



UBM Tech Gives Content Publishing Power to the People with Zend and PHP



CUSTOMER:

As a division of the \$2.5 billion digital media powerhouse known as UBM, UBM Tech operates large-scale and custom web applications and industry events, including InformationWeek, Network Computing, Dr. Dobbs, Web 2.0, and Enterprise Connect.

CHALLENGE:

UBM Tech needed a new, more agile, sustainable and cost-effective approach to building and managing dozens of large-scale and custom websites in order to meet the changing demands of digital media publishing.

SOLUTION:

UBM Tech reinvented its web application development strategy and technology infrastructure with its adoption of the Zend PHP web application platform, including Zend Server, Zend Studio and Zend Framework, for the wholesale transformation of its web assets.

BENEFITS:

Using Zend's PHP-based platform, UBM Tech has automated the application life cycle to accelerate delivery of dozens of new websites with more consistency and greater ease of use, to support a variety of stakeholders managing content across the UBM Tech enterprise. UBM Tech achieved better than 100% performance improvements to large-scale sites with tens of thousands of pages delivering 30-70 million page views/month.

UBM Tech in the Publishing Revolution

Technology has come a long way since Gutenberg invented the printing press and the publishing industry put the power of information into the hands of the people. Today, organizations like UBM are reinventing themselves and embracing digital media publishing technologies in order to deliver news and information with unprecedented velocity and reach. Within UBM, the UBM Tech group operates large-scale and custom web applications providing up-to-the-minute news and information on the high technology industry. For UBM Tech, adoption of the Zend PHP web application platform has been instrumental to its growth and success.

At any given time, the UBM Tech IT organization manages some 50 different sites with more than 14.5 million business and technology professionals actively engaging with their content. News-driven sites such as InformationWeek.com are continuously being updated. Custom sites often must be rapidly developed and scaled out with reliable performance for special projects on a limited time horizon.

Two years ago, UBM Tech's IT organization assessed its web application development environment and decided on a wholesale conversion of its web properties. The static nature of its ATG Dynamo infrastructure required that updates be delayed until testing, troubleshooting and restarts could be conducted during off-hours. A mixed bag of legacy code prevented code re-use from one site to the next, so they were constantly reinventing the wheel. A brief attempt to move web application development to Java was a step backwards in terms of developer productivity. In addition, UBM Tech needed skilled back-end developers and there was a scarcity of talent in their geographic region.

Agile Development with Zend PHP Solutions

According to Brent Pearson, CTO of UBM Tech, "It was time to move to a global web application structure, and we wanted it to be running on PHP because of its ease of learning and use, flexibility and openness. We also wanted a common framework implemented across every site to bring structure around development and promote code re-use. It was important to establish a common look and feel and ease of use to support the various teams developing and testing sites and others maintaining site content — producers, webmasters and editors with widely varying degrees of technical experience. Clearly it was going to be a significant challenge to manage a wholesale conversion while keeping sites up and running and maintaining quality of service."

"We chose the Zend PHP solution for several key reasons [including Zend's] history of focused commitment to PHP, Zend Server, Zend Studio, Zend Framework, and Zend training and certification programs."

Brent Pearson, CTO of UBM Tech

"We chose the Zend PHP solution for several key reasons," said Pearson. "First, Zend has a history of focused commitment to PHP, with a complete PHP stack and full support. Zend Server offered us the right combination of application monitoring and management features and tight integration with the Zend Studio integrated development environment (IDE) for debugging. With Zend Framework we anticipated having a single, flexible application framework with a sizable library of reusable code. We also wanted to leverage Zend training and certification programs for our developers."

UBM Tech runs its development, testing and production environments on Red Hat Enterprise Linux servers. Zend Studio IDE is used locally by developers on Windows, Linux and Mac systems. Web applications access data stored in an Oracle DBMS on Apache, using Solr for search indexing. Day-to-day development is done by on shore and off shore teams, with website conversions handled offshore. Developers collaborate with DBAs and system administrators in UBM Tech's operations team to manage servers, upgrades, SVN and site builds. Given this environment, it was important to have the kind of cohesive solution Zend could provide across development and deployment environments.

