

Demystifying Software as a Service

WHITE PAPER

EXECUTIVE SUMMARY

At the outset, perhaps it would be a good idea to look at a few things people are saying about SaaS. You may not agree with everything that is said, but there are questions that you would do well to ask yourself now, than later.

"7 out of 10 Small and Medium Enterprise CIOs now prefer to avail subscription based services for their non-core operations"

- AMR Research

- Are your clients among those who do not prefer subscription-based services?
- And why is that: because they believe an installed application makes more sense than something you access as a service over the web?
Or
- Is it because they do not know enough about Software as a Service to make up their minds?

"Well, it definitely makes sense to pay for the service and not for the technology"

- CIO of a Fortune 10 Company

- What are your clients paying for?
- Does it make sense to convert installed applications into a service? How much money does it actually save?
- How much of the jargon cloud actually matters when you take a decision around this subject?

"Most companies adopting SaaS models are aiming to create additional revenues of 20% YOY and a minimal cost saving of 40% "

- Cutter Group

- How much of this aim is a pipe dream and how much of it will end up revolutionizing the way IT impacts businesses?
- Are there demonstrated results that indicate cost savings of the magnitude claimed?
- Should you SaaS-ify your product and begin offering the option to your clients?

It is questions like these that are driving the revolution with the concept of Software as a Service (SaaS). This new deployment and licensing model is expected to change how ISVs will do business in today's uncertain economic environment.

With companies placing increasing value on flexibility and on driving down costs, SaaS appears to be one of the key enablers for ISVs to be able to deliver superior value to their clients who now can be more in control of their software needs and their attendant costs.

This white paper is meant for ISVs and technology start-ups whose *existing client-server applications may be better delivered over the web*, or if an existing web application *needs conceptual expansion to better realize its potential*.

It explores these issues in-depth while introducing GSS Infotech's versatile and complete set of SaaS guidelines that help CTOs answer these questions. Together with a smart, process-driven approach, these guidelines can transform themselves into a set of tools that can help you take critical decisions that impact the outcome of your SaaS-ification.

WHAT IS SAAS

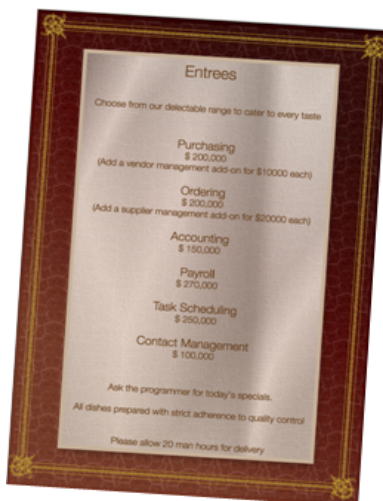
For most companies the deployment of 'software' has traditionally meant a product deployed at their premises, involving customized development, company-wide deployment, investment in product licenses and server space, etc. When this software is transformed into a service, a user accesses it over the Internet, just as he or she would access any other web-based service, such as Internet banking or airline reservation. Just as airline reservation sites do not require you to set up the ticketing software on your machine, the SaaS version of your business accounting software will not require you to install the application on your system. Instead, as a user you will be one among several 'tenants' who will access a common base of code over a network, using the application 'on-demand', rather than having it licensed and installed at your end.

This concept is popularly known as 'multi-tenancy' and coupled with the possibility delivering a feature-rich experience, can compete with most on-premise applications.

WHAT SAAS IS NOT!

Before we go deeper into what SaaS actually is, it may be worth spending a few moments on dispelling a few common myths about what it is not. Some consider those offering their applications as a service the same as application service providers (ASP), whereas the truth is far from this. SaaS is not a web-based product; rather it uses the web as a medium to deliver the application platform, which would otherwise be installed on client machines. It involves the same amount of design and implementation complexities as any other application, except that it comes with the flexibility of being offered on a web-based service platform.

