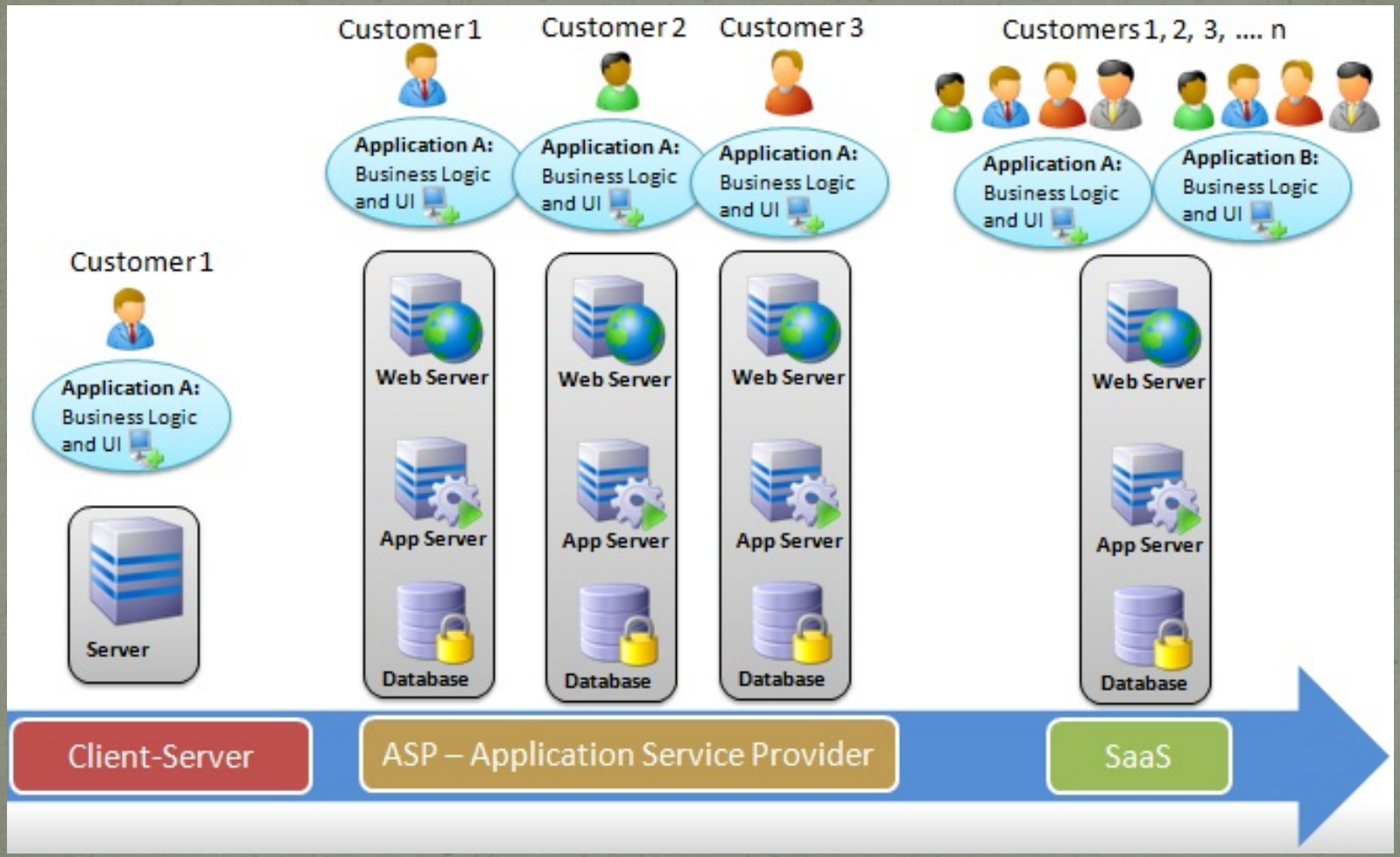
SaaS
Software as a Service

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! ☺

. . . . based on Maturity levels

- In the following slides you will be seeing 4 different models
- Each of the model is technically better than the previous one and hence it is at a higher maturity level.

