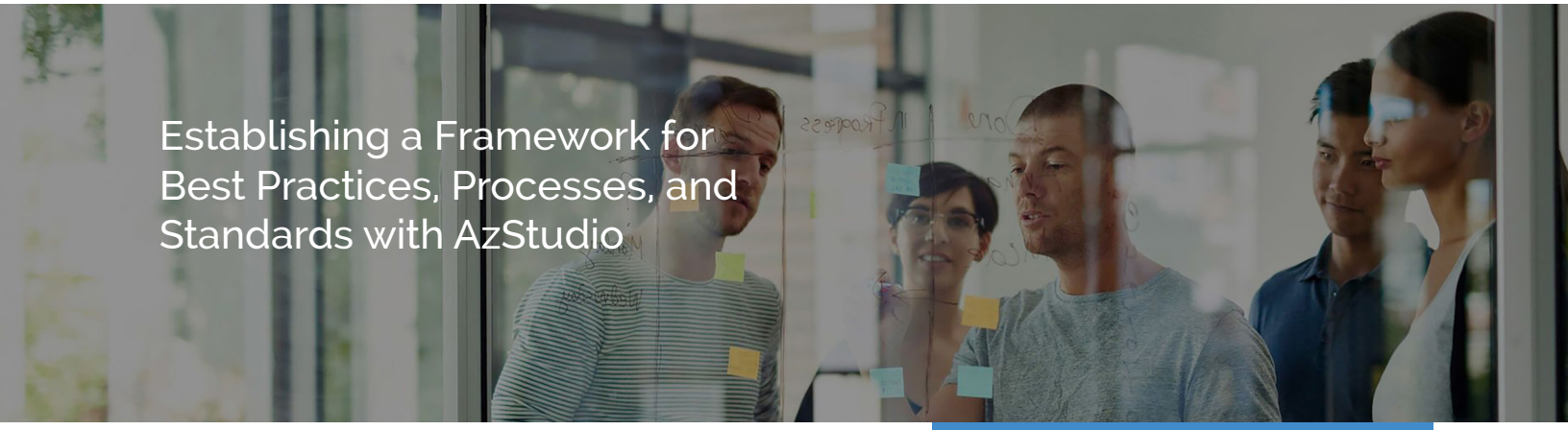
MONZA CLOUD

CASE STUDY:
Business Continuity Company



Establishing a Framework for Best Practices, Processes, and Standards with AzStudio

About the Company

For more than thirteen years, a leading international Business Continuity Company (BCC) had provided business continuity solutions and closure compliance for their clients through SOX compliance training and certifications, emergency messaging, and secure storage services. Over the years, the company had seen its fair share of leadership turnover, and, consequently, their service platforms had also experienced a considerable change. However, with new funding and leadership changes coming to the company, BCC was ready to unify (and revolutionize) its BCC modules under one, comprehensive cloud solution. In the end, they chose to build their next version on Azure PaaS.

"Monza Cloud's AzStudio simplified our platform rebuild, ultimately saving us time and money as we moved from AWS to Azure. [AzStudio] is a key part of our coding practices now."

– CIO of Business Continuity Company

The Company's Challenges

A great deal of preliminary architecting and augmentation needed to be accomplished before a migration to Azure PaaS could be successful.

At the time, all of BCC's Portal software, including multiple SQL instances were being run off of a single, monolithic virtual machine in AWS (an IaaS version of the software from the early days of cloud). On this single VM, the company supported their training modules, emergency messaging systems, and their long-term data retention platforms. Due to repeated iterations of the platform over the years and the frequent changing of IT team members, BCC was left with little documentation concerning the architecture of the VM. What they did know was that the VM was connected to numerous legacy systems, and the current solution was overly complex and vulnerable to disruption.

