

SUGARCRM EXECUTIVE BRIEF

# PHP and Web Applications

A Recipe for Success





## **A New Standard Emerges**

Over the past several years, one development language has emerged as the de facto standard for building fast and scalable web applications: PHP. Most of the consumer-facing web sites in the world are now developed using PHP, including Wikipedia, Yahoo!, Charles Schwab and Facebook. SugarCRM is one of the world's leading commercial open source applications, and it is also a web-based application. So, the founders of SugarCRM settled on the industry standard—PHP—when they first started building the CRM system in 2004.

But why leverage PHP? Simply put, no other development language out there today is as simple, fast and powerful, nor has the popular backing that PHP enjoyed even when SugarCRM was being founded. Since then, PHP has only increased in terms of performance, flexibility and number of developers building on the language. In addition, the tools produced by the PHP community have really begun to shine and comfortably bring PHP into the mainstream enterprise application space.

## **A Brief History of PHP**

Like most innovations, PHP was born out of necessity. In 1994, programmer Rasmus Lerdorf created a new web language to maintain his personal homepage. Then, in 1997 Andi Gutmans and Zeev Suraski, working on a university project, joined Rasmus Lerdorf in his PHP efforts and rewrote PHP to greatly enhance its openness and extendability. From those humble beginnings, PHP was released out into the open source community. From there, PHP eventually took on a life of its own, becoming the de facto standard when it comes to developing Web applications. From the beginning, PHP stood out for a number of reasons; namely its intuitive design, ease of use, great speed, portability, and its high interoperability and extensibility. For these reasons, a vibrant community developed around PHP and, as they say, the rest is history.

### A Highly Intuitive Language

In addition to being a highly interoperable development language, PHP is also quite intuitive. The language is surprisingly easy to learn and start using. In fact, prior to creating SugarCRM, the founders of the product had no major experience with PHP. The engineers behind SugarCRM were previously focused on Java, J2EE and C++. But within weeks the team was fully familiar with PHP and comfortable programming with the language. Since the language was born out of the need to quickly build web pages, the founders of SugarCRM were able to create a stable, yet complex web-based CRM application in a few months.

### Simple To Use

But what is perhaps most important about PHP when it comes to building Web applications is that it is simple to use. There is much less coding required to create great user experiences with PHP. Java, for example, tends to take up to five times more lines of code than PHP. Building Web portals, for example, is much easier with PHP than other languages. Web user interfaces in general are easier to build with PHP. SugarCRM has one of the most cutting-edge, easily customizable user experiences thanks to PHP.

The simplicity of PHP, coupled with the open source nature of SugarCRM, creates added benefits for users. A SugarCRM user with PHP experience (or one that takes a few weeks to learn the language) can then build their own extensions and integrations on top of and into their SugarCRM deployment. This ability to simplify the customization and extension of a CRM system is nearly impossible via older, proprietary software products with closed source development languages.

### The Speed of PHP

There really is no argument that PHP is fast, both in terms of development and performance. With PHP, there is no need for lengthy manual recompiles and deployments, a simple refresh of the web page shows the fruits of your labor. This encourages rapid prototyping and development. Since PHP applications are typically deployed as plain files, it is easy to work with the code, track and review changes, and update your code based on others contributions, an important factor for any open source project where community development is critical.

Speed applies to application performance as well. PHP is one of the fastest languages available in terms of execution. It can compile and execute hundreds of thousands of lines of code in less than a second, even on a developer's laptop. PHP is incredibly good at processing large amounts of text. This makes PHP applications quick to understand requests and produce the appropriate responses, resulting in the user experiencing faster server response times than with web applications developed with other tools. PHP is basically stateless and handles requests using very little memory which boosts the speed and makes it easier to leverage a grid of computers to scale out.

PHP is very good at creating any kind of web page. This makes it a great language to build AJAX applications to take advantage of Ajax technologies to create even faster user experiences. Take the SugarCRM UI for example. With liberal use of Ajax on top of PHP, users can perform many tasks without having to refresh their browser, which increases productivity as well as creating a more pleasing interaction with the application.

### Portability

Another great feature of PHP is that it can run on a variety of platforms. PHP runs great on Linux, as many would assume since PHP is an open source language. PHP is frequently a key component of the ever popular LAMP stack (Linux, Apache, MySQL, PHP). But PHP also runs very well in a Windows environment – sometimes called the WAMP stack (Windows, Apache, MySQL and PHP). In addition to Windows and Linux, PHP also runs on other popular operating environments such as Solaris, i5/OS, OS X, UNIX, and FreeBSD. The portability of PHP means that we can serve all customer environments, from modern web-based architectures running on open source technology, to legacy systems supported by proprietary operating systems and languages.