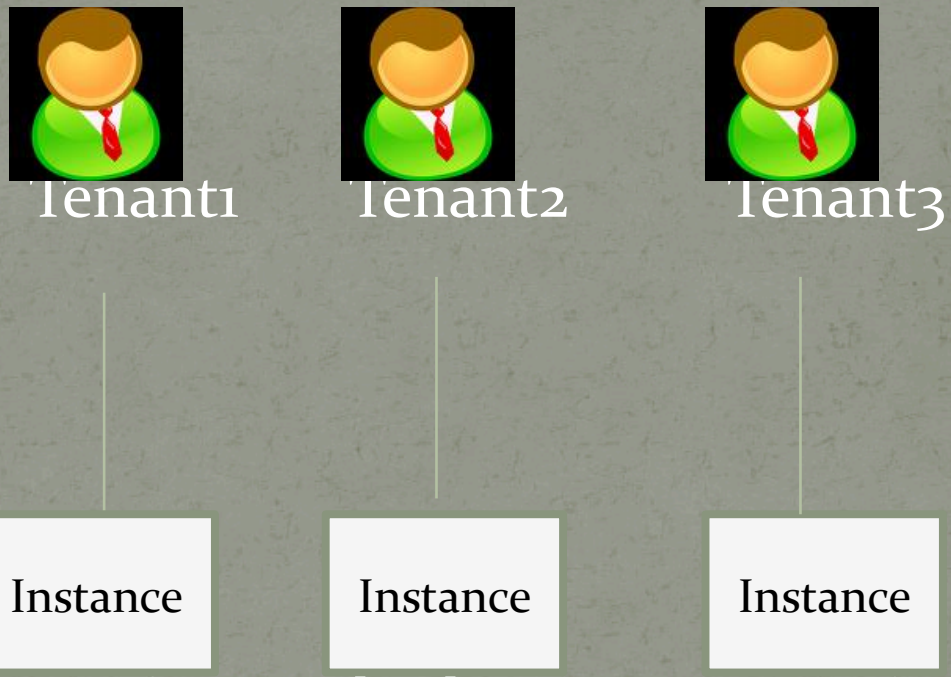
Ad Hoc/Custom

Tenant1 Tenant2 Tenant3

Instance1 Instance2 Instance3

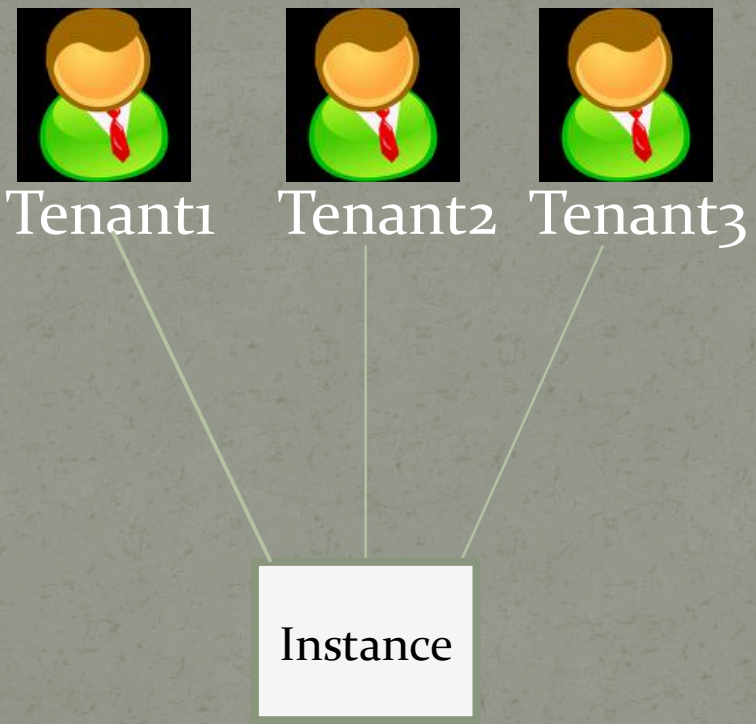
Each customer has his own customized version of the SaaS application and runs its own instance of the applica--tion on host's servers

