SaaS
Software as a Service

Fun fact: Pronounced as “Sass”. You read that right, just like Sassy!! 😊
Evolution of our beloved SaaS
Ancient Fossils of Service Industry

- Stand-alone Software
- Client-Server Model
- ASP (Application Service Provider)
OKAY! They are NOT fossils

- But they do have their disadvantages in modern industry
  - Long development cycles
  - Heavy monetary investment
    - Pre development
    - Post development
  - Considerate man/woman time investment

Fact: Being a 2-Man team we did not want to sound sexist!
**ABC’s of SaaS**

- **A-ll** usage based on subscription of the software than purchasing license

- **B-e** your own man/woman, you pay only for features, services **YOU** use; nothing more! (think about the extra green in your pockets now ;) )

- **C-heers!** Users = 😊, why you ask!
  - Less hardware requirement
  - Minimal self maintenance
  - Zero pre-usage expense
DEF’s of . . .

- **D-o** you have internet? You can work from home, café, or even while travelling (Mind you: this is not good for actual “users”, as we dislike 9-5’s already!)

- **E-co** system friendly! (you KNOW you're doing right, when the Hippies are happy)

- **F-requent** updates and minimal downtime 😊

Fact: Point E is not BS’ing just to fill the bullets! “Sustainable Minds” are one such SaaS provider
G & the rest of . . .

- G-rrrr – says the provider-minded people reading the last 2 slides, thinking what about ME!
- Here are JUST the highlights for you,
  - Multi-tenant architecture
  - Steady revenue returns
  - Privacy of software in your hands
  - Platform of software can also be used as an asset (explained later - PaaS)
  - Lower cost of development
  - . . . . . You want to know more?, Google is your friend! 😊
Dissection of SaaS

- SaaS is a - “there for you to” or “as you use” or more technically “End-user” defined concept

- SaaS can be classified based on usage, payment i.e. billing, the industry that it is built for, the users it is targeted to and many other points of focus.

- In the next few slides we see some ways SaaS can be different to different users based on how you perceive it.
. . . . based on Usage

- **Type I** - Each customer accesses the customized version of the software. Follows traditional client-server model.
- **Type II** - Customers access their own instance of the same application which is configured to suit individual needs.
- **Type III** - Every customer accesses a single instance of the application, with metadata which is configured to give a unique experience to each user.
- **Type IV** - The customers access identical instances with their databases separated and configured metadata to provide a unique user experience.
. . . . based on Industry

- The areas having immediate SaaS potential,
  - SFA (Sales Force Automation) software
  - CRM software
  - Core/Online banking systems
  - Travel services
  - Financial models
  - E-learning solutions
  - Share trading systems

. . . . You want to know more?, make Bing your friend! 😊
In the following slides you will be seeing 4 different models.

Each of the models is technically better than the previous one and hence it is at a higher maturity level.
Each customer has his own customized version of the SaaS application and runs its own instance of the application on host’s servers.
At this level of maturity, vendor hosts a separate instance of application for each tenant.
At the third level of maturity, provider runs one instance which serves every tenant with configurable metadata providing a unique user experience and feature set for each.
Service Provider enables multiple customers to have identical instances on a load balanced farm. Each customer’s data kept separate and provides separate user experience and feature set for each customer.
The “Secret” Ingredient!

- Like Batman has his waist-belt, Iron Man has his Iron suit, shouldn’t SaaS have an “accelerator”.

- One that helps it perform faster, better and more efficiently!

- Modern technology gives SaaS just that in the form of – Cloud Computing!

- HOWEVER . . . . . . .
With great power comes great responsibility!

- You are wondering, “come again?”

- Well this secret ingredient still has many bugs to be worked around, for SaaS, to truly use it.

- Imagine, Iron Man trying to impress his lady and saying “Fly” and his jet-pack chokes and slams him on the wall = “SPAT”. That wouldn’t be nice now would it!

- SaaS with cloud computing too has bugs, most importantly SECURITY!

Fact: This slide is dedicated to the great man “Uncle Ben Parker” 😊
Cloud Computing = “Soft” computers? NO!

- To put it lightly, a vast stretch of machines/servers/back-end devices ready for on-demand use.
- Users and even SaaS providers can use an existing cloud as a platform to run their software and services.
SaaS is not a stand-alone concept of provision of service.

There are 2 other, similar and well-known concepts

Service provided in the form of Infrastructure and Platform.

- Infrastructure as a Service, IaaS
- Platform as a Service, PaaS
IaaS -- As the name suggest, hardware is the service

Q. For who?

A. Consumers who have software of their own but require high end servers to host/distribute/provide it to end users

PaaS -- From the name, platform is the service

Q. For who?

A. Consumers who need high value hardware and initial software layers to build on without the struggle involved in both! 😊
Leading Vendors

- CRM
  - SalesForce.com
  - RightNow
  - NetSuite
  - SalesNet

- HR
  - ADP, Ceridian
Leading Vendors...

