



CASE STUDY

BWI COMPANIES SWITCHES FROM IN-HOUSE CHANGE MANAGEMENT TO AUTOMATED GIT & JIRA ON IBM i



The team embraces change and uses the modern RDi IDE for development alongside, a Web development team who develops front-end applications in PHP on the Windows platform, using Git with BitBucket as source code repository. ♦



The Customer

From its early beginnings in 1958 as a retail seed store, BWI Companies has expanded to become one of the leading US wholesale distributors of garden products, with over 18 locations and 600 employees across the mid-South and Southeastern United States.

BWI has a field sales staff over 125 strong and makes timely deliveries with its company-owned fleet. ♦



Challenges

The IBM i team at BWI was nearing retirement age, and it became increasingly urgent to upgrade and modernize IBM i development and source control techniques in order to attract and onboard new developers. Much of the application source code was not documented and developers relied on long-established knowledge and comments to guide their changes.

The existing process was mostly manual with very few controls in place. Without any formal authorization checking, the in-house checkout/checkin scripts left no traceability of changes, making it difficult to know which change was made why and by whom. Programs were promoted without thorough testing just to keep up with business demands. Due to the lack of staging environments, urgent application updates were made directly in the production LPAR, sometimes causing corruption of production data. Application build was manual and time-consuming. Valuable development time was being lost in fire-fighting incidents in production and on occasions the team needed to work nights to fix critical errors and keep the applications available.

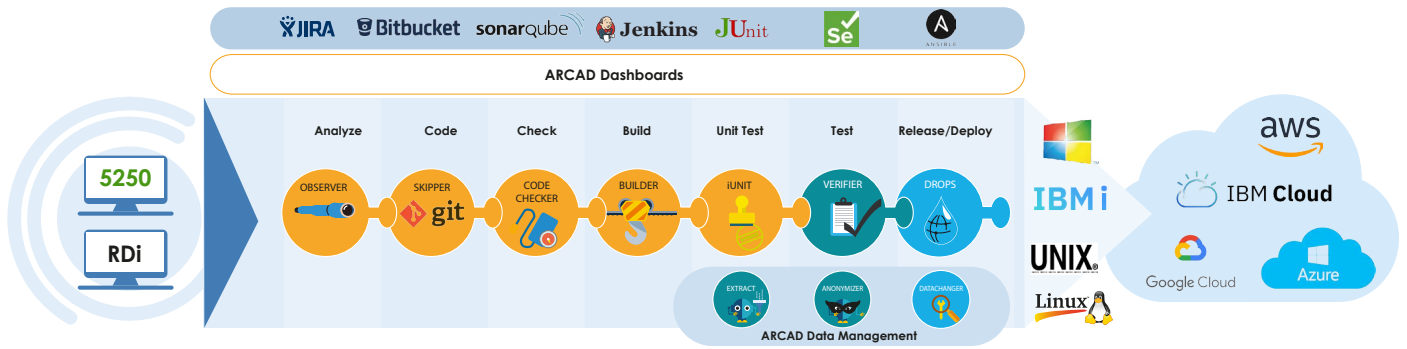
Further, as newer SQL and ILE techniques were put in place, existing development tools were unable to support them. The third-party impact analysis



Background

The core business application at BWI was developed in-house on IBM i (aka iSeries AS400), leveraging the company's strong RPG development skills and the renowned reliability and security of the platform. The original application had been enhanced over many years by the same core team, taking advantage of newer language variants such as ILE and SQL.





tool failed to detect the impacts of SQL changes in related stored procedures and functions, allowing defects to pass through and generating costly rework for the team.

As the company grew, to be able to maintain BWI's exacting standards in customer service it became clear that existing tools and the in-house built process for change management had to be replaced. ♦

ARCAD is the only integrated all-in-one DevOps solution for IBM i with the deep Git and Jira integration that was so strategic for us. We needed to standardize our processes across our IBM i and Web teams and keep them in sync. Only ARCAD was able to cover a complete end-to-end standardized DevOps process on IBM i". ♦



Solutions

In a drive to prepare for the future onboarding of new developers, Simone Culp, Sr. Software Engineer and Data Analyst at BWI Companies was charged to:

- select a more sophisticated and modernized toolset for managing and tracking changes
- prepare the transition of BWI's experienced IBM i team to a DevOps approach based on Git

During the course of 2020, the BWI team defined their requirements for new DevOps tooling for IBM i:

- advanced integration with Git/BitBucket
- bidirectional integration with Jira for issue tracking
- authorization/approval control for transfers to production
- support for code branching, concurrent development
- automation of application build and deploy
- impact analysis with full support for SQL/ILE

At the end of 2020, after evaluating several different solutions, the BWI team selected ARCAD for DevOps. Simone Culp gave the reasons for her choice:



MANAGING THE TRANSITION

When asked to give advice to other IBM i shops looking to adopt Git on IBM i, Simone Culp highlighted some organizational aspects that were important during the DevOps transition:

- Nominate a champion for the DevOps for IBM i migration
- Cultivate simultaneous IBM i and non-i experience
- Engage management support and buy-in for the project
- Involve the Web development leaders in the project





IMPLEMENTATION

At the outset, the IBM i development team had no knowledge of Git or distributed version control.

BWI prepared well and the IBM i developers attended two or three online sessions to familiarize themselves with the new terminology. They quickly found the analogy between work libraries and branching/merging on Git. Simone Culp also involved the Web development team who gave Git demos to the IBM i team which helped bring the two cultures together.

ARCAD for DevOps was implemented during Q1 2021 with the help of ARCAD consultants working hands-on remotely.

BWI decided on a 'one-shot' migration to the new tools. The team moved from manual methods to ARCAD for DevOps and from OneDesk to Jira all at the same time. To make the transition easier, they decided to keep the Git workflow as simple as possible to start with, focusing on checkout/check in/merge branches for now. The team plans to move to more complex feature branches later.

Over a 1-month period our IBM i team completely changed their way of working. Our processes are now far more automated with Git. We create a branch from the backlog, and all tasks are traced back to Git branches and Jira tickets. Communication is far easier between our IBM i and Web teams, now everyone is speaking the same language", explained Simone Culp.

ARCAD automates the documentation of code and the tracing of code changes back to issues and tickets in the helpdesk. All is integrated, project management and software management together. We also have a secure rollback process to be able to restore a previous system state if we need it".

Training was delivered by the ARCAD team, working remotely. Simone Culp commented

ARCAD support has been fantastic. ARCAD helped implement the new tools and methods and guided us on the whole process to get our team rapidly up to speed".



Simone Culp, Snr. Software Engineer and Data Analyst at BWI Companies

Next step

To achieve a fully continuous cycle on IBM i, BWI are now looking to automate the entire CI/CD pipeline using ARCAD's plug-ins for Jenkins. Test automation is next on the priority list, using DevSecOps tools from ARCAD Software such as ARCAD iUnit for unit testing and ARCAD Verifier for regression testing.

Watch the Webinar

BWI Success Story: moving to Git source control on IBM i



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