


GEICO MIGRATES TO JBOSS

JBOSS INNOVATION AWARD WINNER 2009: SUPERIOR ALTERNATIVES

FAST FACTS

Industry	Insurance	
Geography	US	
Business challenge	Existing proprietary middleware platform was complex to manage, not performing and scaling as expected and expensive to maintain. The architecture team decided to investigate alternatives that could be deployed that would better meet their needs.	
Migration path	Proprietary middleware platform to JBoss Enterprise Middleware	
Benefits	Reduced the total cost of ownership by more than 30%, throughput gain of 3X with utilization down to 1/3rd of the current platform, overall resource utilization went from above 50% to under 10% which allowed significant room for scalability without having to acquire additional hardware.	

COMPANY BACKGROUND

GEICO (Government Employees Insurance Company) is the third-largest private passenger auto insurer in the United States based on the latest 12 months written premium. GEICO provides auto insurance coverage for nearly 9 million policyholders and insures more than 14.4 million vehicles.

In addition to auto insurance, GEICO also offers customers insurance for their motorcycles and homes. Commercial auto insurance, boat, ATV, RV, personal umbrella protection and life insurance are also available.

GEICO is a wholly-owned subsidiary of the Berkshire Hathaway group of companies, is rated A++ for financial stability by A.M. Best Company and ranks at the top of several national customer satisfaction surveys. For more information about GEICO, go to www.geico.com.

BUSINESS AND/OR TECHNICAL CHALLENGE

In 2007, GEICO's enterprise architecture team recognized they were facing several challenges with their existing proprietary middleware platform. The platform was complex to manage, not performing and scaling as expected and expensive to maintain. The architecture team decided to investigate alternatives that could be deployed that would better meet their needs.

The GEICO IT team identified the following challenges with their existing proprietary solution:

- **Cost** - GEICO's license agreement was a "time bound licensing agreement" related to the number of proprietary application servers deployed during the time frame. Since GEICO experienced significant growth during this time frame, the cost to "true up" and pay for the additional licenses was significant.
- **Performance** - When GEICO upgraded their standard Java Development Kit (JDK) from version 1.4 to 1.5 on their existing proprietary platform, they did not see any improvements in machine (CPU/Memory) usage or application response time. After eight weeks of performance testing and tuning, they were finally able to configure the upgraded proprietary platform to match the earlier version's performance. The upgrade was not only cumbersome but was also expensive since they had to engage external consultants to accomplish the upgrade.

- **Memory leaks** - The previous proprietary deployment also experienced unexplained memory leak(s). Developer load and memory testing returned misleading results unless the developer knew how to work around the leaks and complete certain types of tests.
- **Documentation/Support** - GEICO found it challenging to identify and understand the Java API in the current proprietary environment due to lack of documentation. They also had challenges in acquiring tools to identify memory issues, debug leaks, etc. For every instance of a high severity issue such as memory leak, external consultants needed to be engaged to identify and fix the problem.
- **Staging** - Due to these challenges, some of the GEICO development teams adopted JBoss technologies for their developer workstations and began building applications using JBoss. This dual use strategy became complex and redundant for IT Operations as they needed to make configuration changes on both the proprietary and JBoss platforms.

VENDOR SELECTION PROCESS

GEICO conducted extensive research and identified Sun's GlassFish and Red Hat's JBoss Enterprise Middleware as potential solutions that were suitable for GEICO's application and infrastructure. JBoss Enterprise Middleware was selected based on its' market share and extensive support from Red Hat. GEICO conducted a proof-of-concept, installing JBoss Enterprise Application Platform in a cluster of servers (POC environment). Performance and load tests were conducted using various tools for a selected business application on both platforms.

The JBoss results from these tests were astonishing. A few highlights include:

- User page transition time decreased as much as 19 seconds using JBoss
- During the proof-of-concept 1,749 additional business processes were created on the JBoss platform
- On the same hardware and environment, JBoss required 70% less CPU resources than the current platform
- Performance tuning with JBoss was accomplished in 40 man hours versus 1440 man hours for the existing proprietary platform

GEICO also conducted multiple reference checks with organizations that were of similar size and industry. The reference checks were extremely positive about Red Hat and JBoss Enterprise Middleware.

SOLUTION

The solution consisted of subscriptions for JBoss Enterprise Application Platform (EAP) and the initial deployment environment consisted of 540 processors. An additional 350 were added at a later date. A plan was put together to aggressively migrate 2 out of 3 mission critical applications in a time span of 3 months. GEICO also utilized a JBoss Technical Account Manager (TAM) who was dedicated to supporting GEICO's specific needs during their switch to JBoss.

BENEFITS

By implementing JBoss Enterprise Application Platform, GEICO was able to reduce the total cost of ownership by more than 30%.

When compared to the previous proprietary platform, GEICO also experienced throughput gains of 3x, and a 2/3 reduction in utilization. The overall resource utilization went from above 50% to under 10% which allowed significant room for scalability without having to acquire additional hardware.



RED HAT SUPPORT, TRAINING, AND CONSULTING SERVICES LEVERAGED

One of the challenges for GEICO was the time bound migration process. GEICO's middleware team was trained on JBoss for a week. With the support of Red Hat and Amentra (a Red Hat company), they successfully migrated the initial 2 applications and were able to migrate the 3rd application as well. This was a clear demonstration of expertise in Red Hat Consulting services and the ability of GEICO's middleware team to adapt rapidly to the new JBoss environment.

ADVICE FOR OTHER COMPANIES FACING A SIMILAR BUSINESS CHALLENGE

Open-source does not translate to unsupported. Don't be afraid of change. GEICO had initial concerns about support, stability and deploying open-source software for its mission critical applications, but the market maturity and the premium level of enterprise support offered by Red Hat made it very easy to make the change to an open source environment. If your organization has been slow to consider adopting open-source solutions, they may lose a competitive advantage that can be gained based on lower cost of ownership and utilization of efficient/best of breed open source products.

RED HAT SALES AND INQUIRIES

NORTH AMERICA

1-888-REDHAT1
www.redhat.com

ASIA PACIFIC

+65 6490 4200
www.apac.redhat.com
apac@redhat.com

EUROPE, MIDDLE EAST AND AFRICA

00800 7334 2835
www.europe.redhat.com
europe@redhat.com

LATIN AMERICA

+54 11 4341 6200
www.latam.redhat.com
info-latam@redhat.com

