

Our Salvation is in the Cloud

This sounds like the title of a sermon augmented by cherubim and seraphim, but it is really the title of a message designed to provide customers with the collateral and confidence necessary to move their clients into the cloud when and where it makes good business sense to do so.

The Problem

BASIS supplies product and licenses to customers and countries all over the world that depend on our servers functioning 7x24. The robustness of these servers have a direct correlation with the confidence and comfort that the customers have with their suppliers. We certainly could spend a lot of money bringing redundancy and robustness to our organization without moving to cloud-based computing. The requirements to achieve a 99.99% Service Level Agreement (SLA) include, but are not limited to, multiple Internet providers, backup power generators, multiple load-balanced servers, off-site backup and restore facilities, multiple cross-trained engineers to support the infrastructure, etc. Even after investing all of the money necessary to attain this level of redundancy, a thief, a fire, or a terrorist could still render BASIS non-functional and non-performing with very little effort and even less imagination.



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The Solution

By moving all our business processes into the cloud (warehouses full of servers somewhere in the world), many of the requisite redundancies became automatic. Once in the cloud, we gained thousands of servers, multiple power sources, multiple Internet access points, replicated databases, automated backups to numerous data centers, e-mail and document warehousing, and ubiquitous VoIP service. Moving to the cloud eliminated the need to size the project servers because we set the systems up on micro-sized virtual machines that cost only a penny or two per hour to run.

Once the servers went live, we selected larger and larger virtual machines until the servers performed at acceptable levels. As the size of the demand grows or shrinks, we can restart the virtual machines at the new size in approximately two minutes. This ability eliminates the guesswork involved in most server purchasing discussions. There are no up front costs for any of the servers and it is pay-as-we-go that eliminates potential worry about outgrowing an expensive in-house server before achieving its five-year payback window.

The Technology

BASIS chose [Google Apps](#) as the provider of cloud-based e-mail, documents, intranets, extranets, messaging, and telephony services. As of late 2010, Google provides these services to BASIS and over 3,000,000

other businesses, which gives us a great sense of confidence and a contractually guaranteed SLA of 99.99%.

Next, we chose [Amazon Web Services](#) (AWS) as the provider of cloud-based servers. In 2010, Amazon began their fifth year offering servers to the public. This is a strong history for cloud-based computing and, because AWS has warehouses on the east coast and west coast of the United States, Asia, and Europe, they were the best fit. Furthermore, since we distribute products in countries all around the world, it was important to choose a world wide cloud provider as well.

As of the date of the writing of this article, BASIS has servers running on the east and west coasts of the US powering numerous Web servers; [www.basis.com](#), [www.poweredbybbj.com](#), [www.addonsoftware.com](#), [bugs.basis.com](#), etc. Additionally, all of the product downloads utilize Amazon's Cloud Front technology, so the Amazon data center that is the closest in proximity to the downloader/customer pushes the files. Downloads occur in such a completely automated and transparent way that end users have no idea which data center they are downloading from and yet, benefit from the fastest possible download of all BASIS products.

In addition, we moved all BASIS accounting and order fulfillment, and other business processes, to the cloud, as well as transferred the BBJ®, Barista®, and AddonSoftware® >>

product building processes out of the building. Furthermore, the cloud hosts the 32- and 64-bit servers used to test the products on Windows servers, half a dozen flavors of 32- and 64-bit Linux, and Solaris on Intel, all done automatically using the Hudson open source extensible continuous integration server software. The [Hudson software](#) detects the changes as they are checked into the [SVN source code](#) archive and automatically starts slave machines in the cloud to build, package, test, and publish the development builds without any human intervention. Most of the machines used in this process are only needed for a few hours per week so we can build and test products as quickly as possible, without upfront cost of the large hardware installations or the maintenance costs associated

with maintaining large server farms. The cloud warehouse has tens of thousands of servers always available to meet our ever changing demands.

The Products

One would expect organizations like Google and Amazon to have cloud-based product suites. It might be a little bit surprising that all current BASIS products are also cloud-enabled. With the release of the BASIS Product Suite version 10.0x, all products work in the cloud, thanks to an enhancement to the BASIS License Manager. To run Visual PRO/5[®], PRO/5[®], BBJ, Barista, AddonSoftware, AND your favorite BASIS application in the cloud, just contact BASIS Sales and let them know that you are moving your license into the cloud so they can make the necessary

changes to your serial number. Your users will thank you for the cost savings, redundancy, robustness, and simplicity of the transition from the server room in their building, to their server room in the cloud.

Summary

BASIS moved to the cloud to bolster our Business Continuation/Disaster Recovery plan. During the process, we learned what needed to be done to make our own products cloud-capable and how to reduce the total cost of ownership for ourselves and our customers as we embraced the mature and popular 21st century technology, Cloud Computing.

Is it any wonder that our salvation is in the cloud? Perhaps yours is too. ■



- To experience BASIS Products running in the cloud, go to www.poweredbybbj.com and see the following BASIS functionalities:
 - The Web page is running on a cloud server
 - BUI b-comm uses BASIS BUI technology from the cloud
 - GUI b-comm uses BASIS BBJ thin client technology from the cloud
 - The accounting application under the BUI and GUI b-comm interfaces are powered by 20-year old BBx[®] code in the cloud
 - Downloads are facilitated by Cloudfront for optimal performance
 - The <https://bugzilla.basis.com> and www.addonsoftware.com sites are on Web servers running in the cloud accessing multiple MYSQL databases running on an Amazon RDS instance in the cloud
- For up-to-date information
 - on Amazon Web Services, go to aws.amazon.com
 - on BASIS Technology go to www.basis.com
 - on Google Apps, go to www.google.com/a
 - on Hudson, go to hudson-ci.org
 - on SVN, go to subversion.apache.org

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