Our New Frontier: BASIS Web in the Cloud

In the last issue of the BASIS Advantage, "Our Salvation is in the Cloud," we detailed our efforts to move all of our business processes to the cloud and introduced the services we are using to do so. Amazon cloud machines, Amazon S3 data storage buckets, Amazon hosted RDBMS, and Amazon CouldFront are just a few of the services that have made this effort possible and successful. One part of this corporate effort included moving the two BASIS maintained websites, www.basis.com and www.addonsoftware.com to the cloud, this article shares the lessons learned.

Move to the Cloud

To move our websites to the cloud, we chose Amazon's EC2 and RDBMS service to provide BASIS with scalability and redundancy. With EC2, we utilize a load balancer on the front end that allows us to easily upgrade to a faster machine or add additional machines as traffic to our websites increase. The beauty of utilizing the load balancer is that with a just few clicks of the mouse, we can have 2 or 200 machines serving our content in just a matter of minutes. Amazon's RDBMS provides us valuable centralized data storage and scalability with the ability to backup data on-the-fly.

As a final piece of the migration, we are taking full advantage of the Amazon's S3 buckets. BASIS uses these buckets to serve our static Web content and store data backups. Since S3 buckets are available in various regions throughout the world, we have the ability to access all content from any other region should one particular region go down.

First Move

For a smaller and more manageable test case, we first moved addonsoftware.com to Amazon's RDBMS system to take advantage of their ready-built centralized database access that also offers easy back ups. A valuable time saver in our deployment process was to mount an S3 bucket to the file system so that if and when we choose to upgrade the system in the cloud, we would not have to sync files between machines. If we start a new test system, we can simply create a 'snapshot' of the machine and within seconds have the new system running without any downtime.

Second Move

Once we completed moving addonsoftware.com to the cloud, we began looking at moving our largest site to the cloud infrastructure. Because basis.com was so large, we also took the opportunity to cull out a lot of irrelevant and outdated data to provide our community with the accurate and clean content they require.

Manage the Content

Moving our sites to the cloud also gave us the opportunity to address another major need; to make our websites more dynamic and to empower all BASIS employees with the ability to manage and update the content in real-time. Our solution was Drupal, a free open-source content management system with over 600,000 people in 228 countries constantly improving it. As they state at drupal.org, Drupal is "...powering millions of websites and applications... built, used, and supported by an active and diverse community of people around the world."

Since addonsoftware.com was our first move to the cloud, we took the opportunity to learn and use Drupal to serve up the content. This gave us the experience needed to tackle the basis.com site, which contained a great deal more content to manage. Now we were equipped to share our skills with the entire BASIS staff and train them on how to edit and create new pages. >>

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Go Google

While applying cosmetic improvements with Drupal and its template design, BASIS integrated some of Googles free features to enhance the user experience.

Search

Google's Custom Search Engine enables Google to crawl a website directly for keywords. By adding this module (links.basis.com/cse) to both of our sites, users are presented with additional options or filters to refine the results when performing a keyword search. Choices includes BASIS Docs, Knowledge Base, Tutorials, and Advantage articles, as shown in **Figure 1.**

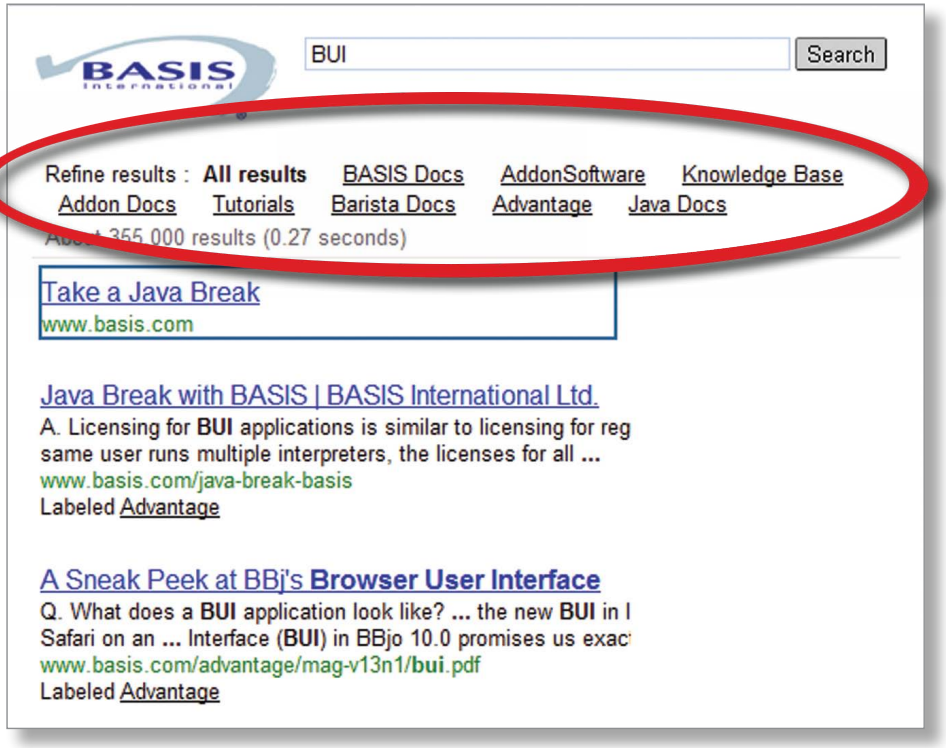

Figure 1. Options to refine keyword results when performing a search

Performance

Utilizing Google Mod_pagespeed, Mod_deflate, and Drupal Internal Caching markedly increases the speed of the site. This has improved our page loads by 30%. Google offers some great resources like PageSpeed Online to quickly determine how to increase site performance on the Internet. Mod_deflate is an Apache module that is configured on the server so that specific types of content can be cached on the server side.

As a final step to our move to the cloud, we utilized a CDN (Content Delivery Network) to give us the ability to serve content from the geographic location closest to the user accessing our page(s). We chose to use Amazon's CloudFront, which serves the content using edge servers that are housed in specific locations across the world. For example, when you download our product, you are placed on Amazon's Edge server closest to your geographic location so that content is available at a moments notice. Since we also serve all our own video content, the use of CloudFront provides faster streaming of our Java Breaks and product videos on-the-fly.

Summary

BASIS continues to blaze the trail to the cloud, reaping benefits and gaining valuable experience that we pass along to our customers and partners. As more and more of our products and services are hosted in the cloud, we gain speed, availability, and a previously unheard of level of robustness backed by solid guarantees.

BASIS' two main websites are now fully deployed in the cloud. They take advantage of several performance boosting techniques and are propagated automatically all over the world to optimize your browsing experience, regardless of your location. Our new CMS systems are the icing on the cake, dramatically increasing our freedom and improving our capabilities to update the site content at a moment's notice with a few clicks of the mouse. Our voyage to the cloud has been exhilarating, and we invite you to join us! ■

Read the *BASIS Advantage* article Our Salvation is in the Cloud and the sequel Perfection in the Cloud in this issue