Operational Agility: Accelerating DevOps Adoption at FBI with Accenture Federal

Presented by FBI HRB

Agenda

- ➤ **Mission Statement**
- ➤ **DevOps Overview**
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  - o DevOps Goals
- ➤ **Our Adoption of DevOps**
  - o AFS Pega DevOps Toolkit
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  - o Continuous Integration and Delivery
  - o Containerization and Externalization
- ➤ **What's Next?**
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Mission Statement

Help HRB managers review their processes and **re-engineer** them to be more **data-driven** and **efficient**. The section focuses on **leveraging modern technology**, **centralizing important HRB data** and providing **high-end analysis and consultation** to FBI leaders who are making strategic decisions.
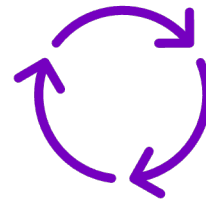
What is DevOps?

DevOps is the union of **People**, **Process**, and **Technology** to enable continuous delivery of **value** to our customers. Agile Builds the Right Thing, DevOps Builds the Thing Right.
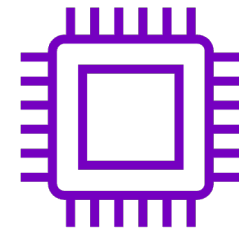
People

People within the Organization must be aligned on their Definition of Value, and we must work to create a Generative Culture

Process

Continuous Integration and Delivery Techniques allow for Frequent Changes, Steady Flow, and Continuous Learning to occur within the Value Stream

Technology

Products and Technology are Integrated into a Delivery Pipeline capable of Supporting the Continuous Value being Delivered

DevOps Goals

MOVING AWAY FROM TODAY...		MOVING TOWARDS TOMORROW...
• Fixed mindset • Risk aversion • Product centricity (Dev Thinking)	**CULTURE**	• Growth mindset • Risk tolerance (Strategic Experimentation to Fail Fast) • Customer centricity (Design Thinking)
• Siloed decision-making & lack of individual responsibility • No common practices across teams • Focus on predictability, budget, & efficiency	**LEADERSHIP**	• Shared responsibility & decision making • Community of practice (Center of Excellence) • Focus on enabling speed-to-value & innovation
• Extensive org structure with coordinated handoffs • Depth of experience ("I-shaped") • Larger delivery teams working on multiple products	**TALENT & ORG**	• Break down barriers & build cross-functional teams • Depth & breadth of experience ("T-Shaped") • Targeted, highly focused agile teams ("2 Pizza")
• Phase-gate dev & waterfall deployment processes • Large batch, periodic improvements & add features • Manual, redundant process with long lead times	**PROCESS**	• Optimize with VSM & Continuous Integration/Delivery • Continuous improvement (lean, post-mortems & feedback) • Automated, consolidated process with short lead times

A cohesive, strong technology platform is the foundation of a successful DevOps shift.

AFS Pega DevOps Toolkit

Automation

Achieve CI/CD by seamlessly integrating Automated Testing, Change Management, Deployments, and Releases

Traceability

Standardize and Track Development, Testing, and Deployment Activities Across All Environments
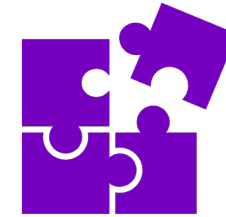
Customization

Built for Extensibility. Integrate the Framework with your Enterprise's Preferred Tools

Orchestration

Skillset Present Within Program Teams Already

Platform Already In Use Within the Organization

Out of the Box Integrations Supported
via prpcServiceUtils and Pega REST API

Common Tasks and Integrations Provided by AFS Pega DevOps Toolkit

Expectation of Added Complexity Within the Future

Release Management

Challenges

- Cumbersome, Manual Processes for Creating New Release Baselines

- Inconsistent Processes and Practices

- Insufficient Process Transparency and Traceability

Solutions

- Expose Lock and Roll as Web Service and Automate Iteration Kickoff Tasks

- Introduce Standardization and Documentation Through Source Controlled Jenkins Files

- Maintain Audit History of Jenkins Job Executions and Updates

Benefits

- Automation of Release Management Tasks Eliminates Bottlenecks in Hotfix and Enhancements Delivery

- Risk with Release Management Tasks Greatly Reduced

Continuous Integration and Delivery

Challenges

- Bottlenecks Encountered Due to Limited Number of Privileged Users Able to Deploy from Development to Test

- Increased Testing Complexity due to Large Batch Sizes

- Manual Release/Rollback Procedures Present Risk of Human Error and Inefficient Processing

Solutions

- Customized Branch Merge Experience Introduced with Ability to Automatically Deploy Changes

- Source Control of Pega Products Integrated into CI/CD Pipeline

- Leverage prpcServiceUtils to Automate Rollback and Release Procedures

Benefits

- Development Teams Empowered with Self-Service Development-to-Test Deployments

- Increased Quality Through Small Batch Delivery

- Decreased Release Complexity and Mean Time to Recovery (MTTR)

Containerization and Externalization

Challenges

- Monolithic Architecture causing challenges with regards to Architectural Flexibility, Scalability, and Security

- Environmental Variations due to Complicated and Manual Nature of Creation and Maintenance Activities

Solutions

- Implement DevOps Infrastructure as Code Best Practices via Cloud Templates and Helm Chart Deployments

- Implement Pega Recommendations and Best Practices around Containerization and Externalization of the Platform and Services

Benefits

- Increased Architecture Scalability, Flexibility, and Security with Ability to Scale and Patch Components Individually Based on Stakeholder Needs

- Risk Reduction Through Environment Consistency Obtained via Implementation of Infrastructure as Code

What's Next?

Integration of Pega Unit Tests into CI/CD Pipeline

Integration of Jira + Pega to Support Automated Ticket Updates and Rule Change Tracking in Single Tool

Automated Static Assembly

1

2

3

4

5

Integration of UI Testing Tools into CI/CD Pipeline (UI Path, Pega Scenario)

Integration of Confluence + Pega to Support Automated Release Documentation

Impact

- ✓ Increased number of deployments to Production
- ✓ Reduced time from Development to Production
- ✓ Morale Improvement through Developer Empowerment
- ✓ Reduction of bottlenecks
- ✓ Achieve "Shift to the Left" Mission Goals

Questions?