

Case Study

SaaS Enablement using Cello

Docubynd, Cloud based Document Management System for Real Estate & Financial Services

Docubynd, USA

Case Study: Docubynd, Migration of Single Tenant to Multi Tenant Solution

About the Customer

Customer is a member of Brokerage firm North American Asset Management; LLC (NAAM) which serves the real estate and financial service industries. NAAM had a requirement to build a unified on-demand document management system to process and maintain huge volume of heterogeneous data such as printed documents, PDFs, digital media etc to be easily searched, retrieved, and repurposed for delivery to any desktop or mobile device.

The Product

[Docubynd](#), a patent pending Document management system designed for asset managers, investors, owners, and lenders access to large volumes of printed data, while satisfying rigorous compliance standards and assemble and disseminate the information through customized eBook binders. The Product was built by a Digital Publishing pioneer and IT services company in US. The product was initially built in a single tenant model i.e. running separate instance for each customer.

The Challenge

The entire product conceptualized and built as a single tenant solution and sold to bunch of customers with the beta version. Within a very short notice i.e. 2 months of time, NAAM observed that, the customer on-boarding, installation, maintenance, managing application lifecycle, adding new enhancements, patches and updates absorbs more cost and time than what they estimated. Due to Cost, Time and Resource overhead, they wanted to migrate the product to a SaaS multi tenant model to save considerable amount of time and cost. “[SaaSifying](#)” an existing solution with all the Cloud operational components, configurations and other NFRs [[Non Functional Requirements](#)] were time and resource consuming.



Had to enable templated configurations for each of the tenants to maintain their own settings and configuration, thereby saving the operational costs. Existing application was designed with Discretionary Access Control (DAC) suitable for user wise access grant, but for a multi tenant solutions, they had to enable RBAC mechanism to provide the ability to their customer to create their own membership and access management.

The Need

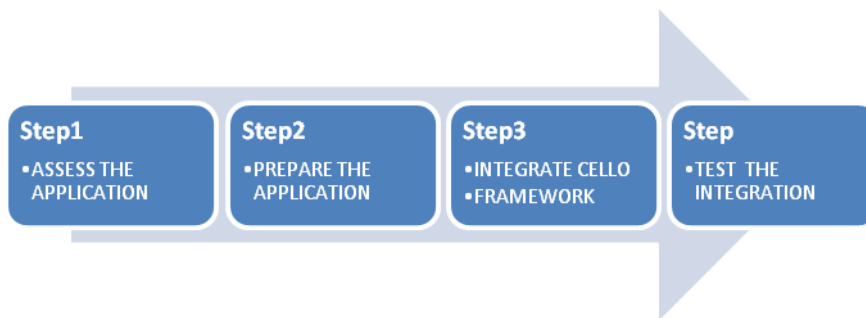
The Customer wanted to migrate the existing multi instance solution to a single instance based multi tenant solution within 40 man days to stop investing on the resources required to maintain multiple instance for customers. The SaaS operational components such as [Tenant Management, Licensing, Security and Metering](#) as well as the ability to connect with different application based on the customer requirement were the basic components required. Avoiding Security breaches is a complex challenge, especially for the document management system where more sensitive documents are processed.

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Alteration were required in the way caching was instrumented with the existing solution, as the application must be equipped to automatically scale and be available in the multi tenant scenario, so caching best practices had to be implemented. In the Document processing system, the ability to send notification is one of the primary need i.e. send Tenant wise automatic emails with the dynamic content and placeholders.

The Solution

[Cello](#) offered integration services to the customer for the speedy application integration. Techcello has trained and certified developers with experience working in multiple integrations and upgradations. Cello specialist team did an extensive analysis and carefully reviewed the architecture, the various layers, and the functionalities, then suggested an Iterative migration approach to enable multi tenancy using the framework within the threshold time.



In the first phase, the SaaS operational components i.e. [Tenant Management](#), Licensing, Metering, Security etc was instrumented into the solution. Enabled with effective subscription model, Docubynd was now able to offer selective modules and features in a very granular level as well as meter the exact usage of customers and their users. With Cello's RBAC Security mechanism, Docubynd was able to offer their customers the ability to dynamically create users, roles as well as the ability to map the respective privileges to the roles using intuitive dashboard. The end customers can get the same level of comfort and security as if they are accessing the application custom built specifically for them. Configurations management enables the tenants to configure and customize the settings related to the application, modules/features, roles, users' settings and have it applied to the system.

With end user configurable and customizable Cello Notification Services, Tenants can dynamically configure email content, email settings using dashboard. The configured email notification can then be triggered using Events and Workflow which are all again customizable at Tenant level.

Overall it was a seamless integration with less code alteration and minimal effort at the application end. After enabling multi tenancy, on-boarding/de-boarding a tenant with shared database model now costs almost 0 \$ and takes fraction of a minute to setup a customer rather than hours or days. The Docubynd product development team continues to build other functionality with the guidance of cello framework.

With respect to application lifecycle management, their operations team is now able to incrementally enhance and update seamlessly, since there is no more multiple copies of code running for each customer in multiple instances.

About Techcello

Techcello's "Multi-tenant SaaS Framework" (product name: CelloSaaS) fills an important gap between .NET and the Cloud (Amazon, Azure, Private, Public). It helps you build multi-tenant applications 30-40% faster and 50% cheaper. The framework has all the plumbing, engineering and operational components required for a robust and scalable SaaS product.

Why use a Framework?

Techcello's productized framework approach gives complete freedom, flexibility and control of custom development, without the complexities, risks, cost and time overheads of building and maintaining your own multi-tenant engineering stack. It provides a true multi-tenant architecture at the application level and database level.

Why Techcello?

Unlike other alternatives it does not lock you in to a proprietary development environment or a non-Microsoft run time container, application server or APaaS platform. It retains the .NET environment both during development and deployment, giving complete technical and strategic control over the entire application stack.

Benefits

Saves 40-50% on the cost of building a SaaS product or migrating an existing application to a multi-tenant architecture. You can get to the market faster. It provides a robust, scalable and strong engineering foundation to your product or application (tested, supported and easily extensible). You can deploy your application anywhere from on-premise Windows boxes, Private Clouds and Data centre

For more information: <mailto:info@techcello.com>, www.techcello.com