Collaboration in the Cloud
Cloud & DevOps Program Migrates HUIT-Wide Atlassian Development Toolset

As with many other IT organizations across higher education — and beyond — Harvard University Information Technology (HUIT) relies upon the industry-standard Atlassian toolset for coordinating software development and project management. This collection of integrated applications includes JIRA for issue and project tracking, Confluence for team collaboration, and Fisheye and Crucible for code search, visualization, and review. Until July 2015, HUIT’s instance of the Atlassian toolset made its home on-premise on three production and two development virtual machines (VMs) — an adequate solution in the near term, but less than ideal when it came to disaster recovery or future scalability as HUIT’s needs evolve. With this in mind, Atlassian became an ideal candidate for first-wave migration to the Amazon Web Services (AWS) cloud by HUIT’s Cloud & DevOps program.

The Opportunity

The Atlassian toolset had a number of characteristics that made it an excellent candidate for early migration:

• The user base is almost exclusively internal to HUIT, a constituency well aware of Harvard’s cloud migration goals
• The Cloud & DevOps program is Atlassian’s business owner, which meant discussions with the service owner were entirely internal and business decisions could be made quickly
• Subject matter experts in the Atlassian toolset were already on the Cloud & DevOps team
• As heavy Atlassian users themselves, Cloud & DevOps team members would directly feel the consequences of success — or failure

In addition, the existing on-premise solution also suffered from a number of limitations:

• Since Atlassian had only been configured in a single data center, disaster recovery options were limited
• Its underpowered MySQL server limited HUIT’s ability to scale the environment and bring on new user communities
• In the event of a VM failure, data was backed up, but the applications would need to be reinstalled to restore service

The Solution

Work began May 7, 2015 to rearchitect the environment for cloud deployment. Since this was the Cloud & DevOps team’s first production migration, a number of policy and technology questions arose in the process, and draft polices were developed for areas such as networking, logging, and monitoring. By June 22, work on the production environment had progressed to the point that it was sent out to a group of users for testing. In the early hours of Wednesday, July 1, 2015, migration to the cloud was successfully completed and the benefits of cloud-based Atlassian began to be realized.

The Result

Atlassian’s performance in the cloud has been reported by HUIT testers as at least as good as, if not better than, on-premise. In addition, the program has saved costs after slating five virtual machines for decommissioning. The virtual hardware used is optimally sized for current use, and can easily be scaled to bring on new groups of users — for which the first project has already begun. Regarding disaster recovery, in the event of a major issue at AWS, the instance can be relatively easily rebuilt in another part of the AWS infrastructure; runbooks, snapshots, and backups have been generated that allow for recovery in a matter of minutes rather than hours or days. Even better, all of this has been achieved without significant interruption to the user community — and with an estimated annual savings to Harvard of more than $15,000.

Find other case studies and learn more about the program at cloud.huit.harvard.edu

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