SCALABLE PERFORMANCE FOR CUSTOM SAAS DEVELOPMENT WITH AZSTUDIO

Achieving 88% Time/Cost Savings on Azure

About Apex HCM

Apex Human Capital Management (HCM) was founded in 2008 by Robert Digby. After serving in the U.S. Army and getting his B.A. in Economics, Digby went on to help numerous payroll and HCM companies get their footholds in the market. By the time that he founded Apex HCM in Roswell, GA, he had collected over 25 years of industry experience.

Today, Apex HCM is an industry-leading expert in and developer of payroll, tax, and HR, and time and attendance service technologies. Apex provides all-in-one private-label cloud solutions specifically designed for Payroll Service Bureaus, CPAs and accountants, and other Service Bureau Organizations. After ten years of rapid development and growth, Apex HCM has over 70 employees and makes $10 million in revenue annually.

Apex HCM's Challenges: Gaining a Competitive Edge

Apex faced stiff competition within the payroll market.

They needed a better way to match or overcome larger (slower) competition as well as stay ahead of the younger, smaller—yet more cloud-native—startups that have been hitting the market in recent years. They needed an infrastructure that would allow their development team to more easily:

- Embrace cloud scalability
- Overbuild for performance
- Predict and meet upcoming trends

Most importantly, Apex needed assurance that the new solution would handle the demanding transaction requirements of the business (e.g. payments have to be made on time, checks have to be cut accurately, etc.). Up until now, Apex had operated off of their own on-premise datacenters, but market demand had reached a point where their infrastructure was maxed out and struggling to deliver. Apex infrastructure (and consequently the development team) was limited by the following:

- **Difficulty Scaling –** Apex was already pushing the bounds of their existing infrastructure

- **Lack of Code Maintainability –** Code based needed to be rewritten to update underperforming legacy code

- **Programming Limitations –** With a lean IT team and a fundamental lack of cloud programming experience, Apex needed an easy way to transition their team to a cloud-oriented architecture, embracing Platform-as-a-Service (PaaS) designs

What Apex HCM Needed: Cheaper, Faster, Better

Apex needed to rewrite its legacy technology to address these pain points and market limitations—but they needed to do it in a way that didn't affect customer services, reduce productivity, or jeopardize network security. Apex knew that migrating strategically to the right cloud platform would give their infrastructure greater agility and would provide the scalability needed to meet growing market, security, and client demands. Moreover, cloud would effectively address Apex's concerns about geographic vulnerability and disaster recovery.

After deliberations, Apex corporate determined that Azure cloud would be the focus of their migration efforts because of their existing Microsoft shop and their preexisting Microsoft tools. Moreover, the existing on-premise HCM application was primarily written in .NET, so a migration to Microsoft Azure made the most sense from a development standpoint.

However, Apex still needed an easy, fast, and cost-effective way to PoC their product in the prospective cloud environment. Bear in mind that development for an HCM company is no small feat—you can't run effective performance tests without scale. Apex needed to run a prototype app that could handle up to 50,000+ transaction at a time, but testing with this load would have required duplicating the current production infrastructure. They didn't have enough spare infrastructure on hand to sufficiently test with their existing on-premise product.

What AzStudio Provided: Success Amidst Setbacks

Apex discovered AzStudio through CIO, Kevin Lenahan, who had an existing relationship with the Development Team at Monza Cloud. Apex decided to test the AzStudio development suite on their product over a three-day trial period. One day for training; two for coding the product and exploring AzStudio's capabilities.

Two Monza Cloud developers spent a single day training two designated members of the Apex development team on the AzStudio framework features and controls—they spent the majority of their time on legacy application modernization. A manager from the modernization team observed the three-day process for reporting purposes.

There was some initial difficulty on training day due to some network issues that were happening that day at the training site. Because Apex's network was extremely busy doing the company's everyday processing, it left very little bandwidth for AzStudio. As a result, the developers discovered an issue with the AzStudio application generator, (it struggled to setup the application framework with limited and unpredictable bandwidth) so our developers quickly reworked the network stack of the generator to become more tolerant to Apex's network fluctuations. Despite this initial setback on the first day, the two developers were able to complete the legacy app modernization sprint over the next two days, with a half day to spare—all due to the scalability and user-friendly nature of the AzStudio dashboard.

What Apex HCM Accomplished with AzStudio: Speed Without Compromise

Apex's development team performaed the PoC by comparing development time and effort using the AzStudio tools to a prior sprint on their core product, starting with old legacy code. This original sprint had taken a multi-developer team over two weeks to complete. Now with AzStudio, Apex's intent was to replace key pieces of the legacy application—concerning the modules that controlled messaging operations—to modernize its processes in Azure cloud:

- Processing payrolls
- Running payrolls (print checks, online transfers, etc.)
- Using queues, messages, jobs, etc.

Due to its existing development frameworks, AzStudio made it possible for the two Apex programmers to begin work immediately following their day of instruction. In less than two days, the programmers modernized the entire reporting function in their HCM application (proven to scale), with:

- True queue-based workflow
- A set of background workers to speed up processing
- A richer feature set
- Easier troubleshooting and debugging

The two developers actually finished the project early, so they spent the latter half of Day Two exploring and experimenting with stretch goals and the additional features and capabilities in AzStudio.

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

The Results of the AzStudio Trial

At the end of day three, the observer and senior management of the trial discussed the results. They both agreed that AzStudio was an innovative and profound solution for their needs. Both Apex programmers reported that their experience with AzStudio—as compared to the initial two-week sprint—was "a bunch of clicking instead of a bunch of work."

Apex established that the AzStudio-driven modernization produced much more efficient code in two days than the earlier two-week sprint could produce in-house with a multiple developer team. According to the man hours tracked in JIRA across both sprint attempts, the **AzStudio modernization enabled an 88% time reduction;** the two-man development team completed a two-week sprint in less than two days.

AzStudio Provided a Clear Path

The initial legacy app modernization took two weeks because Apex developers were presented with an overwhelming number of disparate choices to make. Members of the development team researched each coding step individually and determined which of the myriad methods to apply—each developer was coding according to their preference and individual knowledge. From a sustainability standpoint, this was an issue for Apex as programmers would naturally be coming and going as people left the company or were hired on; no one could be on the same page as a result. Moreover, the lack of a unified development protocol made future coding initiatives incoherent and inefficient.

Because AzStudio comes pre-built with the most efficient coding protocols and development frameworks, Apex would now have a unified and streamlined process for development and optimization in Azure cloud.

Apex HCM Today

In the end, senior management recommended that Apex reorder their budget to incorporate AzStudio into their larger legacy application modernization effort. Apex now develops through AzStudio's framework and is working towards a modernized application that will grow seamlessly with increasing demand.

Have legacy infrastructure that is limiting your ability to deliver to your clients?

Contact Monza Cloud to see how AzStudio can drastically reduce your development time.