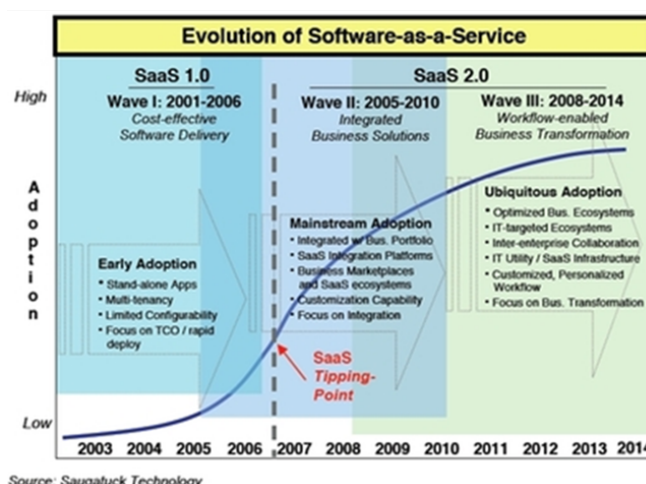
BLURB – Gartner estimates SaaS-led revenues to double from \$7.5 bn in 2009 in the next 5 years.



Software Delivered as a Service: Just place your order, no need to install a kitchen!

SAAS HAS COME A LONG WAY

We are well past the age of early SaaS adopters. The stage that some refer to as SaaS 1.0 was when the focus was more on cost-effective delivery and not on exploring a better way to do business. Somewhere in early 2007 came a tipping point, as it were. A strong focus on integration marked the mainstream adoption of SaaS. It was more closely integrated with the business needs. The next wave of SaaS adoption will focus on business transformation rather than integrate with existing systems. This will only serve to alleviate concerns that CIOs voiced a couple of years ago as per a Forrester Research publication. Integration and Costs were the two main concerns that held organizations back in their SaaS adoption journeys. But as SaaS matures as a model, this will doubtlessly evolve.



WHY CLIENTS SEE VALUE IN SAAS?

Picture a mid-sized manufacturing company that uses an ERP solution to manage its procurement and ordering system. Rather than opting for a large-scale ERP vendor, spend time, money and resources on the installation, hosting and purchasing a number of licenses that will meet future growth needs, they instead opt for the SaaS approach. In this scenario, they can afford the flexibility of choosing to go for only as many licenses as they currently need. The nature of their solution allows them to purchase additional licenses on the fly as and when business needs so dictate. They also do not need to purchase licenses for and install the modules they do not currently need.

Balloon on 'Flexibility' – Don't want a feature? Switch it off, and pay only for what you use.

Increasingly businesses are beginning to feel that they can drive down Total Cost of Ownership, as upfront costs of perpetual licenses and servers are non-existent. They can also redirect their limited in-house staff from the tedium of ongoing support because this burden falls on the SaaS vendor, who is usually more capable of delivering it.

Balloon on 'TCO reduction' – Bring down staffing and resource needs by entrusting costly support functions to the SaaS vendor

The access to innovation, better reliability and security is a key factor in the decision making process for today's clients as they realize that multi-tenant architecture of SaaS enables users to more easily obtain software updates and upgrades than their legacy software counterparts. Contrary to popular perceptions on reliability and security, SaaS enabled applications are afflicted with fewer instances of downtime or security breaches. Easy, rapid and risk-free deployment is a hallmark of SaaS enabled solutions as most providers give a 30-day risk free trial, while the delays associated with acquiring hardware and licenses make the deployment quicker than on-premise installations.

Balloon on 'Access Innovation' – Software upgrades and innovation that make your product better now within closer reach

Balloon on 'Rapid, Risk-Free Deployment' – 'Cash in on trial periods and proven expertise demonstrated by those who deploy effective SaaS solutions'

SaaS: The Future Beckons

As per a McKinsey report published in April 2008 (to be referenced), the SaaS market is expected to exceed over \$37 billion over the next five years. This comprises both new product development and transitioning of existing ISV products. The report also states that this has opened up a \$3 billion market for providers that help ISVs to SaaS-enable their applications. Several large ISVs have already started seeking partners to formulate the business strategies, technology strategies, and GTM strategies for adopting SaaS model.

GOING THE SAAS WAY: THE UPSIDE FOR THE ISVS

There are a number of benefits to the ISV arising from offering the software solutions as a service. Some of them are:

- Driving down cost of ownership:
 - The cost of administering the system developed for users on a SaaS model is lower than in the traditional on-premise model.
 - A large user base means lower deployment costs, as users just login to the system on a web browser. It offers substantial cost and economies of scale benefits to both ISVs and their consumers through customizable subscription and licensing models.
 - Customers get to pick and choose the software functionalities as required and pay only for what they use. The ISV does not have to extend support for functionalities that have limited or no use for the client.
- The Sharing of Common Code:
 - Advanced multi-tenant architecture enables a shared code base of software systems deployed for ease of modifications and the addition of new tenants leading to reduced development and maintenance efforts.
- Faster time-to-market:
 - With the SaaS model, ISVs can deploy their solutions significantly faster than in with traditional license-and-install route. This allows ISVs to build and customize applications in very short timeframes.
- Sharper focus on the ISV's core strategy:
 - When the tasks of deploying, hosting and supporting the installation of a software solution is handed over to an independent SaaS vendor with proven skills in the market, the ISV can free up resources to do better what they are known best for.
 - The battle to be more competitive can be fought more in the mind, where the ISV starts to creatively think of better solutions rather than worry about how to better deploy the solution at the client's end.
 - This also allows the ISV to address new market opportunities and break new ground.

