

SaaS Implementation for Technology & Business software companies

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1. INTRODUCTION

Cloud is the new paradigm for computing today and SaaS is the future for Technology & business software companies. In today's scenario, cloud computing is enabling innovative solutions and services. With increasing Cloud adoption, we believe, these companies need to compete effectively within a rapidly changing business and technological environment by bundling SaaS offerings into their product portfolio to retain or win their market share.

However, offering Software as Service requires more than simply re-architecting the existing product or developing a new SaaS offering. It entails a complex set of enabling technologies and service delivery capabilities in order to provide reliable, secure and scalable SaaS solutions.

Direct experience from Wipro engagements and industry studies both indicate that technology & software companies are currently looking at a faster ways to achieve SaaSification (multi-tenancy, scalability, etc.) of their existing products. Existing approaches that are being used by technology & software companies include the following:

Approach of Technology & Business Software companies for SaaSification	What this approach entails	Top Considerations
Quick SaaS	Using Service Delivery Platform or Hosting & Deployment of existing ISV product , thereby reducing time to market	<ul style="list-style-type: none"> • Experiment with SaaS • Quick SaaS enablement & deployment • Lite Version SaaS product
Re-engineering	Re-architecting the ISV product based on SaaS principles	<ul style="list-style-type: none"> • True SaaS transformation • Long term value • Optimization & Performance for SaaS based delivery
New Development	Fresh product development or existing product migration to publicly available PaaS	<ul style="list-style-type: none"> • PaaS based Product • Feature Rich

2. QUICK SAAS APPROACH

We are seeing an increased interest from many customers (both large technology & business software companies and niche industry players) for a Quick SaaS based approach. This is despite the benefits which Re-engineering an existing application to SaaS model or new development on publicly available PaaS platforms.

A few of the reasons why Quick SaaS as an approach is finding prominence even though it might not provide fully SaaSified product are:

Faster time to market – Since Quick SaaS can enable an existing application to a SaaS model in less than 4 months, it helps a company to augment their current product portfolio with a SaaS based product.

Imparts learning about the SaaS Ecosystem - SaaS is a new model which involves a service mindset. This has never been a core competency for many Technology & software companies. Using the Quick SaaS can give such companies a faster understanding of the intricacies of running a SaaS model

Cost Savings – Quick SaaS gives a huge cost saving by virtue of eliminating the need for heavy re-engineering or new development which are time consuming processes and require significant investments. Not only are larger technology & business software companies looking at this approach but also medium businesses with turnover in Millions of \$ showing keen interest in this methodology.

Apart from above mentioned reasons, there is an increasing focus of companies such as Oracle/Microsoft and EMC, CISCO and VMware in embracing cloud and coming up with their offerings such as private cloud. This provides an alternate and quick hosting model for SaaS based offerings apart from Public Cloud.

2.1 IMPLEMENTATION APPROACHES FOR QUICK SAAS

2.1.1 QUICK SAAS USING SERVICE DELIVERY PLATFORM

This approach calls for quick SaaS enablement of the software product using little or no engineering efforts. Quick SaaS uses a service delivery platform to enable the multi-tenancy using a non-intrusive approach. For a company which wants to understand the SaaS ecosystem and quickly release its product on SaaS model, this approach is highly recommended.

2.1.2 SINGLE TENANT HOSTING USING VIRTUALIZATION

This approach is the most commonly used approach for hosting applications on SaaS model. In this case, multiple VM's are hosted on public or private cloud which caters to each customer. As a quick fix, this solution runs well but scalability and expensive in the long run because of the drawback in this approach.

2.1.3 APPLICATION VIRTUALIZATION

For Desktop products or thick client applications, one of the new areas of emerging technology is Application virtualization. In this approach, using certain tools, an application can be virtually streamed to a user from a data centers and the user can be charged on a pay-per-use model. This approach has lately become viable based on technological advancements in streaming technologies as well as better internet bandwidth. This approach gives a viable option in comparison to an earlier approach of giving a trimmed down version of Windows desktop product by separating out the Presentation layer and hosting application on Datacenters.

