From Legacy to Gold: How a Step-by-Step Migration to ASP.NET Core Prepared USA Swimming for Remarkable Performance and Olympic Traffic

CASE STUDY

INDUSTRY
Associations and Non-Profit

PRODUCT
Progress® Sitefinity®

COUNTRY
United States

SUMMARY
USA Swimming, the national governing body for the sport of swimming in the United States, serving more than 380,000 members and 2,700 member clubs, experiences vast swings in site traffic when important swimming events take place. In anticipation of the 2024 Olympics, USA Swimming adopted a phased modernization strategy to lift and shift its current Progress® Sitefinity® digital experience solution to a contemporary, decoupled and more scalable architecture offered by the latest Sitefinity platform. It leverages ASP.NET Core at the presentation layer for its speed and scalability as well as cloud infrastructure.

Challenge

USA Swimming's website serves both members and fans of the sport. For its 380,000 members and 2,700 member clubs, USA Swimming provides a safe and nurturing environment for athletes, coaches, officials and volunteers with resources like nutrition, mental health and compliance information to help athletes perform at their best. Additionally, the website serves fans around the world with an interest in the sport, reporting on news, events, swimmer times and multiple swimmer communities.

With the 2024 Olympics on the horizon, USA Swimming realized that its existing on-premises CMS configuration would be strained with the vast swings in traffic the event will bring.

"We recognized the limitations of our existing configuration and made the decision to undertake a step-by-step modernization strategy with a scalable architecture to handle the tremendous traffic volume we were expecting," said Jacob Grosser, Managing Director of Marketing and Communications, USA Swimming.

Solution

USA Swimming teamed up with California-based Sitefinity partner Visus LLC. Together, a multi-pronged project was hatched, tackling both frontend technology usage and making sure that the infrastructure side could handle the 2024 Olympic Trials and Games traffic. They decided to follow a gradual, incremental approach to migration, taking advantage of the flexibility of Sitefinity, enabling USA Swimming to maximize resources and minimize any disruptions to the organization.

The initial task was upgrading the website to the latest version of Sitefinity, allowing USA Swimming to transition from ASP.NET MVC to an ASP.NET Core client application handling the presentation layer.

However, migrating from ASP.NET MVC to ASP.NET Core requires a significant amount of time and effort. With a website spanning hundreds of pages, and with the 2024 Olympics on the horizon, USA Swimming took an incremental migration approach, with the goal of first tackling the top five most hit pages and their widgets. This enabled USA Swimming to take advantage of Sitefinity's ability to run the ASP.NET MVC and ASP.NET Core technologies at the same time. This approach allows gradual upgrades of pages, templates, and widgets without overusing resources.

"Instead of addressing the entire site simultaneously, including pages with minimal views, it was logical to prioritize those pages with the highest traffic," stated Michael Daoud, Founder and CEO of Visus LLC. "There is quite a bit of work involved and with the time ticking to the 2024 Olympics, this phased approach positioned USA Swimming to handle the increased traffic and prioritize additional pages to upgrade down the line."

Microsoft Azure Platform-as-a-Service was chosen with its autoscaling solution to handle spikes in

website traffic. Other improvements were in the pipeline as well, including integrating USA Swimming's proprietary membership and swim times database with the website.

During the migration of the high-priority pages to ASP.NET Core, the team ensured these pages were future-proofed while allowing the rest of the site to operate without disruption.

"With a variety of custom widgets, USA Swimming adopted the right strategy by minimizing customizations where possible. By leveraging native Sitefinity ASP.NET Core widgets, they future-proofed their site and enabled faster version upgrades," said Peter Filipov, Senior Product Manager for Progress Sitefinity.

Results

USA Swimming reports the project successfully handled peak traffic, totaling millions of visitors without slowing load times or journey interruptions.

"The project was a huge success," Grosser says. "During the 2024 Olympic Trials and Games, our visitor traffic doubled compared to 2021. During the 10-day period of the 2024 Olympic Trials, we saw an 84 percent increase in users over 2021 and a 105 percent increase in website sessions as millions of eyes turned to our sport. Our website didn't even flinch. During the 2024 Games, not only did our website not crash, but we also never even saw slowing load times. Everything was seamless, even during peak times with millions of visitors on the site.

"ASP.NET Core provides us scalability, which is really nice for handling website traffic," Grosser continued. "We can have as many ASP.NET Core frontend applications as we want, but we still only need one backend application running."

USA Swimming also built a proprietary database that houses hundreds of millions of swim times for the entire world that is now integrated into Sitefinity.

"We are the premier database for swimming," Grosser explained. "Our website requires a frontend experience that allows swimmers and coaches to search for swim times and track progress. Visus connected that proprietary database to the new Sitefinity website and created custom widgets that display information from the database so we can effectively share information."

Moving forward, USA Swimming plans to continue the migration of its pages to ASP.NET Core at its own pace and keep up to date with the latest technologies to deliver superior digital user experiences. An added benefit is that ASP.NET Core will simplify future upgrades and reduce maintenance. Additionally, USA Swimming is leveraging numerous ready-to-use Sitefinity widgets, speeding development while reducing the need for time-consuming customizations.

"We want to make sure we're always working with the latest technology tools and resources, so we have a modern and scalable website," Grosser concluded.

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>
> **Jacob Grosser,**
> Managing Director of Marketing and Communications, USA Swimming

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