



What will the software industry look like in 3, 5, or 10 years from now?

Today, most ISVs are pondering their plan down the future software path called **Software as a Service (SaaS)**.

Some of these ISVs have embarked on the journey of re-architecting their software for SaaS and some are testing the waters with a few customers using hardware virtualization (such as VMware) that is functionally not much different from the old ASP model of the late 1990s. There is definitely a trend of traditional ISVs moving to SaaS; in fact, it is not easy to find any traditional enterprise software startup that has been funded since 2003.

It's clear that SaaS is the future mainstream direction.

Players in the software industry compete around intellectual property. It's all about who has the most compelling features. In the future SaaS world, the competition will be around its second 'S' - Service. This will require many of today's ISVs to reinvent themselves-both in mindset and products.

First, their mindset has to move from shipping products on CDs that require professional services, annual product development cycles, and high annual maintenance fees to one focused on providing their products with the absolute lowest cost of service delivery. In the SaaS world, it's all about driving down your cost of goods sold (COGS). In the future, the market winners will be those who can effectively drive **the incremental cost of new customer on-boarding, and service delivery to zero**

. These winners will enable their customers to self provision the service with the incremental cost of adding that customer as close to zero as possible. How will they drive down the incremental cost? By eliminating the need to deploy a separate instance i.e. replicating every software component (operating system, database, app server, etc.) - for every new customer. **A true multi-tenant SaaS architecture supports a "shared everything" environment with the flexibility to "un-share" components as necessary.**

Second, the future of successful SaaS companies will be built on **sophisticated multi-tenant architecture**

Today, many software vendors are attempting to weave multi-tenancy into their applications. This process is a cumbersome, lengthy and expensive endeavor. You can think of it as writing your own database or app server from scratch for your application, and no one would attempt doing that any more. So why weave multi-tenant features into your application? It happens because most developers either underestimate the ramifications of doing so, or they are unaware that there is a better approach.

Today, sophisticated multi-tenancy exists as a software "plug-in"

separate from the application code, similar to databases and application servers. In the future, the best practice will be to use a standalone, proven abstraction layer for multi-tenancy that SaaS developers will incorporate into their solution stack in a similar manner that they integrate databases and application servers.

This "plug-in" approach will allow each SaaS provider the freedom to choose their technology stack such as OS, database and app server. This freedom, combined with the freedom to run the solution on any public, private, or hybrid cloud, will enable the deployment of SaaS applications not only as public service but also as **Private SaaS™** that provides services to a defined and private audience such as an enterprise with different divisions, regions, independent business units and subsidiaries that each could become a "tenant" and turn the corporate IT into an **internal service provider** perhaps as a profit center.

Those interested in more details can visit a recent [Corent whitepaper](#) published at IBM developerWorks called: "Convert your web application to a multi-tenant SaaS solution."

The way that customers are looking at software is changing. In the future, large multi-million dollar on-premise deals will decline as customers demand more predictability in their cash flow. SaaS helps the predictability by reducing upfront software and hardware capital expenditures (CAPEX) and ongoing maintenance costs and replaces it with a **predictable operating expense** (OPEX).

Customers will expect more features and require them more often. In addition, they will demand that the rollout of new features be (optionally) transparent. These expectations are driven by the new world we are living in-the world of the smart phone and tablet computing.

Self-provisioning has come to the typical consumer. For example, you enter the Apple App Store, select an application, enter your password, and within seconds the application is on your device. There's no CDs or complicated installation process - it just works. The applications on those iPhones and Droids are also constantly being updated, and the upgrade process is simple and seamless. This consumer trend will fuel the mindset and demand for SaaS at the enterprise. Customers will demand to "try before they buy" the application, and when they do buy, they will expect **self-provisioning with frequent, transparent updates** just like their smart phone or tablet device.

The most common SaaS license model is a single subscription for a named user, evolved from the old on-premise software model. These user based license models will be challenged by SaaS companies whose solutions are based on a true multi-tenant architecture. Why? A true multi-tenant platform allows the software provider to deliver their solution with the **lowest cost of service delivery**

. Also the SaaS solution of the future will provide a cockpit-like capability that measures every driver in the cost of delivery equation. These include CPU usage, disk usage, network activity, amount of time using the application, etc. With these cost breakouts from a sophisticated multi-tenant platform, SaaS providers can offer

flexible pricing models

, such as capacity usage over time periods or the number of concurrent users during different periods. More sophisticated models based on transactions will also appear, along with others based on actual usage of the application. SaaS customers will inevitably seek more sophisticated pricing models as they transform their business with increasing number of SaaS applications.

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