2.2 CONSTRAINTS WITH QUICK SAAS

1. Key SaaS features such as multi-tenancy, extensible data model, metadata driven architecture and scalability are not fully realized.
2. Long term growth and scalability are constrained using Quick SaaS. To realize full benefits, the product requires a transformation using Re-engineering or SaaS based new development.
3. Quick SaaS approach, although with less CAPEX, would lead to high OPEX if hosted on public cloud.

3. RE-ENGINEERING AND NEW PLATFORM BASED DEVELOPMENT APPROACH

These approaches provide a more robust SaaSified product with all SaaS features truly realized. Both the approaches are time consuming (in comparison to Quick SaaS) and require significant investments in comparison to Quick SaaS approach. Re-engineering or new development provides a product critical SaaS based features such as:

- 1) **Multi tenancy** – Isolations by client (tenants) in UI, Business Logic and Database so that single instance (single code base) of an application can be used by multiple clients
- 2) **Extensible Data Model** – Client specific customizations through adding new fields to the data model without modifying the schema
- 3) **Metadata Driven Architecture** – Client specific configuration of application features at runtime using the metadata definition
- 4) **Scalability** – In the SaaS context, single application supporting different customer and each client have number of users accessing the application
- 5) **Security** – In case of single instance application, data of each customer is secured and users of particular customer can access data meant for them, to name a few.

3.1 RE-ENGINEERING APPROACH

This approach takes the original software product and involves re-architecting the product based on SaaS principles. This approach involves the following aspects of product engineering of the product:

1. SaaS Advisory
2. Architecture and Design
3. Coding and Unit Testing
4. System Integration & Testing
5. Release Management

3.1.1 TOP CONSIDERATIONS FOR THIS APPROACH

As discussed above, the top considerations for an ISV to move forward with this approach are:

- True SaaS transformation: This approach's end output is a true SaaS based product with all SaaS architectural capabilities
- Long term value: Being a true SaaS transformation, product gives good scalability for long term usage
- Optimization & Performance for SaaS based delivery

3.2 NEW PLATFORM DEVELOPMENT

Increasingly, technology & business software companies are exploring the option of using publicly available PaaS platforms such as: Force.com, Azure and Google Apps Engine for their SaaS product fresh development or migration of existing product to these platforms. A few of the benefits that these platforms offer are:

1. Rich feature sets
2. Deployment & Hosting on the PaaS players infrastructure

We are seeing this approach being used for development of applications/products by technology & business software companies which have a strong focus on Web 2.0/Internet based innovation. This approach is also finding interest with some of the niche industry business software companies. These companies are having pay-per-use business model for its customers. The time to market on PaaS depends on the product complexity and its feature sets.

3.2.1 TOP CONSIDERATIONS FOR THIS APPROACH

- PaaS based Product : Due to the PaaS based nature of this product, the ISV is shielded from the Infrastructure and technological nuances
- Feature Rich: Publicly available PaaS provides rich functionality to SaaS developers for easier development

4. CONCLUSION

Based on our experience and interaction with customers, we have tried to summarize these approaches based on some of the critical ASKS for our customers.

What a technology & business software company is looking for	Approach 1: Quick SaaS	Approach 2: SaaS Re-engineering	Approach 3: New platform development
Faster time to market	Yes	No	Maybe*
Less investment	Yes	No	Maybe*
Rich feature sets	No (not to full potential)	Yes	Yes
True SaaS transformation	No (not to full potential)	Yes	Yes*
Faster learning of SaaS ecosystem and business model	Yes	No	Maybe*

*Conditional – For more details please read the above sections.

Our recommendation would be to use Quick SaaS for the launching existing products/applications on a SaaS business model and then work towards a re-engineering approach. An alternative approach could be migration or new development on publicly available PaaS. The exact approach chosen would vary based on business priorities and product roadmap apart from other factors.

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