At the end of the day, it has been seen that ISVs that deploy solutions on the SaaS framework enjoy a more dynamic relationship with ongoing dialogue with their clients, the users of their applications, compared to those who are on the one-time license sale model.

THE CHALLENGES ISVS FACE:

What You Need to Know Before Going the SaaS Way

But it is not all fun and games when you go down the SaaS road. The basic SaaS premise of multi-tenancy throws a lot of development architectures out of gear. Traditional platforms such as JEE or .NET frameworks have not been known to be SaaS-friendly in their design and approach. Here's a closer look at the pitfalls you need to be aware of. There are two scenarios that the points below address: the SaaS-ification of existing applications, or the development of new offerings on a SaaS platform.

- **Multi-tenancy architecture:** This is the fundamental requirement that drives a set of other technical requirements. Having heavily invested in building on-premise applications over a period of time most of the enterprises have to support already critical business functions. Suddenly moving applications to an on-demand SaaS platform can be a daunting task. Technical architects frequently have to revisit the most basic of assumptions to design their development environments.
- **Legacy Modernization Architecture:** Some of the existing products are built using legacy technology, which needs to be modernized to a new technology platform. Further each product comes with a different architecture model that needs to be taken care of while moving to a SaaS platform.

- **Lack of Multi-Tenant Security Solution:** Most of the existing products do not provide out-of-box support to address multi-tenant security requirements for SaaS adoption. This requires technical architects to go back to the drawing board as far as security is concerned to provide for an additional layer of security which was a given in the scenario of on-premise traditional system installation.
- **Client-side Integration Requirements:** Most of the existing applications do not provide out-of-box support to integrate it with on-premise applications of the enterprise and vice versa. This is despite the fact that most SaaS enabled solutions are built on a common set of web service protocols and APIs, they still require significant effort in ensuring that different elements in the workflow at the client's end talk seamlessly with each other with no resultant denials of service.

HOW DO I KNOW IF I AM READY FOR SAAS?

At GSS we employ a set of self-assessment guidelines, which help you determine the answer to the question that should be giving you sleepless nights: "Is my product/solution ready for SaaS enablement?"

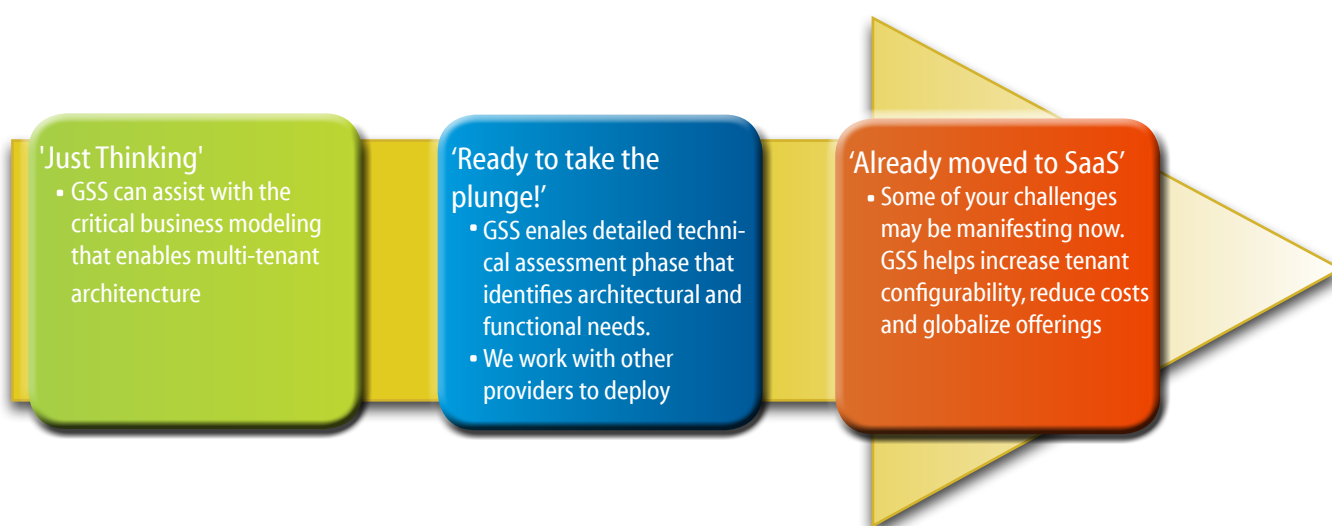
Take this quick questionnaire, and find out.