With little backup, resiliency, or redundancy, the company faced potential systems failure if even one aspect of the portal malfunctioned. However, remember that the company provided compliance services. BCC's clients needed to be able to access the necessary training modules as well as their legal documentation records at any given time to remain within and legitimize their own compliance protocols. Moreover, clients who operated on larger campuses relied on BCC's instantaneous emergency messaging platform to keep their employees, customers, students, etc. safe on-site (for active shooter, weather, or other public safety scenarios). If the system went down for any amount of time, then BCC jeopardized the integrity of their client contracts.

BCC's VM was running, but it was in a precarious state—the company needed a solution, they needed it fast, and they needed innovative (and user-friendly) developer tools to build it.

What They Needed

BCC needed to move their operations from the current instance hosted on AWS IaaS to a robust, modular, scalable platform on Azure PaaS. Before that could happen, however, they needed assurance that the solution would allow their development team to:

- Completely rebuild of the old VM into a modularized, resilient, scalable platform
- Establish proper documentation and management protocols
- Update security management processes
- Migrate clients from the current portal to Azure cloud in a timely fashion
- Enforce sustainable cloud and operational standards for the future

BCC knew that, fundamentally, their processes needed to be re-designed. So, not only did they need a solution that would establish a new process for building their service platforms, they would also need the solution to standardize their development efforts and allow new developers to get up to speed quickly.

After a series of point interviews with numerous vendors, the company decided on the strongest contender—AzStudio by Monza Cloud—to standardize the development effort.

What AzStudio Provided

From the beginning, BCC chose to develop the entire application (both the new portal and the new emergency messaging system) through the AzStudio development framework. The company's development team immediately set to work determining how to quickly and robustly rebuild the monolithic VM using AzStudio developer tools. To make the transition to the new application as quickly as possible, this new application was developed in an extremely agile environment.

BCC developers were able to begin coding while design and documentation development was still underway. This speed-to-delivery was due in great part to the ease-of-use intrinsic to AzStudio software. Rather than build universal features from scratch, BCC's development team was able to take advantage of AzStudio's pre-built modules to deliver the majority of their necessitated "standard" modules—in this way, the development team quickly established the foundation of the new application. These AzStudio standard functionality modules included: users and roles, session management, security and permissions, logging, content management, error-handling, and

application messaging. Moreover, AzStudio software enabled additional enhancements to the company's stock Azure PaaS environment, including better: queues, logging, reporting, and security.

Monza Cloud's AzStudio effectively became the baseline framework undergirding BCC's entirely new scalable, Azure-based system.

Benefits to Portal

More specifically, AzStudio gave BCC's development team the resources necessary to completely rework (and eventually replace) the previous monolithic VM. The new portal made extensive use of the entities framework inside of AzStudio's software offerings, and developers leveraged the benefits of the built-in star schema logic. This entities structure allowed developers to:

- Easily define the company's business rules and then adjust code to match
- Architect BCC's entities around locations, organizations, and industries
- Build out a CMS in .NET to display web portal content using a parent-child tree organizational structure
- Streamline user associations (especially useful for a multi-organization environment)

The AzStudio software and development tools created a scalable, customizable experience for BCC's clients as well through a newly modular and verticalized architecture—a feature that would make their products even more marketable across a more diverse client base. This verticalized portal content allowed for service package customization (differentiation between client industry, certification regulations, legal requirements, etc.). And modularization enabled a flexible payment structure to allow for varying price points for different aspects of BCC's product suite (clients could now pick and choose the level of service package they needed). Not only did the AzStudio solution offer BCC clients more flexibility, the software also simplified the company's approach to application architecture and development. In short, the built-in AzStudio graphical user interface (GUI) opened new doors for the content and development teams:

- Allowing the content team to administrate content even before the Administration tools had been built into the portal itself (and without developer intervention)
- Helping the development team catch workflow issues by performing dozens of iterations on workflow before the application was even built (saving developers a great deal of trial and error and precious programming time)

Benefits to Emergency Messaging Tool

Another area to benefit largely from the AzStudio software solution was BCC's emergency messaging service. Combined with the developmental augmentations of AzStudio, the VM re-architecture and migration to Azure PaaS:

- Enhanced application robustness around queue-based workflows to support increased messaging capacity for a growing client base
- Created an adaptive back-end to emergency messaging portal that allows for seamless mobile provider transfer or substitution (allowing for multi-vendor failover or for clients to shop price

between providers)
- Allowed for built-in messaging directly into the core app (email messaging, in-app messaging that's optimized for mobile and browser, etc. used for common messages like password renewals)
- Provided a roadmap for developers to use built-in messaging modules as a template to customize SMS offerings
- Simplified the process of using multiple vendors to provide their customized SMS messaging

What the Company Accomplished with AzStudio: Recovering from the Unthinkable

Just ten weeks into the project, BCC experienced a critical failure from a third-party tool that took down the entire online training portion of the legacy VM portal—a potentially business-threatening situation if not dealt with promptly. Because the connection to the third-party was unrecoverable, the training portal needed to be rebuilt immediately; until then, BCC's clients would be unable to access any testing or certification material online. The rebuild became critical.

However, because of AzStudio's intuitive software development tools, what should have taken weeks to develop only took the development team a total of 96 hard-fought hours to complete.

In just four days—entirely from scratch and starting with zero code—the development team leveraged the AzStudio toolset to develop and launch an entirely new production training system in Azure PaaS. Within the first few hours, developers were able to build out the basic GUI required for the training modules and immediately moved on to writing the appropriate code to interface with the third-party training API. Taking advantage of built-in features of AzStudio, the developers used the AzStudio session management plugin to track users' progression through each lesson—recording video start and completion, delivering quizzes and reporting on quiz scores, and handling any disruptions during the process (so that users did not become stuck due to a local network outage or browser failure beyond BCC's control). They used the built-in security and permissioning plugin to protect each session as well as the internal messaging plugin to flag "todo" items for training course participants. Because useful logging does not come "out of the box" with any cloud vendor, the development team took advantage of AzStudio's plain-English logging to more quickly debug any issues as they arose. Finally, developers redirected the traffic for the malfunctioning portion of the legacy Portal from AWS to Azure to allow seamless customer access to both platforms, restoring training functionality and allowing the company to continue business as "usual."

After resolving the mission critical issues, BCC's in-place developers continued their work on the project and made consistent progress. In the meantime, BCC began hiring additional developers to augment their existing team and to continue to build out their offerings using AzStudio development tools. Moreover, as the project progressed, BCC leadership wanted to add more features to the original scope of the project. Because modular extensibility was designed directly into the original architecture, AzStudio made it even simpler for BCC to add new features as modules when they were required.

BCC Today

BCC is now officially off of the old, monolithic VM and is migrated fully to the more robust and scalable Azure platform enhanced by AzStudio. As the company continues to run off of the AzStudio framework, as long as they continue to maintain their licenses, they will be able to receive new maintenance updates without having to put in additional development time—there is no need to rewrite the code because we build it directly into each update and iteration of the framework. For example, during this project, the Azure Storage API went through four version changes within six months. The development team wrote zero additional lines of code to support the new versions of the API. Updating support for the new API versions happened seamlessly because of the AzStudio framework.

No longer does BCC worry about disjointed development methodologies or slow developer onboarding. AzStudio now guides the team to build robustness and self-sufficiency directly into the product, the company will be able to confidently maintain their new platform in perpetuity.

Looking to improve your development processes and adopt best-of-breed practices in the cloud?

Contact one of our AzStudio specialists to see how AzStudio can help you rebuild faster and added resiliency and sustainability in Microsoft Cloud.

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Monza Cloud is an Atlanta-based Microsoft Partner that focuses on Azure adoption and cloud best practices & standards. Monza was built after years of direct project work for a variety of clients, when it became clear that tools like AzStudio would be necessary to fully utilize the power of the Microsoft Cloud. Come visit us today, at www.monzacloud.com