

Cello – Unified SaaS Life Cycle Management Solution

Competitor Analysis Report

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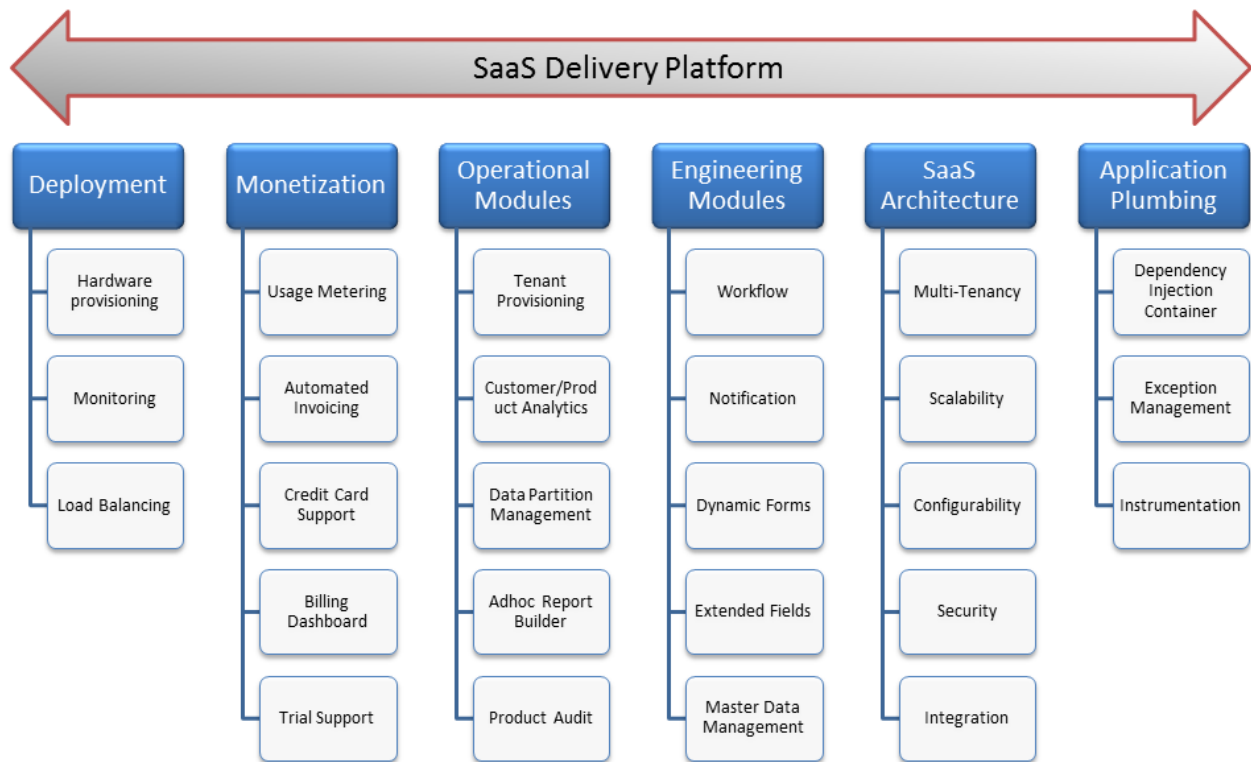
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Introduction

SaaS Life Cycle Management encompasses of all the typical phases/activities that are performed on a day to day SaaS business model. This white paper talks about the importance of having a unified SaaS Life Cycle Management Solution that can be made available as part of your product, enhancing it with all the features required to design, develop and manage you SaaS solution.

