Web Server Improves PHP Performance on High-Volume Brazilian Web Site

Overview

Country or Region: Brazil
Industry: IT services

Customer Profile
BABOO is a Web site in São Paulo, Brazil, that focuses on technology. With six employees, it supports a discussion forum that has 400,000 registered users and more than 4.5 million monthly visitors.

Business Situation
The slow performance and instability of a PHP application restricted Web site growth. BABOO wanted to improve performance and run both PHP and Microsoft® ASP.NET applications on a Windows®-based solution.

Solution
BABOO implemented Windows Server® 2008 with Internet Information Services 7.0. The company migrated its PHP-based Web forum to the new solution. It is also deploying Microsoft SQL Server® 2008.

Benefits
- Improved performance and stability
- Decreased costs and better revenue
- Enhanced services
- More choice

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BABOO, a leading technology Web site in Brazil, wanted to improve the performance of its discussion forum. Service for the PHP application running on Windows Server® 2003 was often interrupted when site traffic increased to 9,000 concurrent users. For better stability and performance, BABOO migrated the forum to Windows Server 2008 with Internet Information Services (IIS) 7.0. Now the Web site can easily handle more than 22,000 concurrent users. User registration and advertising profits have also increased. BABOO is adding new features to attract even more users, and it plans to consolidate all of its Web applications on the new server. The company has increased flexibility because it can successfully run both PHP and Microsoft® ASP.NET applications on Windows Server 2008.

Situation

Established in 1999, BABOO is a top Web site in Brazil that focuses on developments in information technology. Six employees and a team of volunteer moderators support the site, which includes one of the largest discussion forums on technology in the country. Forum users have posted nearly 2.6 million messages on a variety of topics, including emerging technology, troubleshooting, and product reviews.

The BABOO Web site is hosted in Miami, Florida, by PEER 1, a Microsoft® Gold Certified Partner that provides Web site hosting solutions to more than 10,000 businesses worldwide. Until recently, BABOO administrators remotely managed three dedicated servers running the Windows Server® 2003 Enterprise Edition operating system with Internet Information Services (IIS) 6.0. The main Web site—a Microsoft ASP 3.0 application—and the PHP-based discussion forum ran on separate servers. BABOO used the Common Gateway Interface (CGI) and the Internet Server Application Interface (ISAPI) to run its PHP application on Windows Server. The third server ran IMail Server v10 Plus from Ipswich, sending a monthly e-mail to 800,000 newsletter subscribers.

In 2007, its expanding discussion forum prompted BABOO to take a closer look at its Web server solution. Although the main Web site and its ASP application performed well, the PHP-based discussion forum struggled. With 400,000 registered users and more than 4.5 million visitors each month, the discussion forum suffered from performance issues, including slow response time. For example, users might have waited up to 20 seconds for a response when the site reached a threshold of 9,000 concurrent visitors. By the end of 2007, the threshold had become a daily average, and administrators routinely coped with downtime.

The lagging performance of the PHP-based discussion forum server resulted in a 20 percent drop in users over several months, and moderators also left the site. These issues had a business impact as well. For instance, the company lost revenue during downtime when its click-through ads were inaccessible to users. The problems also increased costs. Aurélio Minerbo, BABOO Director, explains, "I spent a lot of money on consultants trying to improve performance."

A Microsoft Most Valuable Professional (MVP) who has worked with Microsoft products since 1987, Minerbo looked for a Windows®-based solution that would enhance the performance of all the Web applications at his company.

Solution

BABOO has been an early adopter of Windows Server software for years. For instance, it was the first Web site in Brazil to run Windows Server 2003. Minerbo knew that Windows Server 2008 would soon be available, and he wanted to take advantage of new capabilities in IIS 7.0 as quickly as possible. He was interested in features such as integrated support for applications built on both the ASP.NET and CGI frameworks. In particular, instead of using CGI with Windows Server 2003, he wanted to use the FastCGI protocol available in Windows Server 2008. He knew that FastCGI would enhance the performance and stability of applications that used the PHP scripting language because, unlike CGI, it can reuse single processes to handle multiple requests. Support for 64-bit architecture would also improve scalability.

Minerbo contacted PEER 1 in March 2008 and asked the company to set up a new

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server computer to run Windows Server 2008 Datacenter. PEER 1 was already evaluating the new operating system and decided that BABOO presented an early opportunity to try Windows Server 2008 in a production environment. "We wanted to have an example of a client that was using Windows Server 2008," says Anthony Taliercio, Senior Account Executive at PEER 1. "Aurélio was one of the most technical customers we had, and we felt he would be a really good candidate for the first deployment."

