

Automating Retail Chain Operations with PHP and Zend



Customer: Value Drug Mart Associates, Ltd.

Geography: Based in Edmonton, Alberta, Canada

Business: Value Drug Mart is an association of community-minded, independently owned and operated member and affiliate pharmacies and convenience stores providing quality healthcare and household products to consumers.

Challenge: Value Drug Mart anticipated that growth of its associated network of stores would soon outpace its distribution center's ability to support those stores unless it could standardize and automate certain B2B processes on the Web.

Solution: The IT group at Value Drug Mart chose PHP for its superiority and ubiquity as a Web application development platform, and Zend because of its technology and commitment as the leading PHP solution provider. By implementing Zend Server for IBM i, Value Drug Mart automated the monitoring, troubleshooting and optimization of its Web-based B2B applications to quickly scale up and effectively support more than 300 pharmacies and convenience stores.

"With Zend Server, we can support more stores placing online orders, while at the same time reducing the manual keying of orders at the distribution center by as much as 35%. By moving more of our processes online and using Zend Server to monitor and troubleshoot our Web application, we have also reduced the volume of calls to our retail support desk by more than 40%, as customers are able to handle basic service tasks on their own."

Scott Campbell
Programmer Analyst
Value Drug Mart

Friction-free Business

Value Drug Mart is an association of 35 member shareholder stores, 11 Apple Drugs member stores, 11 Rxellence Professional Dispensaries and 300 affiliates. The association's Central Office and Distribution Center are located in a 65,000 sf facility owned and operated by member shareholders. While members and affiliates share a common mission, they came to the association with disparate business processes and technologies in place, which created business friction and retail support challenges as the association grew.

The association's Board of Directors believed that with the right strategy they could establish a standard technology platform to leverage the Web and automate business processes online for greater profitability across the Value Drug Mart network of pharmacies and convenience stores. Their IT group identified the ideal Web technology platform built on PHP and Zend software running in an IBM i operating environment.

According to Scott Campbell, a programmer/analyst in the association's IT group, "Before we began using PHP and Zend software, we had no Web-based strategy for association-wide ordering and fulfillment or retail promotions. Some stores faxed, some sent email and others phoned in their orders, with no visibility into new products, inventory levels, or orders moving through the distribution center. Without automation, certain B2B operations were slow and labor-intensive with a lot of redundant effort and little synchronization across the stores."

Campbell's team helped Value Drug Mart outline a Web application development project that would automate operations, and provide stores with real-time access to business-critical information and productive self-service options.

Community-based Solution with Zend and PHP

"Zend provided a simple and reliable, integrated solution for our Web server on the IBM i system. With Zend we could concentrate on putting the power of PHP to work in our distribution center IT operations, rather than working to keep up with PHP. We needed a solution for IBM i with easy ramp up and full support in the production environment."

"We liked the enterprise-ready quality of Zend Server, with its scalability across our IBM i environment, along with its monitoring and code tracing capabilities and tight integration with the Zend Studio IDE. Our production iSeries 8203-E4A server runs our ordering, e-commerce and intranet applications as well as our Profit Point warehousing, email server and backup software.

We also found that we could run Zend Server instances across multiple production sites without taking a performance hit."

"In just five months' time, we developed a PHP-based Web front-end for our warehouse management software that enables store personnel to log in, view stock levels, place orders and notify their customers of expected delivery dates. We used Zend Studio to do the coding and it was a great help to learning PHP. Zend's code tracing and debugging abilities helped us to reduce our development time."

"On any given day, our distribution center may handle thousands of active store orders involving tens of thousands of inventory items ranging from prescription drugs and over-the-counter items to general consumer products such as packaged foods, household goods, accessories and gifts. Zend's support for database files and extensions enabled our Web application to access back-end database and warehousing software to track inventory and order activity, without extra coding on our part."

"We piloted the new application with a few stores and after 30 days we went live to our entire member-affiliate network. Zend Server monitored our environment and provided code tracing with root cause analysis. Now we use it daily to check our site for new or outstanding issues, and to help us prioritize issues for handling. Zend Server has alerted us to issues that previously went undetected, and identified the root cause of those issues so we could resolve them before they could impact our Web application."

"In one case, I received a failed order attempt from one of our stores. A check of events in Zend Server Administrator console revealed that the path to one of the store's files had been changed during a server migration but not updated in the source. Zend Server identified the missing file in the log, along with the script that was attempting to access it, resulting in a very quick and easy fix to bring the store's ordering back online. It took minutes to fix a problem that could have taken hours without Zend."

"On another occasion, I noticed that a web page was allowing transactions to take place but then reporting errors in the log. I was unable to trace its cause until after installing Zend Server. With Zend Server, the error and offending script were immediately exposed, revealing an include statement that had been omitted for an object that was accessed but not critical to an online order transaction. Once again we saved hours of troubleshooting time with Zend."

Improved Customer Experience and Satisfaction

"Today, Zend Server helps us monitor, troubleshoot and optimize the Value Drug Mart Web site for reliable performance and availability. We've won the confidence of over 300 associated stores that are utilizing the site. We are providing them with convenient Web browser access and real-time visibility into our warehouse inventory, which includes more than 16,000 items."

"When pharmacists need to fill a prescription but can't find it in our current inventory, they can quickly look up 'like items' to find an equivalent/generic alternative. Store managers now have easy access to store invoices and credits in downloadable PDF form. Our warehouse management

system shows them precisely where an order is in the fulfillment process at any given time. We also provide access to searchable PDF versions of distribution center catalogs and in-store promotional fliers, most of which previously had to be printed and mailed. We're reducing our footprint while saving time and money, and our stores are assured of having the most up-to-date sales materials."

"Without the integration between Zend Server and our back-end system, we would not have been able to provide such a complete online solution to our customers."

"Zend Server allows us to add websites easily without additional hardware investment. Monitoring is automated, providing insight into all of our websites from a central location. We are also a major provider of school supplies for regional K-12 schools, an important market with a big up-tick in fall season sales. We have to promote back-to-school products in a timely, effective manner to all stores. We also need to manage the order and fulfillment process to have the right supplies in stock, and to fulfill store orders in time with school schedules. Zend have recently added a second website allowing parents to easily order their children's school supplies online for delivery direct to the schools."

Automation, Productivity and ROI

"With Zend Server, we can support more stores placing online orders, while at the same time reducing the manual keying of orders at the distribution center by as much as 35%. By moving more of our processes online and using Zend Server to monitor and troubleshoot our Web application, we have also reduced the volume of calls to our retail support desk by more than 40%, as customers are able to handle basic service tasks on their own. As a result, we have been able to reassign staff members back into development projects."

"Zend Server has helped us achieve a marked improvement in the speed of our sites. Our development server is now nearly as fast as our production server, which is more than three times larger. We appreciate the tight integration of Zend Studio with Zend Server. Being able to program, monitor and debug all in one place means we can work quickly and accurately."

"Monitoring in production allows us to spot performance issues and fix them without unnecessary downtime. Without this integration we would have needed to add Windows servers and find, install, monitor and maintain a communication solution between these new servers and our IBM i series."

Next Steps

"We plan to work with the Zend PHP stack to build a full Intranet application that will further enhance information flow and extend self-service options to the association's growing community of pharmacies and convenience stores. There are a host of opportunities ahead, including communication of drug or food recalls, store policy changes, community-based health campaigns, and more."

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