Components of a SaaS Delivery Platform

The below picture describes the various components and sub-components that are involved in constructing a SaaS Delivery Platform.



| Component | Details |
|----------------------|---|
| Application Plumbing | Provides the basic plumbing components like exception management, logging, instrumentation, etc. |
| SaaS Architecture | SaaS products need to support the critical Non-Functional Requirements (NFR) like multi-tenancy, scalability, configurability, etc. These NFRs have to be designed at the architecture level, so that the modules built using this architecture inherit these NFR capabilities. |
| Engineering Modules | This encompasses of all the typical modules that are required to facilitate a SaaS model of working. For example, workflow module allows you to quickly customize |

Unified SaaS Life Cycle Management Solution

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|---------------------|---|
| | the business process from one customer to another. Similarly, any product will have email notification requirements, and the content of these emails will have to be customized by tenant. Presence of these modules can save significant amount of time during implementation and maintenance. |
| Operational Modules | Supports a wide range of features that can help in servicing the customer requests. For example, Tenant provisioning can roll-out new customers quickly without any manual intervention. Data partition management allows you to manage the preferred data isolation setup for tenants. Customer and product analytics can provide a lot of insightful information on how your customers are using the product and any potential issues within the product. Once again availability of these components can significantly reduce your operational overhead. |
| Monetization | Since SaaS operates on a subscription model with support for multiple pricing models, automating the complete monetization process is very important. Subscription management includes features like tenant provisioning, licensing, metering the usage, automatic invoice generation, payment collection and tracking. In some cases support for reseller model will also have to be considered. |
| Deployment | This component completely deals with the management of infrastructure in the cloud. This typically includes provisioning new hardware, monitoring the performance of the hardware, support for load balanced server cluster, etc. |

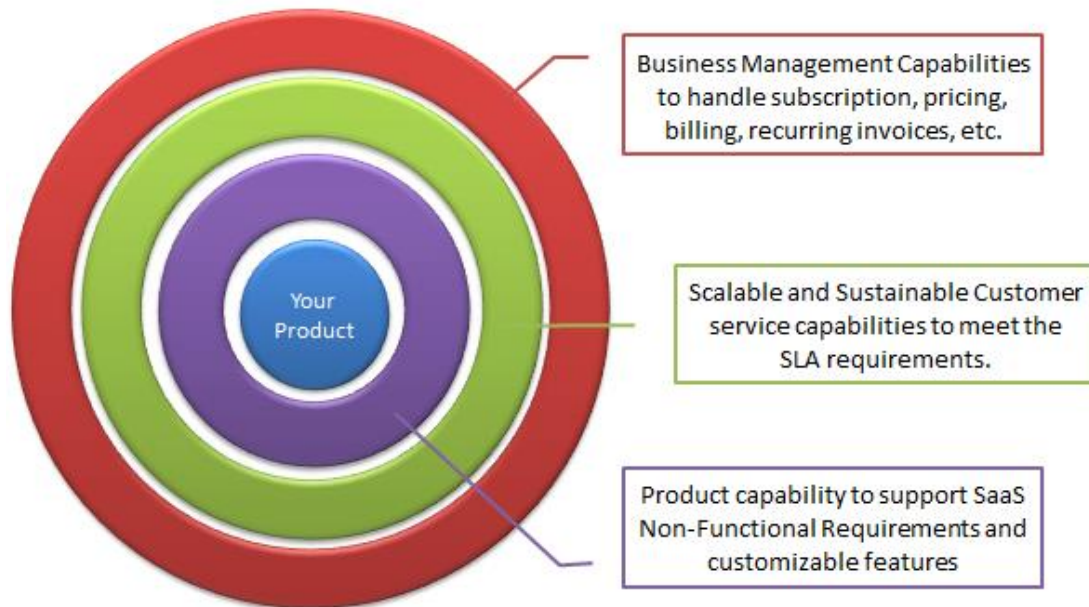
SaaS Life Cycle



This picture gives you a holistic view of the various stages or phases that happen in a typical SaaS business environment. It starts with creating your product subscriptions, against which your customers may register or subscribe to. Once they sign-up you need to bring them on board in to the system, which will require a series of configurations, setting up of security measures, getting users on board and define their access rights. Once this done, you will constantly monitor them for usage, audits and specific actions like data backup. For each subscription period, you will have to raise the bill and collect the payments from the customer. Finally, you would like your customers to upgrade or renew their subscriptions.

An ideal SaaS delivery platform should be able to support all the stages of the SaaS Life Cycle.