BABOO ran its software on custom-built servers from PEER 1, which included dual quad-core Intel Xeon processors with 16 gigabytes of RAM. The new server built by PEER 1 also has eight processing cores, and it has an additional 16 gigabytes of RAM. After PEER 1 installed the server, Minerbo and his colleague, André Fonseca, Chief Technology Officer at BABOO, began implementing Window Server 2008. Deployment was complete within two days, including the backup, testing, and migration of the forum. In addition, BABOO began migrating its ASP applications to Microsoft ASP.NET, and expects to finish the update in December 2008. The company also plans to update Microsoft SQL Server® 2005 Enterprise Edition data management software, which it uses with all its Web applications, to SQL Server 2008 Enterprise in December 2008. BABOO moved its e-mail server to Windows Server 2008 in November as well.

BABOO handled the project remotely by using a Terminal Services connection and the Remote Desktop Connection 6.1 client on computers running the Windows Vista® Business operating system. The modular architecture of IIS 7.0, which has 40 feature modules that can be installed independently, smoothed deployment and contributed to a more efficient

configuration. "We were able to make a lean installation with only the features we need," says Fonseca. "Also, it was very easy to introduce the URL rewrite module."

BABOO is taking advantage of the new URL rewrite module, which can be used for multiple CGI and ASP.NET applications, to improve forum performance and reduce request errors by rewriting or redirecting URLs. For even more control, administrators can use failed request tracing, a diagnostic feature in IIS 7.0, to trace and troubleshoot rewrite rules.

The modular architecture will also be an advantage when BABOO consolidates its other Web applications, including its main Web site, on the forum server in September 2008. With IIS 7.0, BABOO can set up one integrated pipeline to handle requests for Web applications. For example, all requests, including those for PHP applications, can be configured to take advantage of ASP.NET forms-based authentication and authorization.

Benefits

By improving stability and performance with Windows Server 2008 and IIS 7.0, BABOO can expand its Web site. It is cutting administrative costs while increasing revenue and adding new users and features. BABOO also has the flexibility it needs to run ASP.NET and PHP applications together.

Improved Performance and Stability
After upgrading its discussion forum to Windows Server 2008, BABOO observed an immediate increase in performance. "We noticed a 50 percent improvement in site response speed when we started using IIS 7.0 and FastCGI," says Fonseca.

The improvement was also noticed at the PEER 1 data center in Miami. "All the

system administrators here were amazed by the change," says Taliercio. "Before using Windows Server 2008 with IIS 7.0, the BABOO servers were using almost 100 percent of their CPU capacity. After the upgrade, the usage was down to about 52 percent. From a server perspective, it was a major improvement."

BABOO has had zero downtime since implementing Windows Server 2008, and forum traffic has increased significantly as a result of the improved stability and performance. From the beginning, the forum server with IIS 7.0 easily handled a surge to 13,000 concurrent users, and the volume increased steadily. "We now have 22,000 concurrent forum users supported by Windows Server 2008 and IIS 7.0," says Minerbo. "The solution is amazing because it's very fast."

Decreased Costs and Better Revenue
Improved stability and performance have also helped BABOO cut management costs and increase revenue. "Since I installed Windows Server 2008, I no longer need to hire consultants to get my PHP application to perform better," says Minerbo. "Everything is running faster, and I'm spending less money."

The increase in uptime and site traffic has also improved revenue. Minerbo says, "With our Web site running faster on Windows Server 2008, we are doubling the number of pages viewed. As a result, we're earning much more money from ads."

Enhanced Services
By deploying Web applications on Windows Server 2008, BABOO can add site features and functions that improve its services. "With Windows Server 2008, our Web forum is so fast that we can install many add-ons to improve the site and gain more money and registered users," says

Minerbo. "For example, now every user can have his or her own blog and image gallery, something that we couldn't even think of before Windows Server 2008."

Minerbo is seizing other opportunities. He plans to expand BABOO with three new domains and Web sites by early 2009. All of his PHP and ASP.NET applications will be hosted on one server running Windows Server 2008. Minerbo adds, "It's fantastic because everything we can think about now we can do. We can buy any Web applications that we find interesting and install them on Windows Server 2008."

More Choice
Both BABOO and PEER 1 believe that Windows Server 2008 provides an optimal foundation for serving and hosting PHP and ASP.NET applications together. Minerbo says, "In our experience, if people are using Linux with PHP, they can use Windows Server 2008 with PHP without question."

Minerbo points out that in addition to the performance benefits and application integration, Windows Server 2008 is easier to manage than Linux-based solutions. "It's very easy to administer," he says. "If you know how to use the client version of Windows, then it's very easy to use the server version."

After witnessing Minerbo's success at BABOO, PEER 1 was ready to offer Windows Server 2008 to its other customers. "The results of the first deployment were exciting, and I've shared them with the rest of the sales team," says Taliercio. "We used those results to inspire other customers to move to Windows Server 2008. Since then, we've seen many other clients experience similar benefits."

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