Bill & Aimee’s
Excellent DevOps Journey

From Roadmap to Rubber on the Road

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What is MITRE?

MITRE is a not-for-profit organization that operates Federally Funded Research and Development Centers.
Who Are We?

I’m Bill

I’m Aimee

Dev

Ops

Road Trip!
The Starting Line

- JAVA, .Net
- ANT, Maven
- Subversion (SVN)
- Oracle, SqlServer, MySQL
- RHEL, Windows 2008
- Avg Cycle Time = 15 days (30 mins – 486 days)
- # Deploys/yr = 2579
They are slowing me down!

The service we provide is great!
24 hour SLA is 23.5 hours too long!

Huh?
Let me show you how this could work.

OK!
Let’s define Acceptance Criteria!
Acceptance Criteria

✓ Single command to build app given an SVN revision #
✓ Single command to deploy to environment given an SVN revision #
✓ Build once. No development tools utilized on target environment.
✓ Deploy to test environment is self-service and can be done by any user without handoffs (no SA, DBA) or additional passwords
✓ Deploy to PROD is done by release team without handoffs (no SA, DBA)
✓ Prior to deploying validates compliance with SONAR quality reports and code coverage
✓ Can determine what SVN revision is deployed in each environment, by who and when
✓ In PROD, on error or abort application is restored to prior state
✓ No additional instruction documentation is needed.
✓ In phase 1, utilize existing request system for approvals
✓ System validation is manual and outside of scope
The Launch – May 2011

Everyone on Board!

Build and Release Engineer
Sys Admin
Java, .NET Developers
DBA
Implementation – (5/11 to 6/12)

Are we there yet? Are we there yet?
Course Correction – April 2012

- Got Training
- Brought in Expertise
- Freed Up Resources
- A New Plan!
1. Developer develops commits code to repository

2. Commits automatically trigger builds

3. Depending on environment developer or Release Engineer deploys build
Scaling Up – June 2012

Its working Woo Hoooo!
Visible Tracking

IN PROGRESS

ABD Enabled

.NET
Community Start Membership Application
ConShare Web Service
ConShare Custom Web Parts
ConShare Portal WSS user Sites
ConShare Site Dir Sites
ConShare Web Services including My Communities
MyCommunities Web Service

Availability Web Service (NIS-Phonebook)
MyNII Gadget

IN PROGRESS

OpenTo Connect For NPA
RMS
MA Suite Svc
NII Aggregation Service (formal)

ABD Enabled

NII Lite
Membership Action
NII v.2
MyNII

ABD Enabled

PRIME
Phonebook Mobile
NII Phonebook
Site Tracking and Retirement

AEB, AEM, AEM Server
MyNII
MyNII Explorer
NII Mobile

ABD Enabled

Endorse
Discover Web App
Tags
MyWeather

ABD Enabled

Travel Service (MITRE App)
MyTravel
NII Content Banner

ABD Enabled

Room Reservation System
Technical Exchange Plan
OnCall Application
Recipe For Onboarding

SPRINT X

1-3* Days

A. Initiation

Open LMC Ticket

Build Type

No Build

SPRINT Y

TBD

B1. Construct JAVA/ANT Build

B2. Construct JAVA/Maven Build

B3. Construct .NET Build

2-4 Days

D. Test & Verify (CI/Deploy to DEV)

Deploy to INT

Deploy to PROD

2-5** Days

C. Configure AHP & Environments

Deploy to INT

Close LMC Ticket

SPRINT Y or Z
References

- AHP Project Onboarding Process
- JAVA Build Construction Guide
- .NET Build Construction Guide
- Boiler Plate ANT Build Script
- Sample Build Script
- Detailed AB&D Release Workflow
- Developer's Guide for setting up Database Projects
Marketing

Visible Metrics

Water cooler Talk

Formal briefings to CIO and Senior Mgt

Snackfest
The Results

- 68 applications in system

- Multiple Platforms
  - ANT, Maven, Gradle
  - SVN, GIT
  - JAVA, .Net, NodeJS
  - Oracle, MySQL, SQL Server, MongoDB

- Avg Cycle Time = 9 days (-40\%)
  (range 2 mins – 483 days)

- ~75\% of deploys are automated
  - # Deploys/year = 3555
    - Auto = 2665
    - Manual = 890 (-65\%)
  - 38\% Throughput Increase

- Freed up 2.5 deployment staff
The Future: Continuous Delivery

Let’s do it again Pleeease!

Build & Release Engineer

DevOps

Ops Automation Engineer

Java, .NET Developers

Test Automation Engineer

DevOps

DevOps
Bill & Aimee’s Excellent DevOps Journey

- Anyone can do it
- Know where you want to go and why
- Patience - it takes time for change
- Education, education, education
- Use Agile (minimal product, iterations, product demonstrations)
Thanks!

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