Cello – One Stop Solution



Cello addresses all the needs of an ISV for executing the end to end SaaS life cycle. For any product that is planned for a SaaS model, Cello provides these 3 additional rings around it, which takes care of all the SaaS Life Cycle needs.

The inner most ring, is about adding capability to your product to support Non-Functional Requirements(NFR) like Scalability, Configurability, Security, etc. and also design your product features in such a way that they are easily customizable.

The middle ring contains features that can help your tech support team in customer implementations as well as addressing their service requests.

The outer ring provides the business management capabilities to handle subscription, pricing, invoicing, payments etc.

Cello has modularized and packaged all these common needs as an out of box unified solution, which can be easily plugged in to your product.

Cello – Solution Areas

Let's see what each of the stakeholders will get from the cello integrated solution,

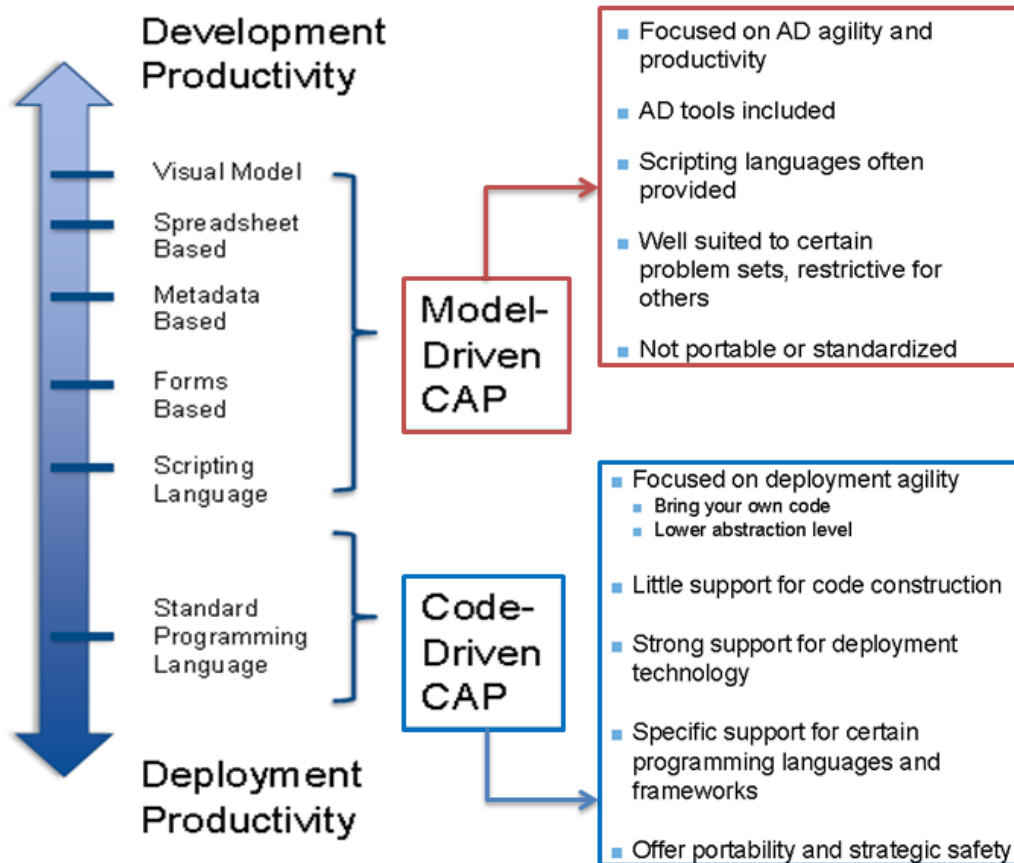
Management Team – They get equipped with executive dashboards and monetization tools through which they can completely control and operate the subscription and revenue collection of their product.

Customer Service Team – Most of the typical customer services requests are now automated, and hence, the service team can now process lot more requests in a much faster way. In addition to this, self-service portals also allow the end customers to address many of their simple requests without even having to come back to the tech support team.

