

THEORY AND FEATURES OF SAAS (SOFTWARE AS A SERVICE) FOR CLOUD COMPUTING

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Abstract - Software as a Service (SaaS) is a software distribution model[1] in which are hosted by a service or vendor provider and over the network made available to customers, typically the Internet. SaaS is a prevalent delivery model that supports Web services and service-oriented architecture (SOA)[4] mature and new developmental approaches.

Around the world broadband services are available to support user access from more areas. SaaS is closely related on demand computing software delivery and ASP (application service provider) models. For SaaS, IDC identifies two slightly different delivery models. It is similar to ASP for the hosted application management (hosted AM) model: For customers it delivers over the Web, and a provider hosts commercially[3] available software. The provider gives customers network-based access to a single copy of an application created specifically for SaaS distribution for the software on demand model.

SaaS provides licenses an application to customers either as a service on demand, through a subscription, in a “pay-as-you-go” model, or (increasingly) at no charge. To generate revenue from streams other than the user, such as from user list sales or advertisement, SaaS is a rapidly growing market as indicated in recent reports that predict ongoing double digit growth. This rapid growth indicates that SaaS will become commonplace within every organization and hence it is important that buyers and users of technology[4] understand where it is suitable and what SaaS is.

Key Words: SOA, Hosted AM, SaaS etc...

1. INTRODUCTION

Software as a Service (SaaS) is a software delivery method that provides access to software and its functions remotely as a Web-based service[4]. To access business functionality, Software as a Service allows organizations[2] at a cost typically less than paying for licensed applications since SaaS pricing is based on a monthly fee.

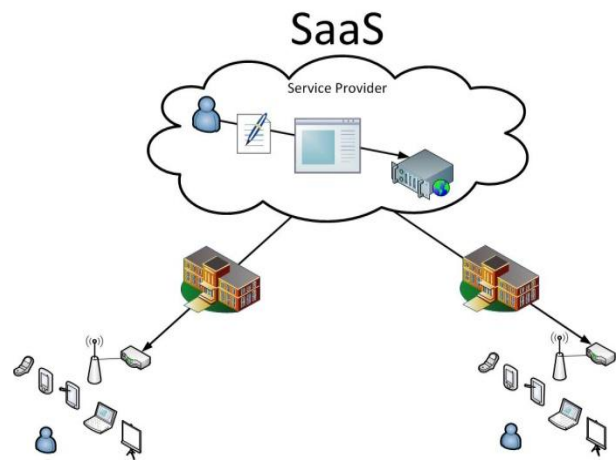


Fig - 1: Remote Hosted SaaS.

Because of the software is hosted remotely, users don't need to invest in additional hardware[3]. To handle the installation, set-up and often daily upkeep and maintenance, Software as a Service removes the need for organizations. Software as a Service may also be referred to as simply *hosted applications*.

2. TYPES OF SAAS

Business Utility SaaS - Providing actionable analysis and streamlining collaborative processes, Sales force automation applications are used by businesses and individuals for managing[2] and collecting data. Customer Relationship Management (CRM), Human Resources and Accounting are the popular use cases.

Social Networking SaaS - Applications are used by individuals for networking and sharing information, photos, videos, etc. like Facebook.

2.1 Characteristics of SaaS

It is important for Cloud Computing, to ensure that solutions sold as SaaS in fact comply with generally accepted definitions.

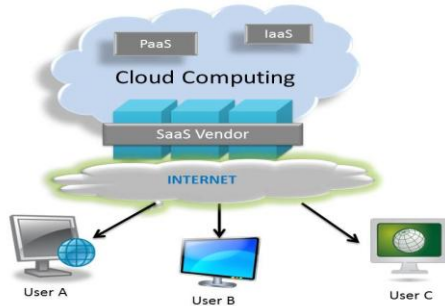


Fig - 2: Cloud Computing Services.

Characteristics of SaaS include,

- Commercial[2] software for Web access.
- A central location, managed by software.
- “One to Many” model of Software delivers.
- To handle software upgrades and patches, users not required.
- APIs allows integration between different pieces of software.

2.2 Advantages of SaaS

- Easy to use: SaaS applications do not require more than a web browser.
- Cheap: SaaS makes it affordable to small businesses and individuals for the pay as you go pricing model.
- Scalability: To meet consumer[1] demand, SaaS application can be easily scaled up or down. To scale up, Consumers do not need to worry about additional computing infrastructure.
- Since data is being stored in the cloud, Applications are less prone to data loss.
- SaaS applications are less clunky, compared to traditional applications. They do not require users to install/uninstall binary code on their machines. SaaS applications are able to run on a wide variety of devices, due to the delivery nature of SaaS through the internet.
- For better collaboration between teams since the data is stored in a central location.
- Much faster of change in Velocity[2] for SaaS applications.
- SaaS favors an agile development life cycle.
- Software changes and frequent and on-demand.

2.3 Drawbacks of SaaS

Robustness:

- Due to browser limitations, SaaS may not be as robust (functionality wise) as traditional[4] software applications. Consider Google Doc & Microsoft Office.

Privacy:

- Having all of a user’s data sit in the cloud raises security & privacy concerns. SaaS providers are usually the target of hack[3] exploits.
- From China in the last several years, Google servers have been the target of exploits purportedly.

Security:

- Malicious code detection and attack detection.

Reliability:

- Wide range of dependent clients could be affected, in the rare event of a SaaS provider going down. For example, when Amazon EC2[4] service went down in April 2011, it took down Foursquare, Reddit, Quora and other well-known applications that run on it.

3. CONCLUSION

Over a variety of services from Infrastructure as a Service at the base, through Platform as a Service as a development tool and through to Software as a Service replacing on-premise applications, cloud computing doesn’t describe a single thing. It is important to understand[1] the different aspects of Cloud Computing and to assess their own situation and decide which types of solutions are appropriate for their unique needs when organizations looking to move to Cloud Computing. Cloud Computing is a rapidly[3] accelerating revolution within IT and will become the default method of IT delivery moving into the future – organizations would be advised to consider their approach towards beginning a move to the clouds sooner, rather than later.

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BIOGRAPHIES



NARAHARINARASIMHAIAH has 17 years of experience in IT industry. At Cognizant Technology Solutions, he is a Principal Architect-Technology with BFS TAO (Technology and Architecture Office). He holds a MBA, MS in Computer Science degree and MSc in Psychology. Currently pursuing PhD in Cloud Computing.

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He is having 13 years of teaching experience, presently he is working as a professor of Computer Science and Engineering department for G.Pulla Reddy Engineering College (Autonomous), Kurnool City, India. He has a total of 25 publications out of which 13 papers in International and National Journals and 12 papers in National and International Conferences. He is a member of various professional bodies like ISTE, IE, CSI, IAENG, CSTA, and IACSIT.

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