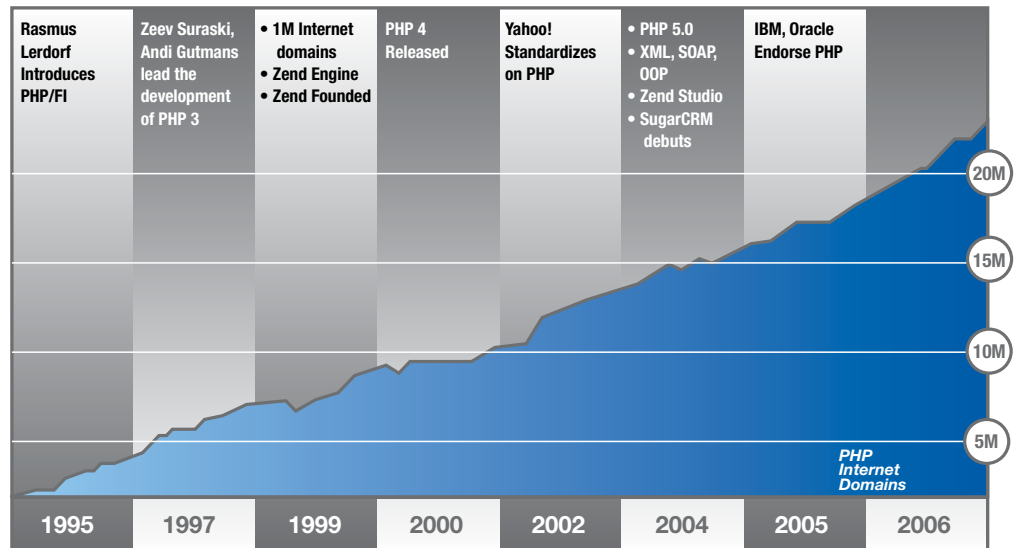


Figure 1. As this timeline suggests, PHP has made immense strides in a very short time. Since its invention in the late 1990s, the language has become ubiquitous on the web, with millions of pages and other properties now built on PHP.

Source: Zend, Inc.

### High Interoperability

One of the simple facts about building Web applications today is that they must talk to other systems. And PHP is hands down the most interoperable language out there. PHP’s design allows it to easily interoperate with various Web services, XML and even older legacy systems. Of course, with its birth as an open source project PHP operates with lightning speed on Linux. Thanks to work from the community, Microsoft, and from PHP specialists like Zend, applications built on PHP run perfectly in Microsoft Windows environments as well. In addition to Microsoft, both IBM and Oracle have endorsed PHP in the past several years.

With some older development languages available to programmers, cross platform support can be a major issue. But the beauty of PHP is the fact that it is truly a language where developers write code once and it will basically run anywhere. And SugarCRM takes full advantage of this aspect of PHP. While SugarCRM is built upon a Linux-based framework, the product runs well in a variety of different environments. In fact, Sugar is now the leading CRM application available to run on OS X. And many organizations and open source users are successfully running versions of SugarCRM on Windows, Linux, Unix, iOS, and OS X.

### Extensibility

PHP plays very well in diverse environments, with other programs, and with many protocols. Even with this, one of the best features of PHP is its extensible nature. Many of the best parts of PHP are built as modules. This modular architecture at the language level provides a way to implement custom code in PHP. All of the accelerators discussed in this document are leveraging the modular architecture of PHP to provided added features in the language. Modules are used for email connectivity, accelerators, caches, bridges, cluster managers, session management, SSL, output compression, and JSON encoding among many other functions. The modular architecture of PHP also provides the ability to extend the language itself. You can write or leverage existing code that efficiently performs some task (such as translation or encoding) and rapidly make that code available in PHP.

Why Do You Use PHP? (Choose as many as apply)		Number of Responses	Response Ratio
Easy to develop with		3093	89%
Affordable		2311	66%
Web application focus		2328	67%
Apache integration		2109	61%
Multiple platform support		1785	51%
Performance		1997	57%
Preference for non-Microsoft technology		1829	53%
Availability of the source code (open source)		1404	40%
Unix/Linux investment		1304	37%
Multiple Web server support		853	25%
Time to market		606	17%
Inherited an existing PHP system		281	8%
Flexibility		2287	66%
Other		300	9%

Figure 2. As this survey shows, PHP is a great development language for building nearly any type of web page.

Source: Zend, Inc.

Take SugarCRM as an example. When the product was first released into the community several years ago, the founders wrote the product with only an English language version available. The applications was released into the community on a Friday, and when the founders checked up on the forums surrounding the project following the weekend, they found the product had been translated into more than six languages. This was thanks to the modular nature of PHP.