Product Engineering Team – They get equipped with an engineering stack that supports all the NFRs required for a SaaS product. The engineering features also help in cutting down a significant amount of development time, resulting in faster time to market.

IDC Report

IDC (<http://www.idc.com>) is a leading analyst firm recognized all over the world. IDC has recently released a report on the various vendors in the market providing platform solutions. In this report IDC has classified the Cloud Application Platform (CAP) vendors in to 2 major categories – Model Driven and Code Driven. The below picture also highlights some of the key highlights of each of these categories.



Cello in IDC Report

We are happy to announce that Cello has been listed as one of the vendors providing Code-Driven CAP. Below is the snapshot from the report.

| Vendor | Offering |
|--------------------|---------------------------------|
| ActiveState | Stackato |
| Amazon | AWS Elastic Beanstalk/OpsWorks |
| Apprenda | Apprenda Platform |
| AppScale | AppScale |
| Asteor Software | Techcello |
| CenturyLink/Savvis | AppFog |
| CloudBees | Run@Cloud |
| cloudControl | cloudControl |
| Cumulogic | PaaS |
| dotCloud | dotCloud PaaS |
| Engine Yard | Engine Yard Cloud |
| FatFractal | FatFractal |
| Google | App Engine |
| IBM | SmartCloud Application Services |

| Vendor | Offering |
|------------------|------------------------------|
| Jelastic | Jelastic |
| Microsoft | Windows Azure Cloud Services |
| Nodejitsu | Nodejitsu |
| Oracle | Java Service |
| Pivotal | Pivotal One |
| Pramati | CloudJee |
| Red Hat Software | OpenShift |
| Salesforce | Heroku |
| SAP | SAP HANA Enterprise Cloud |
| SixSq | SlipStream |
| Tibco | ActiveMatrix |
| WSO2 | Stratos |
| Zend | phpcloud.com |

Cello vs. Model-Driven CAP Providers

Model-Driven CAP solutions (also referred as Application PaaS) are mainly aimed towards abstracting a lot of development complexity, so that users can quickly build and deploy applications. However, there are several limitations in APaaS. The below table highlights some of the key differences between Cello and APaaS.

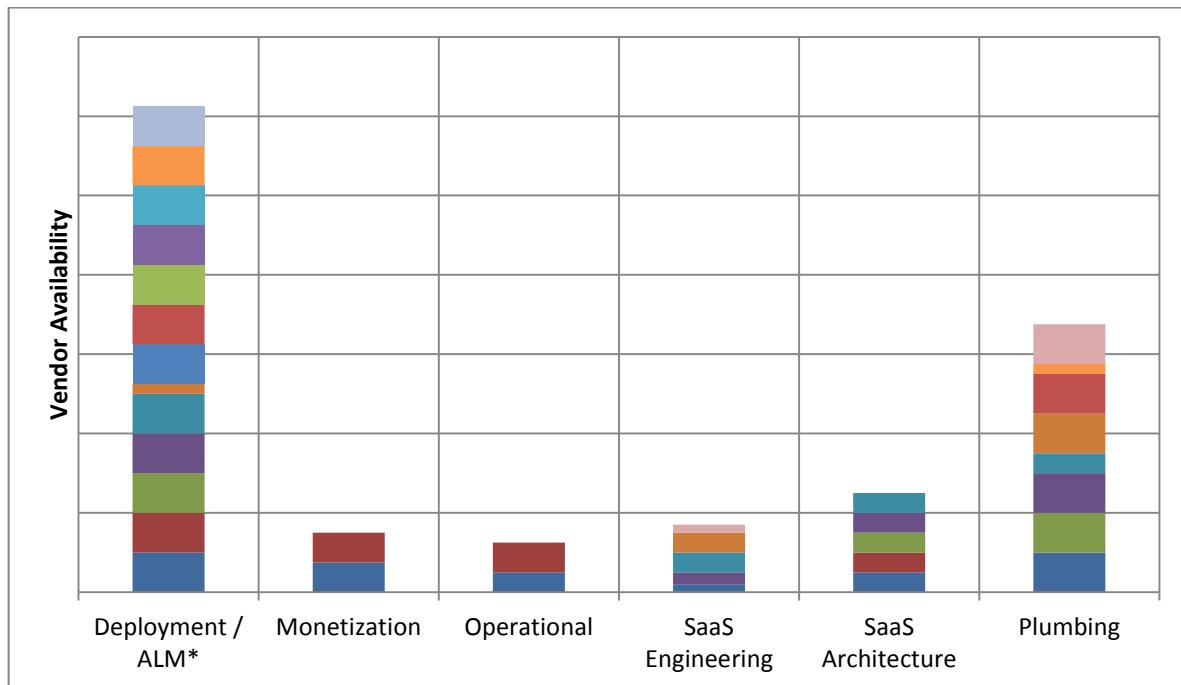
| Cello | APaaS |
|---|--|
| Provides complete architectural control and flexibility. For ex: you can pick and choose the modules that you would like to use from cello. If required, you can override the working of some of the modules. | Typically comes with a boxed approach. The options and features are pre-defined and cannot be changed by the ISV. |
| Standard Technology - .NET and Visual Studio. Cello uses standard technologies that are cloud neutral. | Some of the providers have proprietary technologies, which is not portable. For example, Force.com uses Apex language, and can run only within the runtime of Force.com platform. Application cannot be ported to any other cloud. |
| No vendor lock-in. Since, cello uses standard technology and can run in any .net supported environment there is no vendor lock-in. | Since the technology and cloud platform is proprietary, there is a tight vendor lock-in. |
| Cello provides the complete unified solution covering business, operational and engineering aspects of | Many of the providers support only one aspect – business or operational or engineering. For example: one vendor provides Visual PaaS to create workflow |

