



PHP Takes on Business-Critical Apps

Why Are NYSE Euronext, WebEx and BNB Paribas Betting on an Open Source Language Such as PHP?

An Exclusive Research Report

By Eric J. Bruno

PHP is among the most popular languages for corporate Web development today. Sometimes referred to as “Internet English” for its ease of use, PHP is the most frequent choice for the back end of Web and mobile applications. In recent research,¹ four out of five decision makers confirmed that their teams can develop faster in PHP, and that PHP provides the easiest choice for the development of cloud applications. But is it a safe bet for business-critical application development?



How Does PHP Measure Up?

According to Forrester, companies have increased their use of open source programming languages for their application development over the years. PHP has long been a leader in open source, and it’s proven to be a leading development language among enterprise developers as well. Multiple online employment sites report PHP as their leading developer technology in terms of job skills’ demand. For instance, trends reported by employment meta-search site Indeed.com show that demand for PHP developers has grown and outpaced other languages since 2006. In fact, demand for PHP developers has grown more than 350 percent in that same timeframe.

Given how well it integrates and even complements applications written in languages such as Java, PHP fits well into existing enterprise infrastructures and cloud frameworks. The world of mobile development has also embraced PHP. Studies suggest that

within the next three years, mobile app development projects will outnumber native PC projects by a ratio of 4-to-1, and that 90 percent of PHP developers are already working on mobile apps today.²

Although the future appears bright for PHP in all areas of application development, some companies still have concerns about whether PHP is a safe bet for their applications. This paper examines the benefits of broader PHP adoption in an organization, along with areas for further consideration.



Benefits of PHP in the Enterprise

As more new applications are based on Web and mobile technology, bridging the worlds of older core enterprise software and platforms with newer architectures and capabilities is imperative. Organizations are turning to PHP to provide these integration capabilities with an eye to modern user interfaces, critical application performance, reliability and the commercial support expected in the enterprise.

According to a 2012 UBM Tech/Zend study, more than 60 percent of PHP applications being built today are business critical in nature. Additionally, the study shows that the adoption of PHP in the enterprise is growing in general.³ The reasons for this are threefold: First, PHP developers are abundant; second, PHP helps new developers come up to speed more quickly; and third, PHP enables shorter development cycles. Given these benefits, its vibrant ecosystem and expanse of partners, PHP adoption continues to grow.

Developer Talent and Availability

As previously mentioned, the availability of programming talent is a big reason enterprises continue to choose PHP. With more than 5 million PHP programmers active globally, the demand for

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PHP remains strong and is on track for further growth. This is second only to Java, the most popular platform for the enterprise, which currently has about 9 million developers worldwide.⁴ Additionally, and perhaps more importantly, as the demand for mobile applications grows across a wide range of platforms, the need for a common technol-

ogy to support them all will grow as well. No other language or developer community is as prepared to meet the needs of future Web and mobility apps as PHP. Given its support for open standards and the available pool of PHP developers at the ready today, PHP will be the choice for mobile back-end development in the future.

Framework, Symfony and Cake PHP. As development has embraced the agile software process, PHP tools and frameworks have grown to fill related requirements. The PHP platforms and frameworks available today support the agile DevOps movement, where advanced deployment needs are met to support maximum uptime and agility.

Speed of Development

PHP has a reputation of being easy to learn and to use, which leads to decreased ramp-up times and increased productivity. More than 88 percent of business executives polled by UBM Tech/Zend said that PHP enables faster speed of development overall. Additionally, 97 percent of those executives plan to develop future applications in PHP as a result.

When asked for the main reason why PHP was chosen for application development, most organizations cited speed of development. This number is larger for organizations that have already deployed applications written in PHP. When it comes to delivering software, implementing new features and satisfying customer needs, everyone gains when the process is as fast as possible. PHP helps to deliver on this promise.

Scalability and Performance

When one thinks of business-critical applications, e-commerce, billing, client-facing applications come to mind. Due to the critical nature of these applications, scalability and reliability are crucial. Often, entire business processes rely on these applications, and their continued availability can have a direct effect on a company's financial performance.

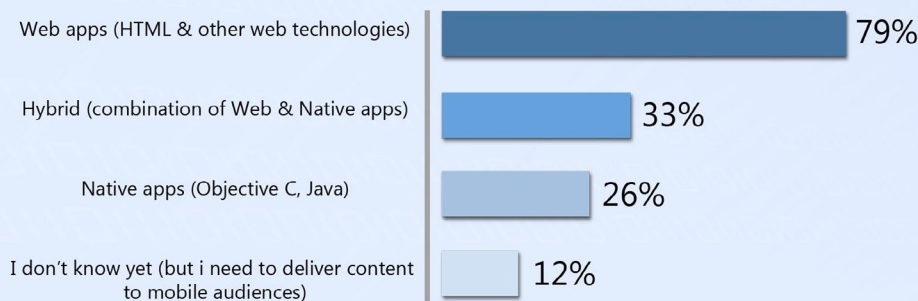
PHP platforms help applications scale dynamically to meet user requests out of the box. Support for concurrency, optimized user request/response cycle processing, caching techniques and Web-based load-balancing technology can all help to ensure that performance and scale occur automatically for an application.

