Internet Retailer Drives E-commerce Innovation with Zend and PHP

Building the Best Platform for Retail

Netretail Holding pioneered Internet retailing in Eastern Europe as early as 2000, going beyond the Amazon.com business model with highly sophisticated, customer-driven search capabilities. This helped propel Netretail Holding to market leadership within its first few years of operation. Today, the company has more than a million registered customers and multi-national operations. Company leaders knew early on that in order to satisfy an increasingly sophisticated consumer and meet the demands of business growth and competition they would have to invest in a modern e-commerce infrastructure.

"We wanted to build a truly flexible e-commerce platform," said Michal Taborsky, Chief System Architect at Netretail Holding. "Being a startup, we had to keep development costs down. Our IT department had broad knowledge of open source technology, including the PHP scripting language, which was still in its infancy. Zend's early leadership and contributions in the open-source PHP community led us to talk with them. Our next step turned out to be very fortuitous."

"Our developers had been using Notepad and other free tools, with no standard for development, and it was clear that we needed solid debugging and profiling tools if we were going to make significant improvements to our e-commerce infrastructure. We began using the Zend Studio IDE, which dramatically improved our development work in terms of collaboration and productivity and our ability to deliver solid code faster. Within the first year, our development team was able to take on more and increase productivity significantly, and the quality of output has been recognized by the entire company so that IT is increasingly regarded as a key contributor to business growth."

"Our next step was to invest in Zend Server, which was so well suited to our needs for centralized monitoring and management that we had our all of our developers train on it and it became our e-commerce application development platform. With Zend we gained a PHP stack that our entire team could use proficiently – not only our developers but also our operations team and business analysts – to manage the entire application lifecycle."

To build and run its PHP-based e-commerce application, Netretail Holding runs development and production environments on CentOS 5 Linux with an Oracle 11g back-end database. For availability and scalability, Oracle Real Application Clusters was chosen, leveraging features such as DRCP, Advanced Queuing and Result caching. Developers hook in to legacy internal systems using PostgreSQL. Development runs on a single server, and testing runs as a scaled-down version of the production environment, which includes a firewall and front load balancer that spreads

"With Zend we gained a PHP stack that our entire team could use proficiently – not only our developers but also our operations team and business analysts – to manage the entire application lifecycle."

Michal Taborsky, Chief Systems Architect, Netretail Holding

CUSTOMER:

A leading Eastern European Internet retailer offering consumer electronics, kitchen appliances, infant supplies, and hobby and sporting goods.

CHALLENGE:

A decade of strong business growth and expansion of product lines and geographical markets demanded an e-commerce infrastructure with real flexibility and cost-savings while delivering a superior online shopping experience for an international customer base.

SOLUTION:

Zend's complete PHP application development solution: Zend Server Web application server; Zend Studio, the leading PHP IDE; and Zend Framework, an award-winning lightweight open-source application framework. Using Zend, Netretail Holding launched multiple e-commerce sites in record time, reducing development and testing time by an average of 50% and achieving a 50% improvement in site performance to improve customer satisfaction and loyalty through repeat business.

requests to two caching servers, then to multiple PHP application servers running Zend Server, which provides critical application monitoring and management.

Netretail Holding is continually introducing new e-commerce features such as interactive product search, on-line order tracking and near real-time customer analytics. For this level of innovation, a PHP application framework was needed that would fully support customization.

"We chose Zend Framework for its functionality and maturity as well as its tight integration with Zend Studio and Zend Server. We are using Zend Framework in designing the administrative interface for our back-end systems, where it makes development easy and fast. Using Zend Framework, we were able to rewrite in just two months the previous administration application, which had taken over a year to develop, and we added new capabilities in the process."

Taborsky's team turned to Zend Server to address requirements for site optimization and scalability. "Zend Server eases the process of scaling our sites and moving traffic to new domains, with the same database and PHP scripts running across all the sites. With Zend Server we can scale quickly and in a smaller footprint. In fact, we've automated the server deployment process by using Zend Server and Chef to a degree where we can go from "bare metal" to a fully running application server, which is a part of the production cluster, in just 30 minutes."

"We develop using Zend Studio with Zend Server for the Web platform and administration layer. Along with optimization, Zend Server provides performance monitoring and error detection capabilities. The tight integration of Zend Server with Zend Studio allows us to troubleshoot and remedy bugs so quickly that we have achieved a 50% reduction in development and testing time by using Zend."

"...we have achieved a 50% reduction in development and testing time by using Zend."

"Zend Studio's tight integration with Subversion (SVN) enables our development teams to work independently and then move source code into SVN. Once the trunk is tested and approved, it's packaged into RPM for deployment on Linux. By using Zend Studio, we don't have to roll back to old versions. Instead, we fix and go with new versions."

Zend Studio is built on top of Eclipse, allowing Taborsky's team to choose from among hundreds of plug-ins like SVN to customize e-commerce applications. These tested, open source plug-ins can be re-used throughout the Netretail Holdings e-commerce platform over time.

"Zend Server's proactive monitoring and code tracing enable us to pinpoint and resolve code errors much more quickly, providing visibility into code behavior in the production environment without requiring us to bring down a site. Often we are able to resolve problems before any customers are impacted, because we catch them in our testing environment where we run automated website tests."

"We have also been able to customize Zend Server monitoring, which delivers real-time descriptive alerts, so we know the severity of an error based on our specific requirements, and we can troubleshoot effectively with the right resources. In one instance, Zend Server identified a hidden performance problem in our product pages, allowing us to resolve the problem and achieve a 50% reduction in page load times across our websites – a performance win that led to an improvement in customer satisfaction with the online shopping experience."

"Zend Server Cluster Manager has been a tremendous help as our server farm expands. No matter how many servers are running, we can to spin up or down quickly, and manage it with the same developer resources."

"Our business is punctuated by peak workloads...using Zend Server, we can add or take down a server literally in minutes."

"To further improve the performance, our team identified several use cases for Zend Server's Job Queue: from e-mail dispatching to asynchronous communication with external APIs where we cannot guarantee the response time or the availability of the API at a certain time."

Netretail Holding joined the Zend Unlimited Subscription Program, taking advantage of Zend's cost-effective licensing model for easy scalability. "Our business is punctuated by peak workloads caused by seasonal and promotional factors common to all retail operations. With the unlimited license and using Zend Server, we can add or take down a server literally in minutes. And, when we want to test something special without using our general testing platform, we are able to quickly build or tear down entire testing environments."

"Zend customer support is something Netretail Holding has valued highly throughout our business relationship, and Zend's technical training and certification programs are unequaled. Our developers have greatly benefited from Zend Studio training in terms of increased productivity."

"Netretail Holding is regarded as having the best e-commerce platform in the region, and we owe a great deal of this success to our decision to develop, test and manage our e-commerce applications using Zend PHP solutions."