| | |
|---|--|
| SaaS solution. | based solutions alone. Please note that Workflow is one of the 30 modules supported by cello. |
| Hybrid Business Model – Solutions built using cello can be deployed as both on-demand as well as on premise solutions (for large customers) | Cannot support hybrid business model. |
| Multi-Tenancy support – Cello’s multi-tenant architecture allows you to develop true multi-tenant SaaS solutions. | You can deliver applications only in a single tenant model, which means you need more infrastructure as your customers grow. |

To summarize, APaaS solutions are more suitable for enterprises where the need is to build simple and straight forward applications, at higher speed and lower costs. However, when it comes to building enterprise robust SaaS products dealing with high levels of scalability and configurability, Cello is the right fit.

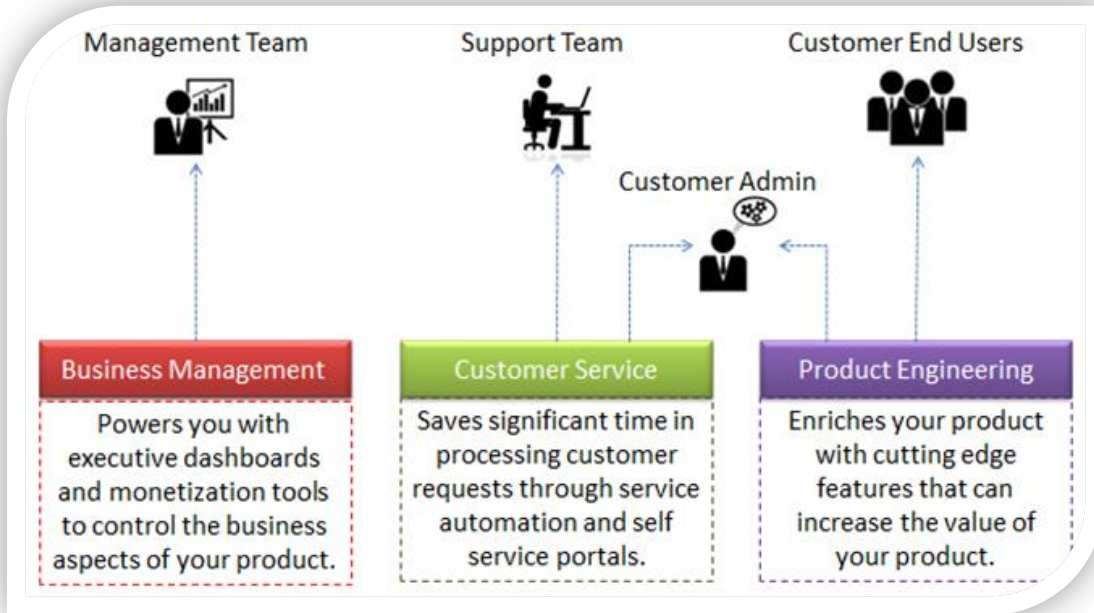
Cello vs. Other Code Driven CAP Providers