When asked about application challenges, developers responding to the UBM Tech/Zend survey said performance and scalability were low on PHP developers' lists of concerns.

Cloud Readiness

When asked where they expect to deploy their applications, just over 60 percent of developers surveyed indicated they intended to deploy to the cloud in 2012. As of 2013, this number has grown to nearly 70 percent.⁵ Due to

How do you plan to deliver content and services to your mobile audience in 2013?



Base: 4,359 enterprise, SMB and independent developers worldwide
Source: Zend Technologies, Zend Developer Pulse™: Developers and App Economy 2013

As development becomes more iterative, the need to streamline end-to-end processes increases. There are tools and application platforms for PHP that integrate with popular version-control systems and continuous-integration (CI) systems and methodologies.

Integration with software configuration management and release management software is a crucial need of enterprise developers. A commercial PHP application platform can work with continuous integration tools for rapid development and deployment. The result is a development process that's more consistent and reliable, helping companies meet enterprise application service-level agreements (SLAs).

Developer Processes, Tools and Frameworks

PHP development teams benefit from the use of quality PHP frameworks that offer best practices and off-the-shelf functionality to speed up software development. For instance, the PHP ecosystem includes several successful frameworks, such as Zend

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its integration with other data center technology in terms of hardware and software (i.e., multi-core servers with high memory capacity, Java and .Net-based services and enterprise databases), PHP provides superior cloud performance.

According to the UBM Tech/Zend survey, PHP developers ranked cloud-readiness high on the list of reasons to choose PHP. Organizations responding to the survey also indicated that fewer servers are required to support PHP applications than those written in other dynamic languages. Robust PHP application platforms help to take advantage of cloud deployments by including clustering, advanced caching techniques, security, job-queuing techniques to improve throughput, and automated deployment with provisioning to enable elasticity.

Other cloud-based implementations — instant messaging software, social network feeds such as Twitter and Facebook, and blogging sites — have become crucial to how companies communicate with customers and do business. It's now a requirement to integrate social networking applications with new enterprise Web and mobile development. PHP frameworks and Web-based tools enable professional development teams to securely integrate social media and collaboration into their business applications.

Complementary Language

PHP is an Internet-aware platform with tools and frameworks that meet organizations' collaboration, application security, and server performance and scalability needs. Additionally, PHP integrates with other enterprise languages and platforms such as Java and .Net, and with modern Web application architectures. Because of this integration, PHP helps companies leverage existing investments in other technologies.

Support and Reliability

Enterprise application support, monitoring and overall reliability rank high among developers' reasons for choosing PHP. Frameworks that

Real-World PHP Usage

Many businesses today use PHP as a development platform, and Internet research firm Netcraft found PHP powering about 244 million websites as of January 2013. These case studies point to PHP as a success factor in a wide range of use cases.

BNP Paribas

BNP Paribas is a banking and financial services firm with more than €3 billion in net banking income and operations in 80 countries worldwide. Its challenge: to accelerate development and delivery of high-performing Web applications that help employees connect, stay informed and provide exceptional client services.

To meet this challenge, BNP Paribas implemented Zend Server, Zend Studio and Zend Framework, as well as other PHP-compatible technologies, in a Linux server environment. As a result, BNP Paribas developed more than 700 tools and applications in a fraction of the time and cost that would have been required using previous solutions. Read more at <http://static.zend.com/topics/BNP-Paribas-CS-0512-R2-EN.pdf>.

Conftec GmbH

Conftec, an independent software vendor that manages 47,000 retail orders per year in nine countries, used Zend Studio and Zend Server to build mission-critical retail and ERP applications from the ground up. "Flexibility and functionality were important reasons for initially adopting PHP and Zend," said Frederik Glücks, managing director of Conftec.

Glücks also cited the PHP community and PHP's integration with MySQL as reasons for choosing PHP. Using Zend Studio and Zend Server for Conftec's constantly evolving applications has allowed the company to gain better control over its applications while saving time and ensuring quality. Read more at <http://www.zend.com/en/resources/case-studies>.

NYSE Euronext

NYSE Euronext, the world's leading equities exchange group, sought to replace its existing websites with improved sites to drive business value online. A new Web application development platform and processes were needed for rapid development and deployment, efficient scale-up and management, and high availability. Tough

guidelines demanded improved productivity and reduced infrastructure and downtime costs.