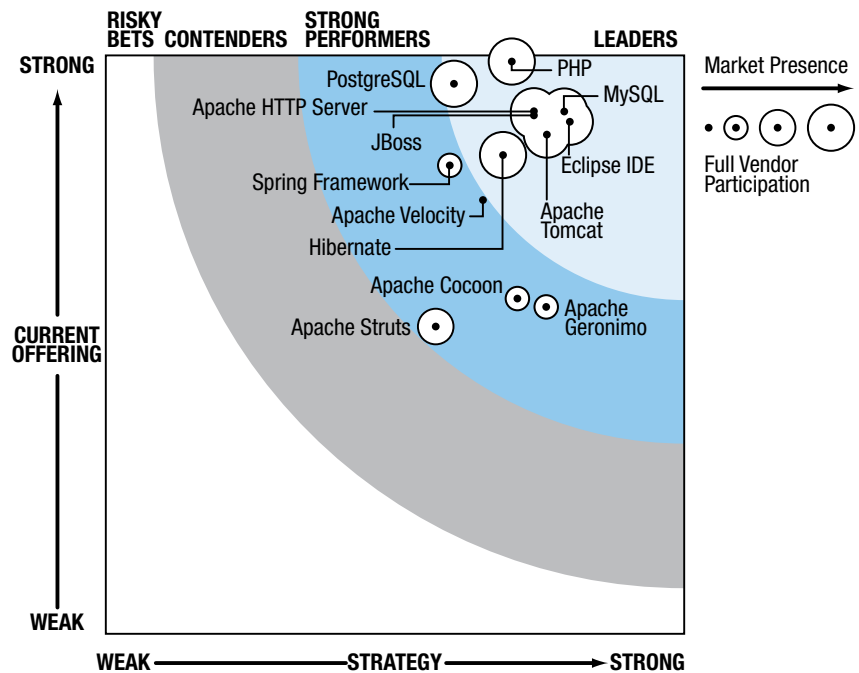


Figure 3. Independent analysis firms like Gartner and Forrester research (whose Wave report is depicted above) recognize PHP as one of the most popular open source projects with the most fervent community involvement compared with all other software projects being developed in the open.

And members of the Sugar and PHP community have taken this extensible nature and really run with it. Presently, there are nearly 400 extensions available for SugarCRM users at [www.SugarForge.org](http://www.SugarForge.org).

A PHP installation can be made even faster using a PHP accelerator. There are commercial products such as Zend Platform from Zend that offer great support, clustering, Java Bridge and other features. Open source projects like APC (Alternative PHP Cache), eAccelerator, and xCache are widely available in the community. The basic function of a PHP accelerator is to cache the pre-compiled PHP code. This produces a significant performance boost without code modifications. Additionally, PHP accelerators may provide data or output caches. Programs, such as Sugar, can easily leverage these caches to provide significant additional performance boosts.

### A Strong Community

SugarCRM has quickly grown in popularity to become one of the most popular open source application projects in history, in just over three years. This has been thanks in part to standardizing on a development language with such a growing and active open source community behind it. There are almost 9,000 developers working actively on modifying and/or extending the PHP language, with hundreds actively contributing back into the core PHP project. And the numbers are growing. Estimates show that the number of PHP developers in the world has increased by 37 percent over the past two years. Today there are literally tens of millions of Web properties and projects out there based on PHP.

That large community, coupled with the general acceptance of PHP among major software heavyweights like Oracle and IBM, makes PHP an obvious choice in terms of building Web applications. The support and

backing of large companies and the PHP community is driving the PHP language to scale to any level. The simple fact that Yahoo! has standardized its Web properties completely on PHP is proof enough that there is strong backing of a strong and scalable product in PHP. Many of the largest Web sites are powered by PHP including: Yahoo!, Wikipedia, Facebook, Viacom, and Charles Schwab.

Developers	2006	%	2007	%	Growth%
Java	5,863	44%	6,806	47%	16%
.Net	6,420	48%	8,176	57%	27%
PHP	4,634	<b>35%</b>	6,426	<b>44%</b>	<b>37%</b>

Figure 4.  
The PHP project is quickly gaining more and more dedicated developers.

Source: Zend, Inc.

### Conclusions

PHP has come into its own as a development language. The strong community backing, large pool of developers, as well as major companies standardizing their Web front-ends on PHP prove that PHP is the way to go when building Web applications. A scalable, simple language that works well with other systems, PHP can make designing, implementing, and maintaining a Web application or Web site a far more pleasant endeavor.





**SugarCRM, Inc.** • 10050 North Wolfe Road • SW2-130 • Cupertino, CA 95014  
**www.sugarcrm.com** • T: +1.408.454.6900 • F: +1.408.873.2872

04-07-022 Copyright © 2007 SugarCRM, Inc. All rights reserved. SugarCRM and the SugarCRM logo are registered trademarks of SugarCRM Inc. in the United States, the European Union and other countries. All other trademarks are the properties of their respective companies.