There are several vendors in the Code Driven CAP category. However, when you analyze the spectrum of services offered by them it boils down to only one to two areas. The below chart will give you an indication on the vendor availability by SaaS Delivery Platform Components.



Unified SaaS Life Cycle Management Solution

Many of the Platform as a Service (PaaS) vendors focus more on the Deployment and Application Life Cycle Management (ALM) areas, as these are the main pain points for Enterprises. But, when it comes to ISVs, there are not much support offered by these vendors on the operational, architecture and engineering areas. There are also framework providers concentrating on the plumbing areas, but they don't have much support for engineering, operational and monetization areas.



Cello offers complete support on all the areas and hence, is the only Unified SaaS Life Cycle Management Solution in the market. Please note that Cello consciously does not offer any Deployment/ALM support. This is primarily to allow ISVs to use the product in any environment regardless of public cloud or private cloud or on-premise or local data center. Also, please note that several of the cloud players like Amazon, Azure, Rackspace, etc. already provide solutions for deployment and ALM management. Therefore, it will only be redundant for cello to offer the same features. Cello can be used in multiple cloud providers like Azure, Amazon, Rackspace etc. Therefore, it gives additional benefit for ISVs to tap in both cello as well as cloud provider's features.

Cello Features

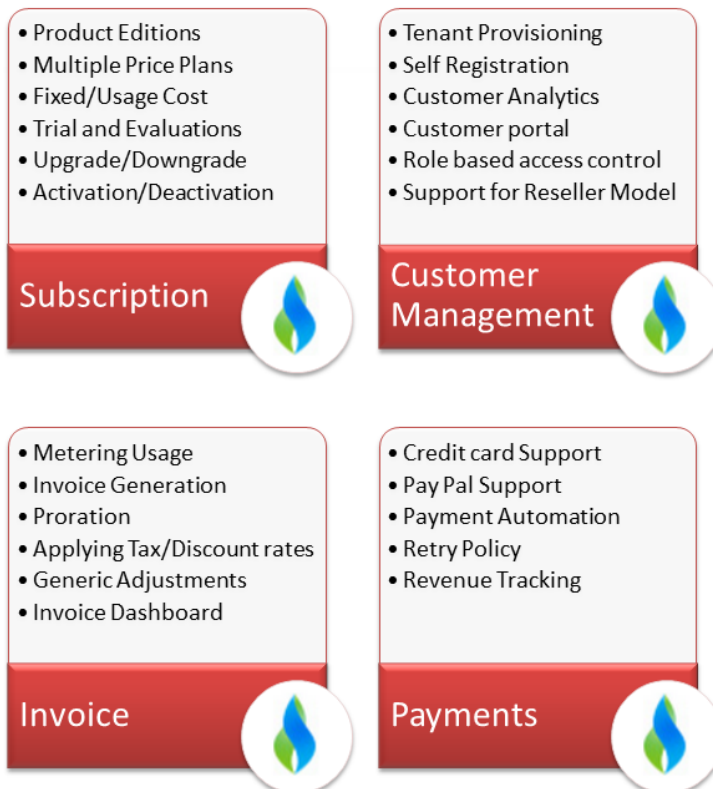
Cello - Business Features



Cello's business management edition encompasses all the solutions that were discussed in the earlier section. Subscription related features will allow you to publish multiple subscription plans, with multiple price plans. You can also have any combination of pricing model (fixed or usage cost), which can vary from tenant to tenant.