NYSE Euronext chose Zend PHP application development solutions and Drupal, including Zend Studio IDE, for application development, debugging and profiling. Zend Server runs the websites, performs proactive monitoring and automates troubleshooting and optimization. Zend Server Cluster Manager supports easy scalability in multiserver environments.

As a result, NYSE Euronext developed and launched a series of 40 business-critical websites within 18 months — a fraction of the time spent just in designing its previous Web application platform. In fact, its Web development cycle went from two years to two weeks. Read more at <http://static.zend.com/topics/NYSE-Euronext-CS-0512-R1-EN.pdf>.

Cisco WebEx

Millions of people rely on Cisco WebEx, part of Cisco Systems, for conferencing and collaboration solutions that combine real-time sharing with phone conferencing and video. Cisco wanted to drive more WebEx business through its partners using free trial offers as a catalyst for lead generation. Cisco WebEx needed an improved automated trial platform with a high degree of efficiency, reliability and scalability to support its growing partner community and increasing demand for online conferencing.

To meet these challenges, Cisco deployed Zend Studio IDE, Zend Server and Zend Framework. Using the Zend PHP stack, Cisco built a new trial-offer platform, a mobile website and an internal project management application; it also redeveloped its webinar marketing platform. Zend's monitoring, code tracing, job queuing and optimization capabilities helped Cisco improve the end-user experience of trial offers by 68 percent (based on best-time-to-complete-trial signup). The technology also allowed Cisco to achieve 20 to 30 percent code reuse, which saved development effort and accelerated the development cycle and time to market by an average of 1.5 months for each project. Read more at <http://static.zend.com/topics/Cisco-WebEx-CS-0511-FINAL.pdf>.

To read other customer success stories involving PHP and the Zend platform, visit <http://www.zend.com/en/resources/case-studies>.

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enable faster development time also enhance deployment reliability, monitoring and production application administration. A limited set of commercial PHP stacks provide the support needed to identify and fix problems before they cripple key business processes. Some large software companies are beginning to support PHP as part of their product offerings. For instance, IBM now offers PHP support as part of IBM SmartCloud; Red Hat includes Zend Server with its OpenShift platform; and Microsoft supports PHP in its Windows Azure and WebMatrix products, along with Google and others.

Commercial PHP platforms from vendors such as Zend offer routine patches to ensure security, developer dashboards to identify potential problems before they affect users, and monitoring tools to identify problems in production when they happen. All of these features help improve developer efficiency, ensure that application SLAs are met and reduce the time it takes to identify and fix customer-facing issues. Zend Server customer NYSE Euronext, for example, recently reduced its two-year Web development cycle to an iterative, two-week production cycle by adopting agile delivery and PHP (see sidebar, Real-World PHP Usage).

aspects of application development must be addressed by an effective development platform. Carefully considering how PHP fits into these requirements can help companies make informed decisions when planning enterprise application development.

For instance, the do-it-yourself (DIY) approach to software stacks and development frameworks can be found pervasively in the PHP community and can have distinct downsides. For example, if a single developer is responsible for maintaining security patches for each element of the application stack after it has moved into production, the company comes to rely on specialized knowledge that only current developers have, leaving companies at risk each time a developer switches jobs. Companies that have adopted PHP for their critical applications look to commercial PHP platforms and vendors to resolve these issues and provide ongoing support, so the entire burden does not fall on their development function.

Instead, the best chance companies have to achieve optimal performance and scalability is to use an integrated, and tuned, PHP stack with enterprise features and tools. Features such as PHP caching and user-session failover and data caching can result in huge gains in terms of reliability and scalability.⁶ Fortunately, there are commercial platforms offered by vendors such as Zend that offer all of these features, assembled by PHP and Web gurus,



PHP: Look Before You Leap – Things to Consider

To help determine whether PHP is ready for business-critical app development, companies need only look at the growing number of organizations that rely on PHP for the back end of their mobile applications, as well as those with social network connectivity. Clearly, many organizations have decided that PHP is a safe bet for the future of their business. However, there are some areas of PHP development that deserve more consideration and shouldn't be left to chance.