- Recruiting
  - Taleo, Ultimate Software

- Accounting
  - Intacct, NetSuite
Customers’ preferences of SaaS applications

Series 1

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales force Automation</td>
<td>40%</td>
</tr>
<tr>
<td>Marketing Automation</td>
<td>35%</td>
</tr>
<tr>
<td>Procurement/Sourcing</td>
<td>35%</td>
</tr>
<tr>
<td>HR</td>
<td>30%</td>
</tr>
<tr>
<td>Finance</td>
<td>20%</td>
</tr>
</tbody>
</table>
Important negotiations to be made with the vendor

- Service level agreement.
- Data privacy and ownership
  - What happens to the data at the end of contract.
- Support
  - Hours of phone support
  - Quickness of email responses
Consider the following potential hidden costs
  - Mobile and offline services, integration can cost extra, Add on modules

Have a team to take bring out all application requirements
  - Make complete use of trial offers provided by the SaaS vendors.
Salesforce.com is one of the biggest cloud computing companies and it has around 72,500 customers.

- Provides business software as a service.
- Best known for Customer Relationship Management products.
- CRM solution consists of Sales, service and support, partner relationship management, marketing, content, ideas and analytics.
- Salesforce is the most complete CRM in the industry.
The Sales Cloud™ and the Service Cloud™, are their applications for sales and customer service.

Force.com, is their cloud platform for building and running business apps.
In the following slides we shall be looking at,

- Questions you may have about SaaS
- Questions popularly asked about SaaS
- Questions that you should be aware of when you claim to know SaaS
In a multi-tenant architecture how is the data actually handled??
How useful is the concept of metadata??

It actually provides user opportunities to configure the service at following levels,

- User Interface
- Workflow and rules
- Extensions to data model
- Access control
How will it be compatible with legacy systems. For e.g. If the existing system has more input parameters than the system provided by SaaS??
How would you go about retrieving all your data if you decide to switch providers??
Who needs it??
How is data handled between server and client in the SaaS model??
Integration Broker

- Takes data from a variety of sources and users, determine how and where the data needs to be processed and routed, and send each piece of data to its destination in a form that the target system can use.
- Security
- Validation
- Synchronization workflow
- Routing
Data-Availability Patterns

- **Polling**
  - Source queries the other for changes, at regular intervals

- **Push**
  - Data source can initiate a push anytime it wants.

- **Publish and Subscribe**
  - Combines aspects of polling and pushing. A change notification event is published to which data sink can subscribe.
Data Transfer Patterns

• Data can be transferred to the endpoint in two ways.

• Synchronous Communication Technique – The sender connects to the receiver and requests for the data. The target has to respond immediately.

• Asynchronous Communication Technique – The receiver may not respond to sender’s request immediately.
Data Transformation Patterns

- Altering the data format and/or content into a pattern which is understandable by the data sink/the target.

- Steps involved
  - The incoming data is validated against appropriate data to know if it is going to be converted into the required format after the transformation.
  - If required data can be enhanced by combining with data from any source.
  - Finally, transferring it into the format understandable by the target.
How is SaaS better than ASP??
<table>
<thead>
<tr>
<th>ASP</th>
<th>SaaS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• ASP offers monolithic server programs with simple web interfaces.</td>
<td>• SaaS offers user friendly web programs</td>
</tr>
<tr>
<td>• ASP is generally single tenant and hence is not scalable across environments.</td>
<td>• Applications are developed to be used in multi-tenant environment and hence they are scalable.</td>
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</tbody>
</table>
## ASP vs SAAS

<table>
<thead>
<tr>
<th><strong>ASP</strong></th>
<th><strong>SaaS</strong></th>
</tr>
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<tbody>
<tr>
<td>Integration – Expensive and Time Consuming.</td>
<td>Compared to ASP integration is inexpensive and quicker.</td>
</tr>
<tr>
<td>IT support is not provided by the service providers which is a major disadvantage.</td>
<td>IT support is provided by the Service providers.</td>
</tr>
<tr>
<td>Requires only one business administrator</td>
<td>Requires business and IT staff</td>
</tr>
</tbody>
</table>
In multi-tenant architecture, what are the different ways to model data to be able to support data model extensions?

3 ways,

- Dedicated Tenant Database
4 ways . . . continued . . .

- Shared Database, Fixed Extension Set
- Shared Database, Custom Extensions
How can pre-existing ISV’s adopt/change to SaaS??
Disadvantages of SaaS

- No Internet Connection, No application.
- Service is dependent on the quality of internet connection.
- SaaS applications may not have the same features as non–SaaS applications.
Disadvantages of SaaS

- Some markets require industry specific business applications for which SaaS solutions are not available.

- Some organizations find it difficult to trust third parties to manage their applications and data.

- Less control over the app
  - Customization and integration capabilities typically more restricted
Vendors want to improve on....

- Vertical specific offerings
- Customization tool
- Internationalization
- Mobile and offline access
Phew!

- Yes, we know that’s what you are saying right now and that’s exactly what we thought as well!

- So, in these final slides we will be explaining “our insights” and conclusions that summarize our presentation MARATHON! 😊
• The concept of SaaS has bright future
  • Newer practical ideas
  • Hardware and resources to back those ideas

• We found that SaaS has many implementations based on the provider like Microsoft, Salesforce etc.

• SaaS does not have a UNIQUE definition of implementation.

• It depends on the end user needing the service, the services which are provided, the platform used, the industry area in focus and so on.
Thus, SaaS is definitely a good venture for investors and an open area for researchers.

With more stability to Cloud computing and similar technology, SaaS is definitely on its way to . . . . .

😊 SaaS up your LIFE! 😊
THANK YOU FOR YOUR TIME!

The slides were presented to you by,

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&

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