration is also the one of the issue.
Hardware	SaaS vendor also required to keep high configuration machine in order to maintain the millions of users.
Cost	SaaS provider also have to provide the service at low cost in order to get the more user and best services.
Security	When user is using SaaS as application you are going to use the network and when the data transfer are happening on network, it is the responsibility of the provider to provide the security to the data.
Scalable	To develop highly scalable application

VI. CONCLUSION

This paper has mentioned the SaaS service which is providing by the cloud model for integrating Software as a Service. In this paper we have tried to mention the issuessuch as security, scalable, time, hardware, and convenient that are occurred when the user is establishing the link.

This paper has not provide the above issues but also given the area where the research can be possible from the researcher. Researcher can improved the cloud systems by solving the above issues.

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