From design and development to testing and deployment to customer support, all

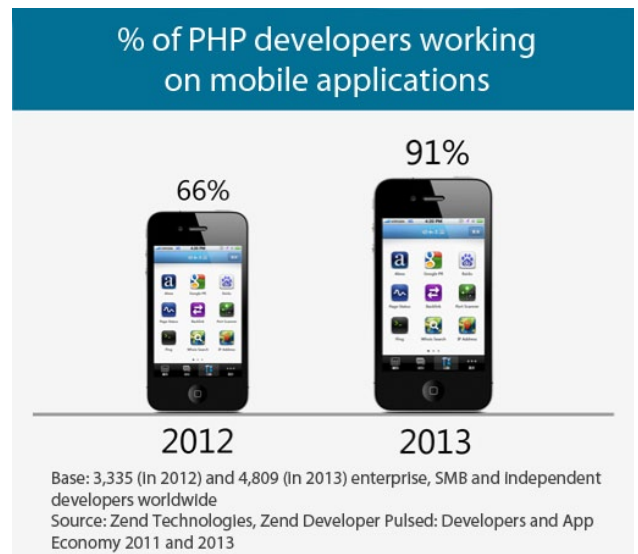
Scalability and Performance

Performance and scale aren't achieved by simply installing an open source software stack. Although open source PHP is an excellent starting point for an application, it doesn't come with built-in enterprise features such as clustering, high availability, real-time performance diagnostics and specialized caching (along with other strategies) for optimal performance. Additionally, without intimate knowledge of HTTP, networking, database integration, caching and memory management, it can be difficult to reach optimal performance and scalability with PHP.

to help companies safely meet their business-critical application requirements. Building application-specific performance enhancements in-house — although common — may not result in an easily shareable or reusable code base.

Security

PHP developers are often challenged when configuring a consistent and secure PHP stack for development and production. Decision makers polled reveal that security is not high on the list of reasons to choose PHP, and some developers consider security as a challenge in PHP development. Although PHP is not



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inherently insecure, clearly PHP developers and framework vendors must ensure that all security needs — real or perceived — are met.

Fortunately, these issues are more often the case with DIY approaches than with commercial PHP platforms. Companies should decide whether to rely on their own team to maintain the security of their PHP stack or to turn to a commercial PHP platform where an external vendor is responsible for ensuring that PHP security patches are proactively tested and delivered when required.

Maturity

PHP development gained momentum with the release of PHP3 in 1998, and a full rewrite of the PHP’s core in 1999. However, because PHP was initially focused on speeding up dynamic Web application development, best practices and enterprise features weren’t always foremost in PHP developers’ minds.

However, this same open source community involvement has led to a vibrant ecosystem for PHP framework and platform development, leading to mature commercial implementations.

When building a business-critical application, companies should consider a well-known commercial PHP stack for both development and production, based on a set of best practices gained from successful commercial deployments.

Support and Compliance

Given the open source nature of PHP and available frameworks, commercial support can be a challenge as developers often take a DIY attitude. The PHP community as a whole could improve on its “roll-your-own” approach to PHP development. Efforts to select a commercial platform with enterprise-level support can help improve overall application reliability and SLAs. For business-critical applications, open source developer forums are not sufficient when problems arise. A commercial PHP platform with vendor support is critical to enterprise application success.



The PHP Enterprise Conclusion

Although well-known development environments such as Java and .Net

remain a solid option for business-critical application development, PHP continues to gain advantages and has proven to be a strong competitor for new applications, compared with other languages. And a growing number of commercial vendors offer a stable set of frameworks, tools and platforms to help improve PHP development processes.

As a result, PHP can be a reliable, secure, scalable platform capable of helping organizations build business-critical applications efficiently and quickly. Today’s commercial PHP platforms help companies meet customer SLAs and release new features quickly, while tapping into a large talent pool of developers worldwide. Choosing PHP is a safe choice, as proven by leaders in PHP adoption such as Facebook, NYSE Euronext, Yahoo!, BNP Paribas and many other companies that rely on it for their critical business needs. ■

About Zend

Zend partners with businesses to rapidly deliver modern apps across mobile and cloud. Zend helped establish the PHP language, which today powers over 240 million applications and web sites. Zend’s flagship offering, Zend Server, is the leading Application Platform for developing, deploying and managing business-critical applications in PHP. Zend solutions are deployed at more than 40,000 companies, including NYSE Euronext, BNP Paribas, Bell Helicopter, France Telecom and other leading brands worldwide. Learn more at www.zend.com.

¹ UBM Tech and Zend, “The State of PHP in the Enterprise,” June 2012, <http://www.zend.com/en/company/community/state-of-php-in-the-enterprise>

² Zend Technologies, *Zend Developer Pulse: Developers and the App Economy*, June 2013

³ Redmonk.com, *The Redmonk Programming Language Rankings*, <http://redmonk.com/sogrady/2013/02/28/language-rankings-1-13/>

⁴ Oracle, *Learn About Java Developers*, <http://java.com/en/about/>

⁵ Zend Technologies, *Zend Developer Pulse: Developers and the App Economy*, 2011 and 2013

⁶ *Web Performance, Scalability, and Testing Techniques*, Jonathan Klein, <http://www.slideshare.net/jnklein/web-performance-scalability-and-testing-techniques-boston-php-meetup>