- Is there a strong business case to evaluate SaaS Adoption for your products? Bear in mind that applications in the area of specialized workflows or high interdependencies typically find SaaS enablement a hurdle.
a. Yes b. Somewhat c. No
- Am I completely confident and clear on what SaaS is what it can mean to my products and customers?
a. Yes b. Somewhat c. No
- How desperate are my customers for using a SaaS Solution? Competitors offering it would be a good indication.
a. Very desperate b. Somewhat c. Not really
- Is my customer base big enough for SaaS Adoption and its inherent low pricing model? If you are going the SaaS way for a couple of customers, you will probably not reap any real benefits.
a. Yes b. Somewhat c. No
- Does it make sense for my existing products to be SaaS-enabled? This means harnessing the power of common code base for applications that need low-customization across customers.
a. Yes b. Somewhat c. No
- Are there any data security concerns or compliance issues in the industry segments my products cater to?
a. No b. Somewhat c. Yes
- How easy is it to devise a pricing model for my products which when offered as a service are still intuitive and easy for clients to understand? Ideally, the pricing should strike a balance of being competitive and yet profitable.
a. Very easy b. Not easy, not difficult c. Very tough
- Is it possible to re-engineer my existing products reasonably in a short time frame, considering its technology stack, framework built on and skills required?
a. Yes b. Maybe c. No
- Do you know what to look for in a company who promises quick SaaS-enablement of your products?
a. Yes b. Somewhat c. No

Mostly a: This means you're ready for SaaS-enablement. Your product architecture and business environment suggests that you will probably get more from SaaS than others.

Mostly b: You either need more information about SaaS, or a clearer picture of your product architecture and business environment. Perhaps your call should be taken when this picture is complete.

Mostly c: SaaS is not for you yet. Perhaps spending the time and effort on SaaS-ifying would be better spent elsewhere



How close are you to the SaaS Edge?

No matter how close you are to the SaaS edge, or even if you have taken the plunge, GSS' suite of advisory and technical services strives to carve a smooth road out for you.