Customers can self-register and start using the product within no time. Customer management features provides you with customer analytic information to handle your leads and customers. Invoice generation is completely automated with support for metering and proration. For payments, all major credit cards and paypal account is supported.

Cello - Customer Service Features

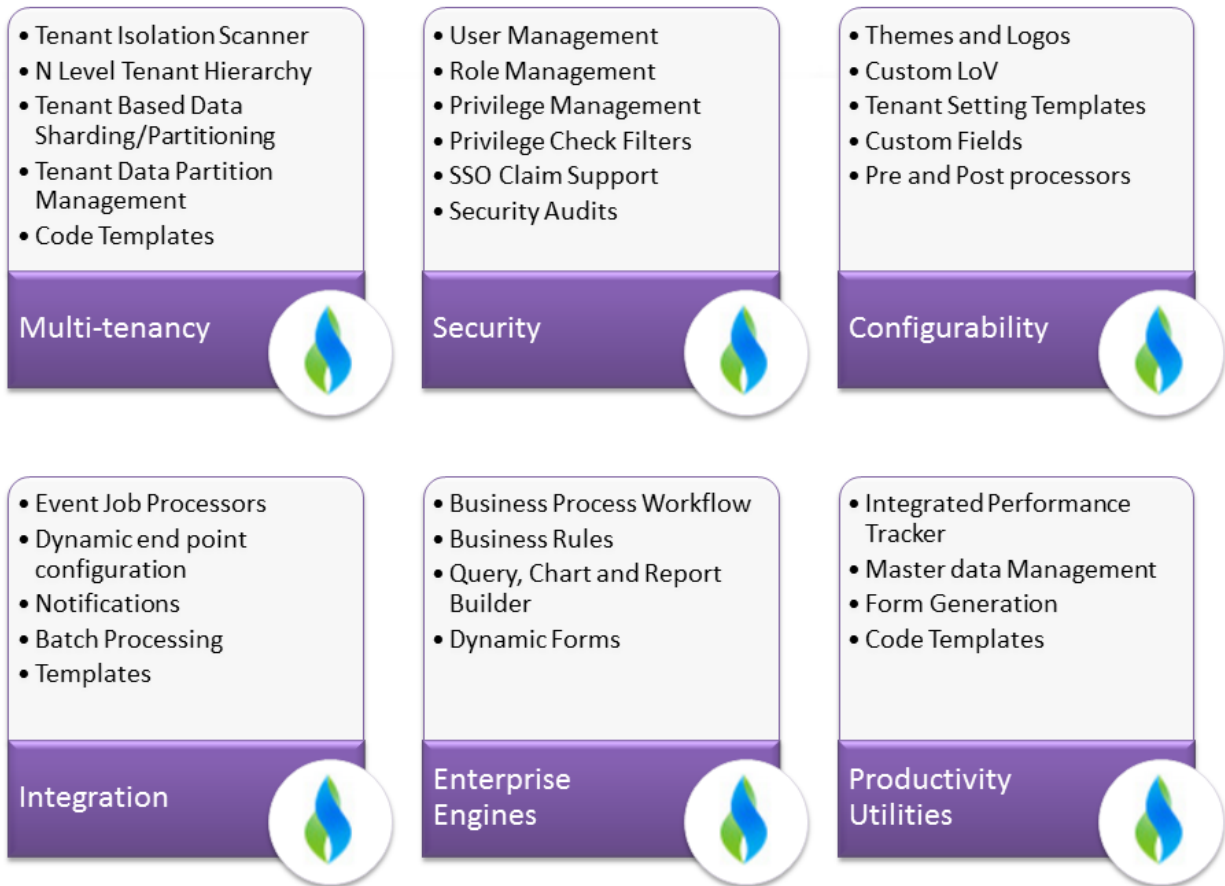


Cello's customer service related features exactly provides the above solutions right out of the box. It offers the following modules,

Completely configurable multi-tenant workflows which allow the tenants themselves or the customer administrator to alter the workflows to the way they need via user interface. Configurable forms which allows the tenants themselves or the customer administrator to go and create adhoc forms or extend the existing forms. White Labelling which allows the tenants to configure their themes and logos. Configurable Reports which allows the tenants and the customer administrator to quickly build reports from any application data.