"Working with Zend solutions and consulting services, we successfully launched a phased migration of our web assets to PHP, delivering a flexible infrastructure for application development and deployment with a common framework and reusable code," said Pearson.

The Right Architecture and Tools to Build High Quality PHP Apps

Zend Framework's flexible model-view-controller (MVC) architecture separates application logic from the presentation layer. Through this architecture and Zend integration with web services, UBM Tech publishers, producers, webmasters and editors can update their sites faster and more consistently and efficiently than was possible before. With dynamic sites that deliver syndicated content, building on a more flexible framework is a key to success.

According to the Zend Solution Partner that helped implement the project, "to write everything from scratch would have been monumental in terms of time and expense. Zend Framework enabled 60% common code across all sites, leading to build out of new sites in 5-6 weeks instead of months or more, and helping to cut development time by as much as 75% overall."

Zend Studio provides UBM Tech with an integrated development environment that is tightly integrated with the Zend Server mobile and web application platform and Zend Framework in order to streamline the end to end application life cycle. According to Pearson, having Zend Studio to debug and step through code, and Zend Server to monitor, troubleshoot and optimize applications has helped UBM Tech influence the quality and reliability of its websites earlier in the life cycle. Errors or application bottlenecks can be resolved before they impact users. Zend Studio's profiler makes it easier to find elusive or intermittent issues, and to edit code locally on a server and pull it down through SVN for debugging.

"Zend Studio contributed greatly to productivity with capabilities like code assist guiding the developers and eliminating the need to do Google look ups to understand PHP functionality," according to the Zend Solution Partner. "Assisted code completion for all the APIs is invaluable and fits nicely into agile software development."

"With Zend Server's centralized monitoring we can check the dashboard and have full visibility into application behavior across our multi-server environment," said Pearson, "and we automatically receive alert notifications in the event that an error or anomaly is detected. Zend Server code tracing provides a full execution history to pinpoint root cause issues in real-time. Before we adopted Zend and PHP, we spent hours looking through stack dumps in Java, and it was often difficult to

identify the source of errors in the environment. We couldn't stay on top of it."

The Big News - Performance

UBM Tech developers are taking advantage of Zend Server support for data caching, data access objects, authentication and ACL. Zend Server page caching is critical in UBM Tech's complex environment. For example, with Central Authentication Services (CAS), there's a single sign-on server, which means checking every access across every site. Without caching, the server wouldn't be able to handle the load.

"With Zend Server data and page caching, we're seeing better than 100% performance improvements, from 2.3 seconds down to just 0.9 seconds, with improved scalability."

"UBM Tech sites are performing faster now, with improved page load times and memory utilization," said Pearson. "Our larger sites comprise tens of thousands of pages and handle up to 30-70 million views/month. With Zend Server data and page caching, we're seeing better than 100% performance improvements, from 2.3 seconds down to just 0.9 seconds, with improved scalability."

When breaking news is picked up by Google and other search engines, massive web traffic spikes can result, so Pearson's group is keenly aware of server resource utilization. For example, soon after a new UBM Tech site went live, an Apple product announcement ran, including a link to a live blogging site. The link triggered 50,000 hits/second. Using Zend Server's cluster management capabilities automated load balancing across the servers, accommodating the web workload and maintaining high availability. Zend Server monitoring provided real-time data showing that while the load on some servers was high it was manageable.

According to Pearson, "Rapid and reliable deployment is key for us. When our teams are busy bringing files together, we need to reduce points of failure across all servers. Whatever way we can streamline deployment, we want it. Going forward, our operations team wants all the advantages that Zend Server brings to the application life cycle."

"We completed the conversion from the Dynamo platform within our original timeframe, tackling the largest sites first. The iteration and launch of new websites is now a much easier, faster process thanks to Zend and PHP"

Next Steps

Among the next steps being considered by Pearson's group: redefining production deployment procedures based on Zend Server's automated application packaging and support for a Continuous Integration environment; and redesigning the local development environment using virtualization and Zend Remote Debugging to improve efficiencies among the offshore development team.