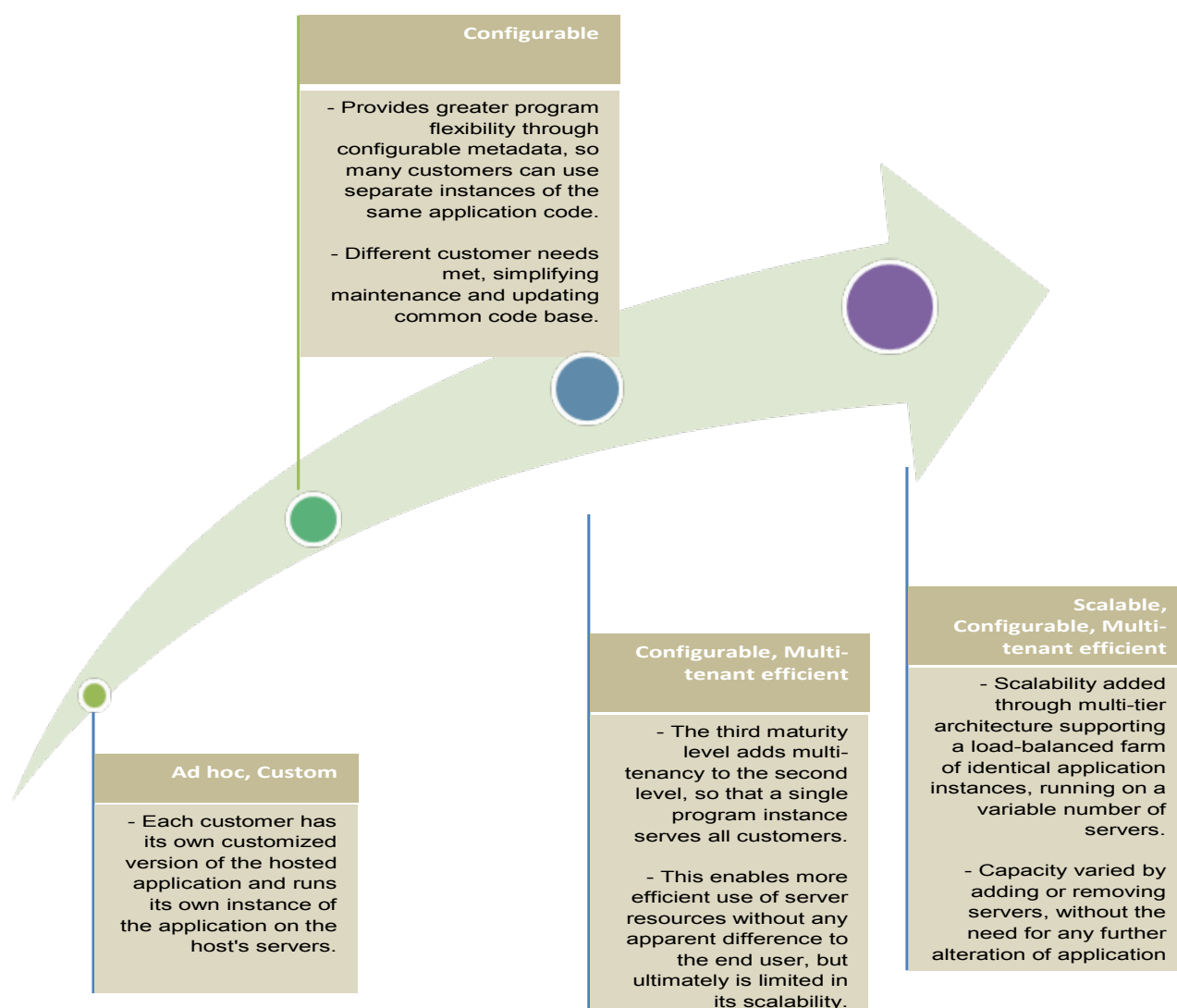
"Just thinking" about the switch? GSS will assist with the critical business modeling, which could lead you from being a stand-alone product to a distributed multi-tenanted service.

Ready to take the plunge? GSS will embark on a detailed Technical Assessment phase to identify your architectural and functional needs. Then we'll work hand-in-hand with you and other providers (PaaS, managed hosting, cloud deployment & SaaS enablement technology companies) to anticipate issues and lower costs throughout the development cycle.

Already moved to SaaS? Some of the important SaaS challenges may have begun to manifest only now: How can you provide new features, reduce product release cycles, continuously globalize your offerings, increase tenant configurability, and keep up basic tech support and application maintenance while keeping costs under control?