Configurable : Second level of SaaS maturity



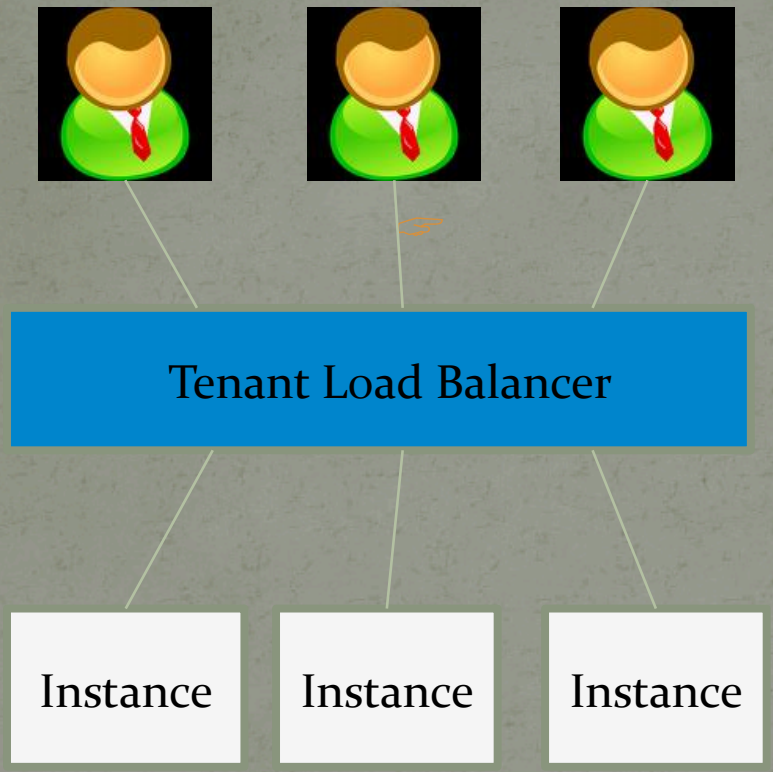
At this level of maturity, vendor hosts a separate instance of application for each tenant

Configurable multitenant efficient



- 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.

Scalable, Configurable, Multi-Tenant-Efficient



Service Provider enables multiple customers to to have identical instances on a load bala--nced farm. Each custo--mer's data kept separate and provides separate user experience and feat--ure set for each custom--er

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 . . . . . .

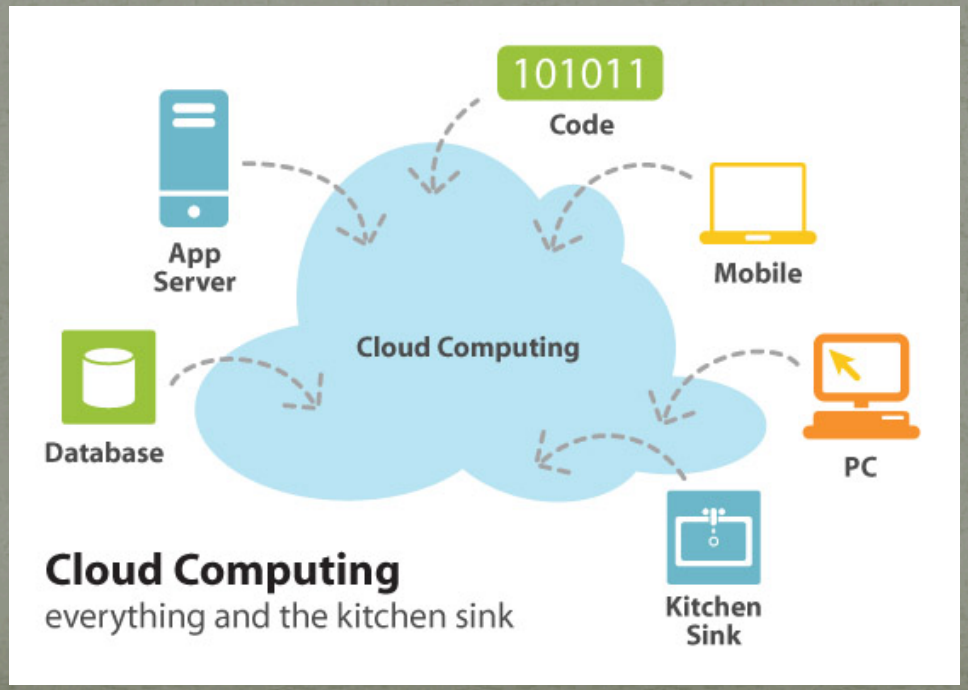
With great power comes great responsibility!

- 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.



Brothers and Sisters?

- 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

. . . . continued . . . .