Cello – Product Engineering Features

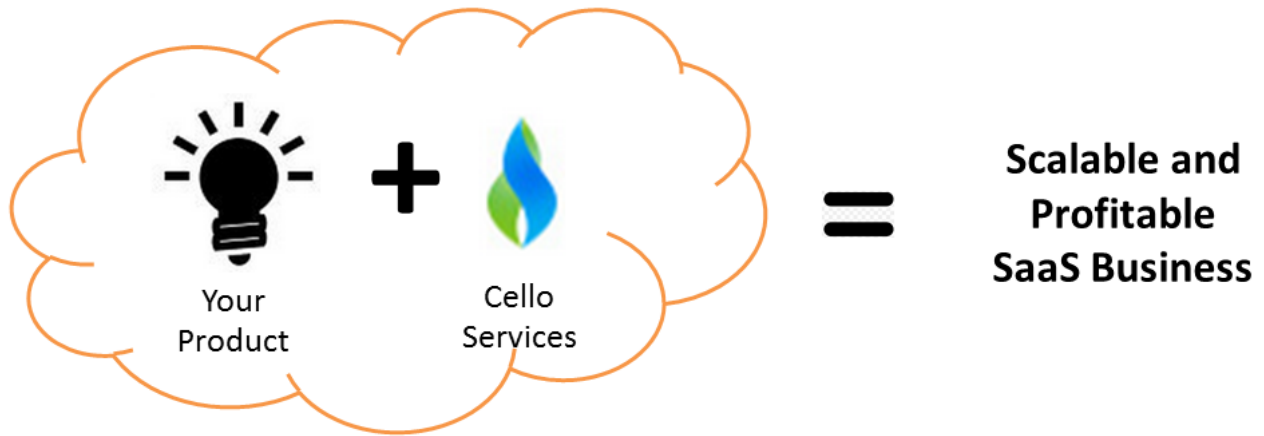
Following are the features supported by Cello to address the product engineering needs.



Cello – One Stop Solution For All Your SaaS Needs

Addressing the Business, Customer Service and Product Engineering areas not only brings in loads of benefits to an ISV but more importantly it can allow you to surpass your competitor by leaps and bounds. However, building all these features not only consumes more time and effort, but also requires great expertise. While it's important to bring these capabilities early in to your SaaS solution, it may significantly delay the start of (business functionality) development. This puts the ISV in a tough situation of choosing between a long term strategic goal of having a perfect system vs. the short term goal of hitting the market earlier.

Cello can help in achieving both the short term and long term goals of ISVs. More importantly Cello is available as one integrated and unified solution that can be easily plugged in to any existing or new SaaS product. Alternatively, you can also use Cello as a base framework to build your product, in which case you can save almost 50% of your engineering budget and time. Following are some of the key benefits from Cello,



- 10X times reduction in operating expenses
- 60-80% reduction in support workload
- 40% increase in trial conversions
- Reduce customer churn
- 50% reduction in implementation time and cost
- On time Payment collection
- Increase in customer life time value
- Accurate and Transparent Billing
- 50% savings in your engineering budget
- Increased product value

Accolades

Following are some of the accolades Cello has received till date.



From Gartner *“The techcello approach is likely to be ideal for companies — especially independent software vendors — that need to get to market relatively quickly with a multitenant SaaS solution and would like a substantial shortcut while avoiding lock-in to a proprietary application platform as a service (aPaaS).”*

Summary

Building a successful product requires a lot of focus on the domain, solution, usability and innovation. Cello clearly understands this and enables ISVs to focus on the product by taking care of all the needs of a SaaS business model.

We hope this white paper helped in understanding the PaaS landscape and how Cello's Unified SaaS Life Cycle Management (SLCM) Solution is different from other vendors. Please feel free to email your feedback to info@techcello.com

Please visit www.techcello.com and www.sbcm.techcello.com to know more about Cello.