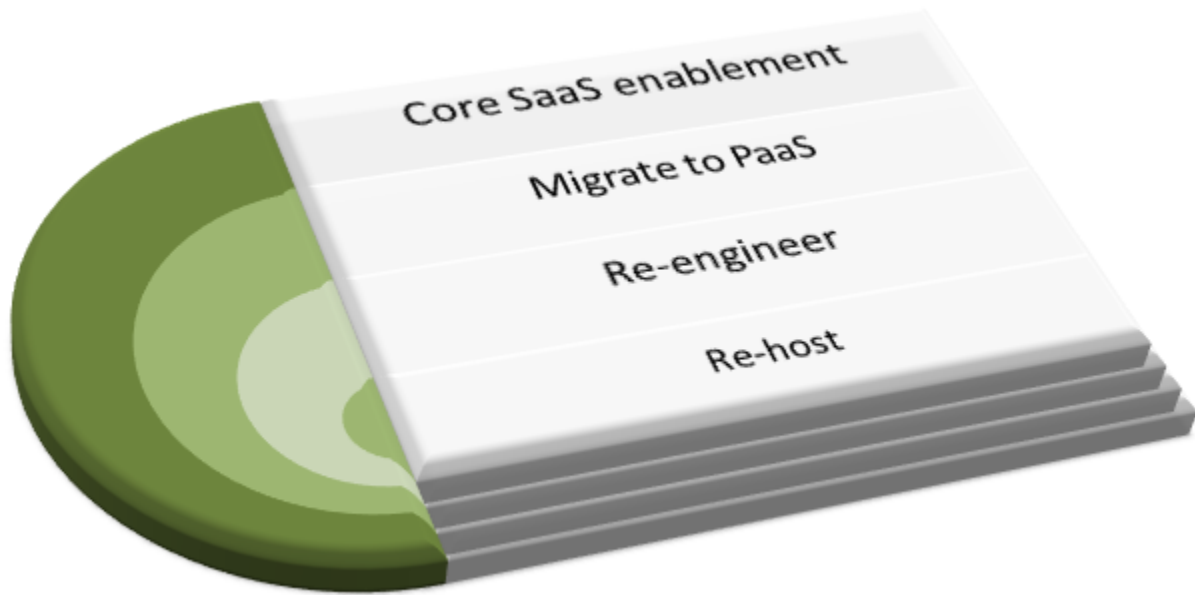
SAAS MATURITY MODELS

It is worthwhile to explore SaaS maturity models as illustrated below. These are critical to the understanding of the increasing value that SaaS can bring to an application depending on how it is adopted.



BUILDING YOUR SAAS STRATEGY

At GSS, we partner your SaaS effort from the ground up. There are multiple strategies available for ISVs to adopt the SaaS Model. Selecting an appropriate strategy and SaaS platform will enable ISVs to address the challenges and maximize value creation opportunities that exist. Following are the ways you can SaaS-enable your solution, from a broad strategy perspective:

**Re-hosting using the SaaS delivery platform:**

- This strategy involves re-hosting existing applications without any modification to target SaaS hosting providers or public cloud providers to reduce infrastructure and operation costs.
- The idea here is to do minimal change to the application code and other components and to run the applications straight on a SaaS Model,
- This minimizes the risks of migration while still keeping costs as low as possible.
- Although this strategy is quick, cost-effective, and tactical, it still does not provide true advantage in terms of an operational or maintenance cost perspective, when the customer base is higher.

Re-engineering to a new technology platform:

- This is also called the big-bang approach that involves re-engineering legacy systems to new technology platforms with SaaS capabilities.
- It leverages the SaaS development platform provided by vendors or custom building a SaaS development platform to build SaaS-based applications. Key capabilities such as multi-tenancy, metering, billing, security and integration should be available to enable efficient development and deployment of the applications.
- This strategy has disadvantages in terms of increased cost for re-engineering and higher time-to-market.

Migrations to Platform as a Service (PaaS) providers:

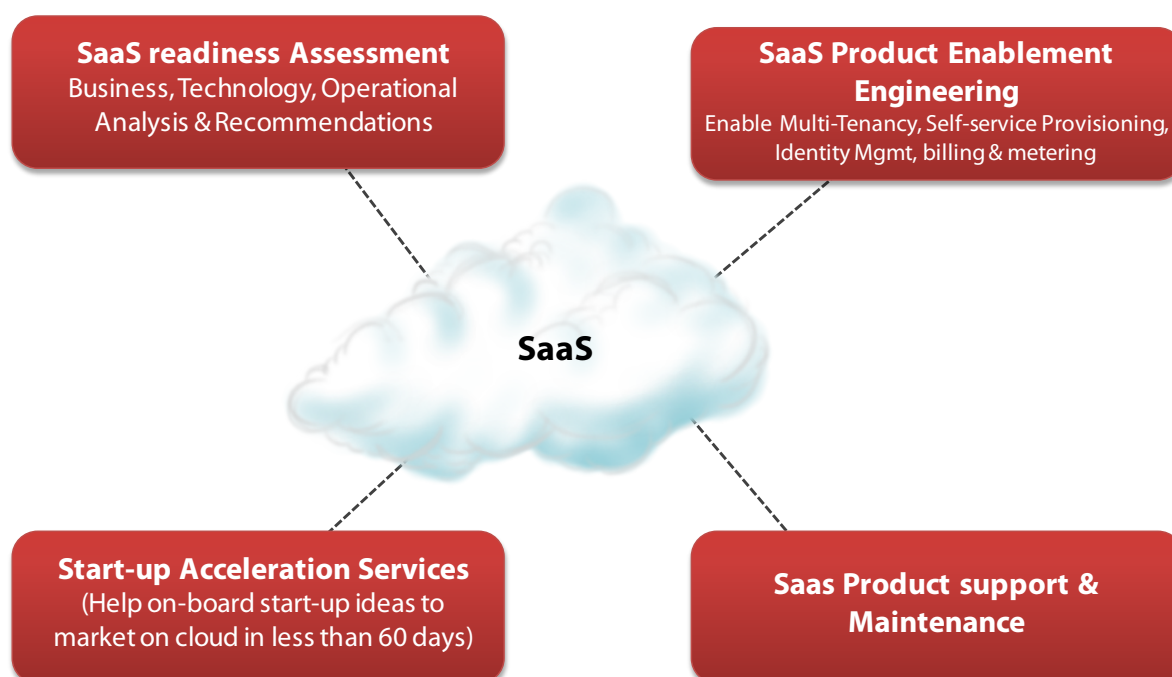
- This strategy involves the migration of existing applications that leverage proven PaaS vendors such as Microsoft Azure & Force.com which provides end-to-end cloud services for customers.
- However their overall cloud-based platform could put a lot of constraints on the technology to be used for each of layer of the application.
- The existing application needs to be migrated to a technology stack supported by PaaS vendors for each the layer of application.