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! ☺

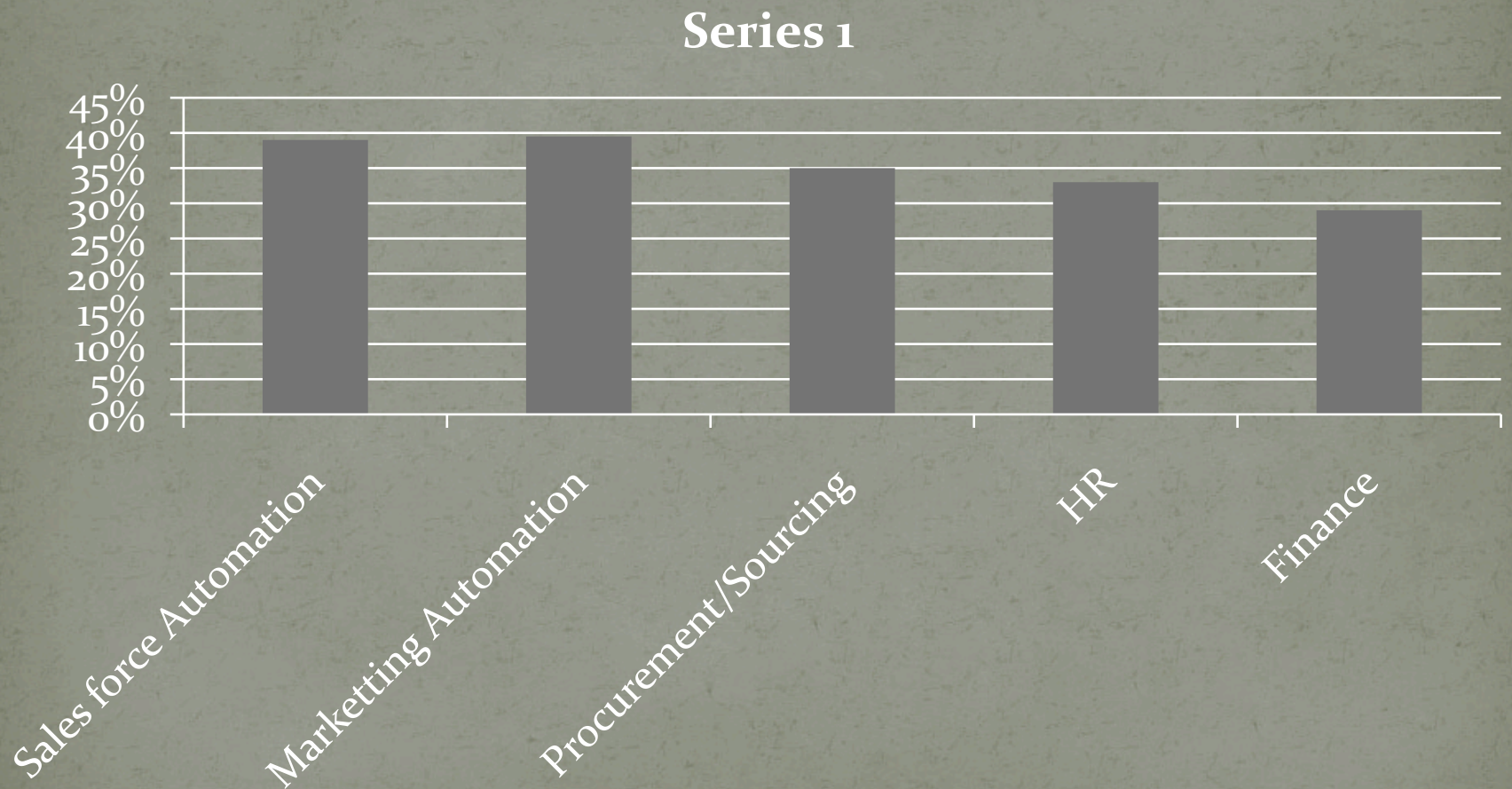
Leading Vendors

- CRM
  - SalesForce.com
  - RightNow
  - NetSuite
  - SalesNet
- HR
  - ADP, Ceridian

Leading Vendors…

- Recruiting
  - Taleo, Ultimate Software
- Accounting
  - Intacct, NetSuite

Customers' preferences of SaaS applications



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

Some more recommendations

- 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

- 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.

SalesForce.com

- 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.

General Questions about SaaS

- 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

. . . . continued . . . .

- In a multi-tenant architecture how is the data actually handled??

. . . . continued . . . .

- 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

. . . . continued . . . .

- 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??

. . . . continued . . . .

- How would you go about retrieving all your data if you decide to switch providers??

. . . . continued . . . .

- Who needs it??

. . . . continued . . . .

- 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.

. . . . continued . . . .

- How is SaaS better than ASP??

ASP vs SaaS

ASP

- ASP offers monolithic server programs with simple web interfaces.
- ASP is generally single tenant and hence is not scalable across environments.

SaaS

- SaaS offers user friendly web programs
- Applications are developed to be used in multi-tenant environment and hence they are scalable.

ASP vs SAAS

ASP

- Integration – Expensive and Time Consuming.
- IT support is not provided by the service providers which is a major disadvantage.
- Requires only one business administrator

SaaS

- Compared to ASP integration is inexpensive and quicker.
- IT support is provided by the Service providers.
- Requires business and IT staff

Just a couple more

- 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

. . . . continued . . . .

- 4 ways . . . . continued . . . .
  - Shared Database, Fixed Extension Set
  - Shared Database, Custom Extensions

Last one! ☺

- 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 sames 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,

Avinash Mysore

&

Nidhish Nair