However, most of the PaaS providers address multi-tenancy capabilities through custom solutions that would make it difficult to move an application from one provider to another.

Core SaaS enablement:

- This strategy gives a true multi-tenant cost advantage to the enterprise, for it involves SaaS-ification from first principles: it uses a single code base for all tenants.
- This allows for building the true common code base that enables rapid upgrades to all tenants hooked up to the system.
- Intuitively it harnesses the advantages of economies of scale far more effectively than other models.
- It adopts architectural strategies to enable multi-tenancy across all the layers of the application. Tenant-specific extensions are plugged in to single code base to maximize code efficiency.

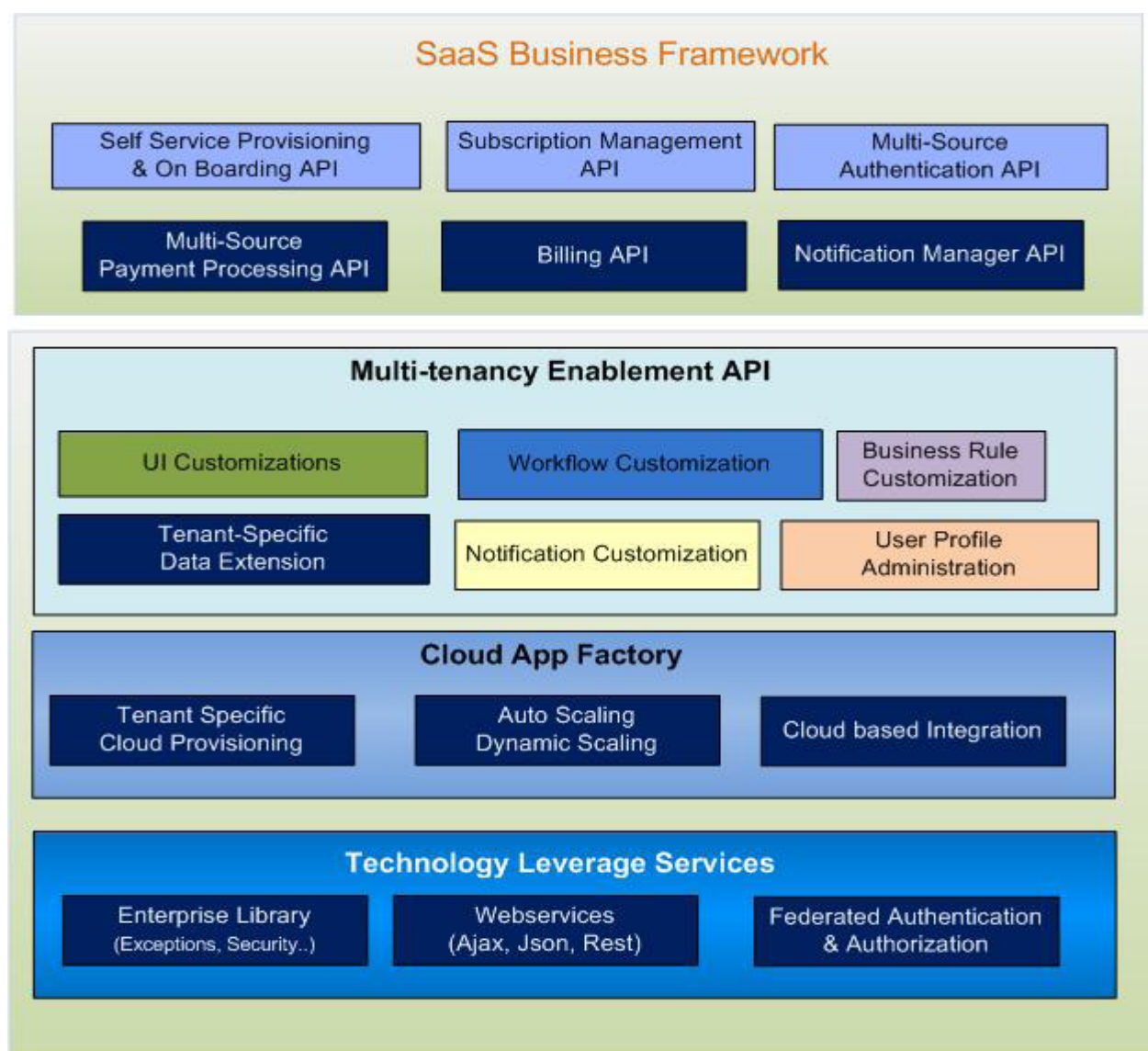
However GSS employs a vendor-neutral approach and constantly evaluates each platform technology by at its core. This level of expertise helps us, use the technology appropriately and design solutions carefully.

THE GSS SERVICE OFFERING:**GSS APPROACH FOR SAAS ENABLEMENT**

GSS SAASIFY FRAMEWORK

GSS has innovated a unique SaaS Enablement Framework in order to abstract out the common SaaS Enablement capabilities and there by decreasing the time to market for the ISV customers.

This Unique IP of GSS, helps customers launch their SaaS Enabled products with in a very short time span and offering a reduction on cost by ~40%.



CASE STUDY

A mid-sized IT company specializing in providing financial services operating out of North America was seeking to provide their securities trading software as a service to their key clients operating across global markets. This decision was prompted by building pressure from competitors who had announced plans to SaaS-ify their offerings. But, was the product ready to be offered as a service at all? Would re-engineering the product for the SaaS platform be more effort that would make sense? Coupled with the fact that there just wasn't the right kind of bandwidth in-house to take on this task, the CTO's team was at a loss. They wished to experience the much touted advantages of SaaS, but were not convinced that the migration would be painless. And time was running out.

GSS' ISV-aware solution team was quick on the uptake, understanding the CTO's concerns before designing a solution. They brought with them the expertise of being able to deconstruct quickly the elements of SaaS-enablement that would impact the architecture of the product. They began by piloting a stripped-down core-functionality based model on a multi-tenant architecture in just 3 weeks. This guaranteed buy-in from a host of business users who were excited to see a new world of possibilities. The team then followed an Agile methodology to show results in quick turn-around times, which as well helped to take course corrections during development.

CONCLUSION

With the right roadmap in mind, SaaS becomes more than just a catchword, or a phrase in fashion. It becomes the basis of a new revolution in the quest to deliver superior value to a client's needs. The basic question to be answered by the CTO in this scenario is that does SaaS make sense for the kind of product that he or she is looking to convert to a service? A satisfactory answer to this may not be easily reached, but once there is a commitment to goal, GSS can step in to convert the concept into a reality with a robust process-oriented approach that allows the client greater degrees of cost-savings coupled with superior end-user experience.

Any Questions about SaaS?

Write to us at Saasify@gssinfotech.com

Or call us: 1-800-GSS-SaaSify

ABOUT GSS INFOTECH

GSS Infotech is a focused SaaS & Cloud Solutions Engineering company providing Un-compromising Advisory, Solutions Architecture & proven delivery on various Cloud Platforms. Today it serves to over 200 Fortune customers worldwide. GSS' customers are leaders in the areas of Telecom, Banking and Financial Services, Insurance, Healthcare, Retail and Governance. Powered by a pool of highly qualified professional workforce, GSS Infotech offers world class services that have propelled it into the **Forbes' list of Asia's 200 Best Under \$1 Billion Companies** for three consecutive years, in **2008, 2009, and 2010**. Finance Asia listed GSS Infotech as the **"Best Small Cap" in "Asia's Best Managed Companies" in 2008**.

Founded in 1999, GSS is headquartered in Hyderabad, India with operations worldwide through its offices in India, Singapore, Middle East, and the USA.

AUTHOR SNAPSHOT

Name: Ramanan Arunachalam

Title: Head – Cloud Solutions Group

Description: Ramanan currently heads the Cloud Solutions Business in GSS Infotech. Under his Leadership, a large pool of seasoned cloud specialists helps ISVs & Enterprise-SMB customers evaluate, adopt and manage their complex applications and software solutions on Cloud. Competencies of the Cloud Group includes - Architects, Developers, UI & Testers on PaaS Platforms – Azure, Force.com and Amazon EC2.