



MANAGEMENT

STRATEGY

SOLUTIONS

Linking Continuous Integration with Risk Management Framework through Controlled Infrastructure

Bryan A. Payton

Agenda

- DevOps and RMF Intro
- Current Process Landscape
- CI/CD Use Cases
- Controlled Infrastructure
- DevOps + RMF Improvements

DevOps: Set of practices that automates the processes between software development and IT teams, in order that they can build, test, and release software faster and more reliably.

CI/CD: Automatic and trusted process for integrating developer's work into single code entity that is delivered and deployed seamlessly and reliably.

RMF: Provides a disciplined and structured process that integrates information security and risk management activities into the systems development life cycle; Steps = Categorize, Select, Implement, Assess, Authorize and Monitor.

Data Centric Overview

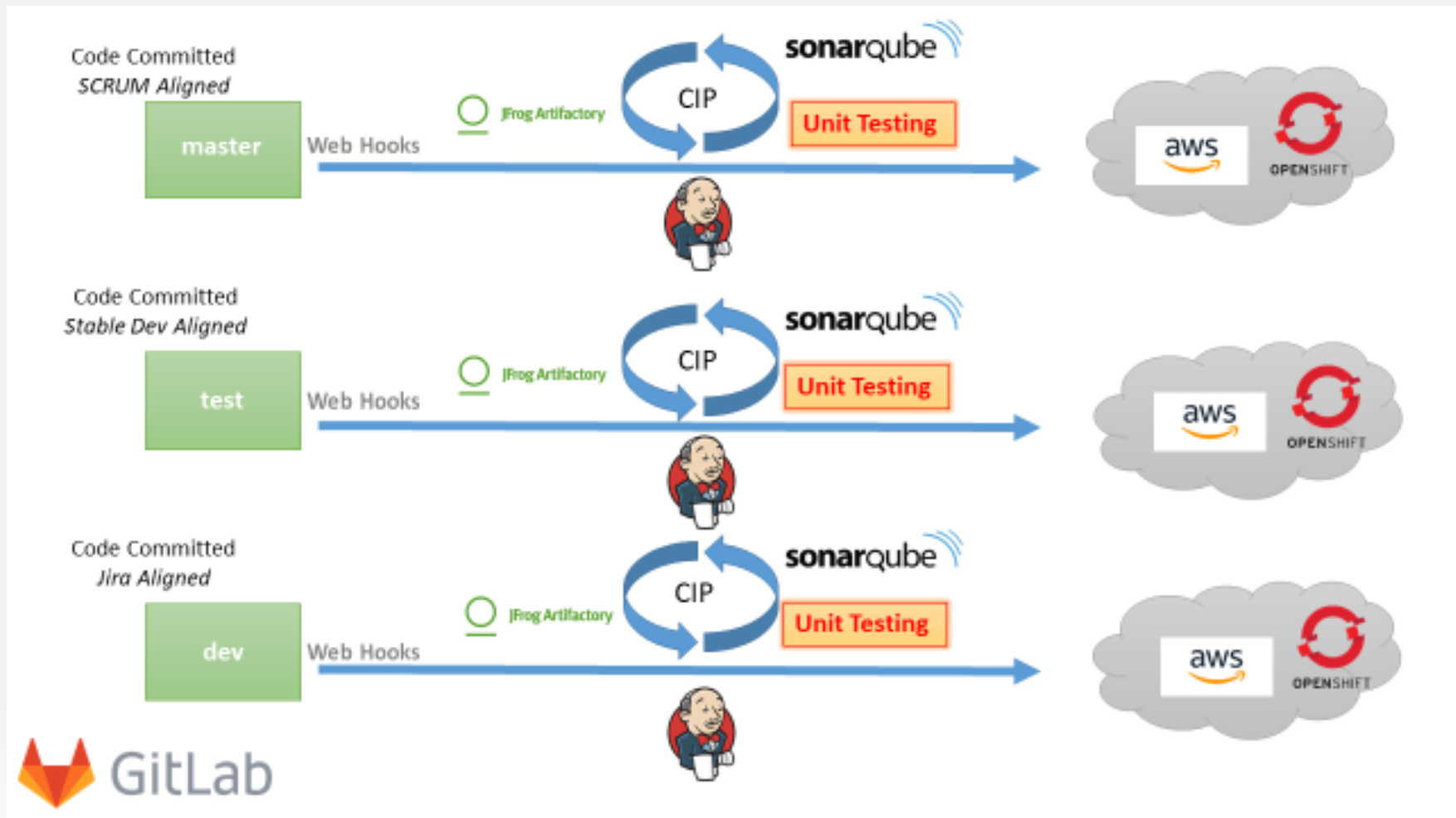


**WHAT'S
THE
POINT**

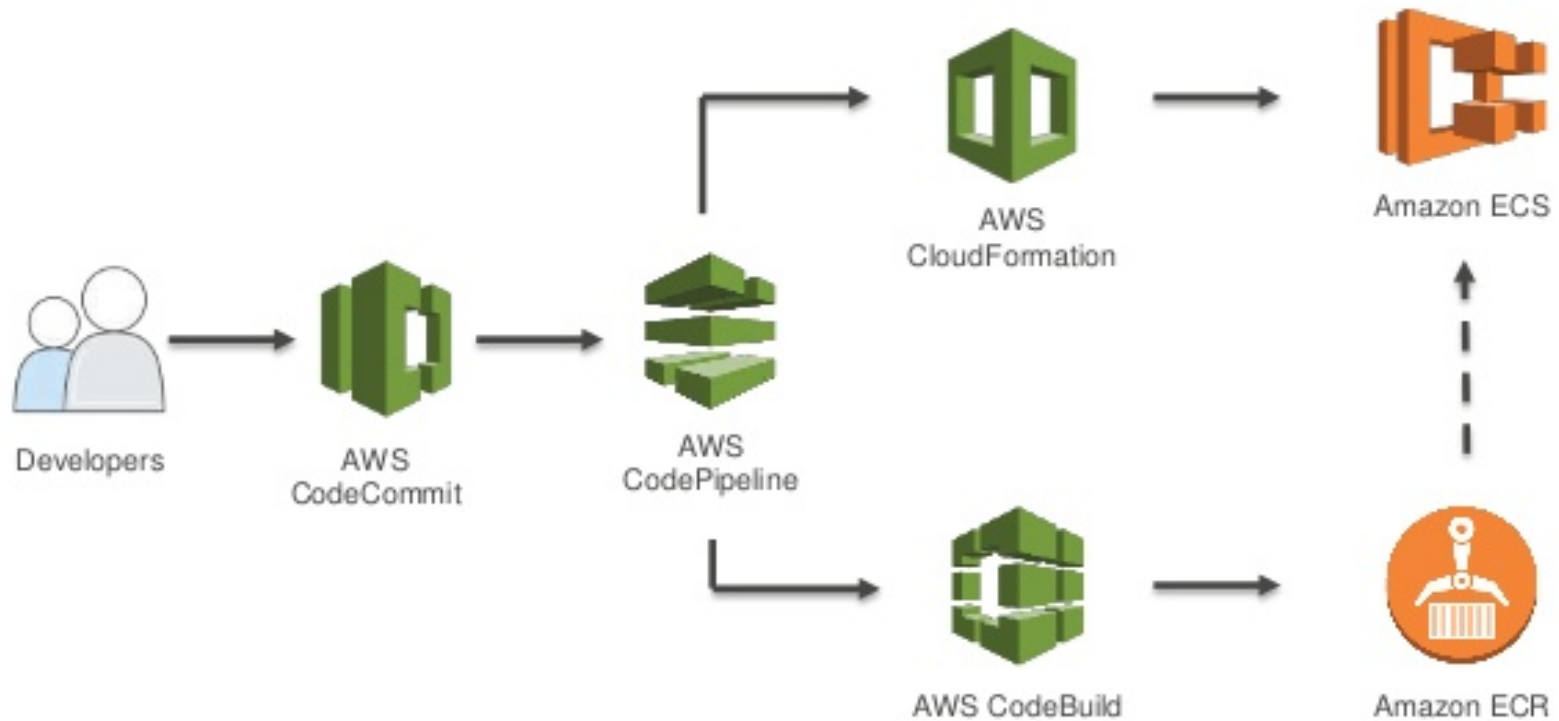
Current Process Landscape

- Developers code modifications through **Agile Methodologies**.
- **Code Collaboration** is often performed through peer review or rebasing.
- Updated code is deployed during **Maintenance Windows**; scheduled timeframe
- Software or toolkit modifications are not reported until deployment ready, **Delayed Change Management** .
- Development is performed on independent and personal systems; **Non Standardized Baseline**
- Centralized **Software Repositories** are not created or controlled for developer use

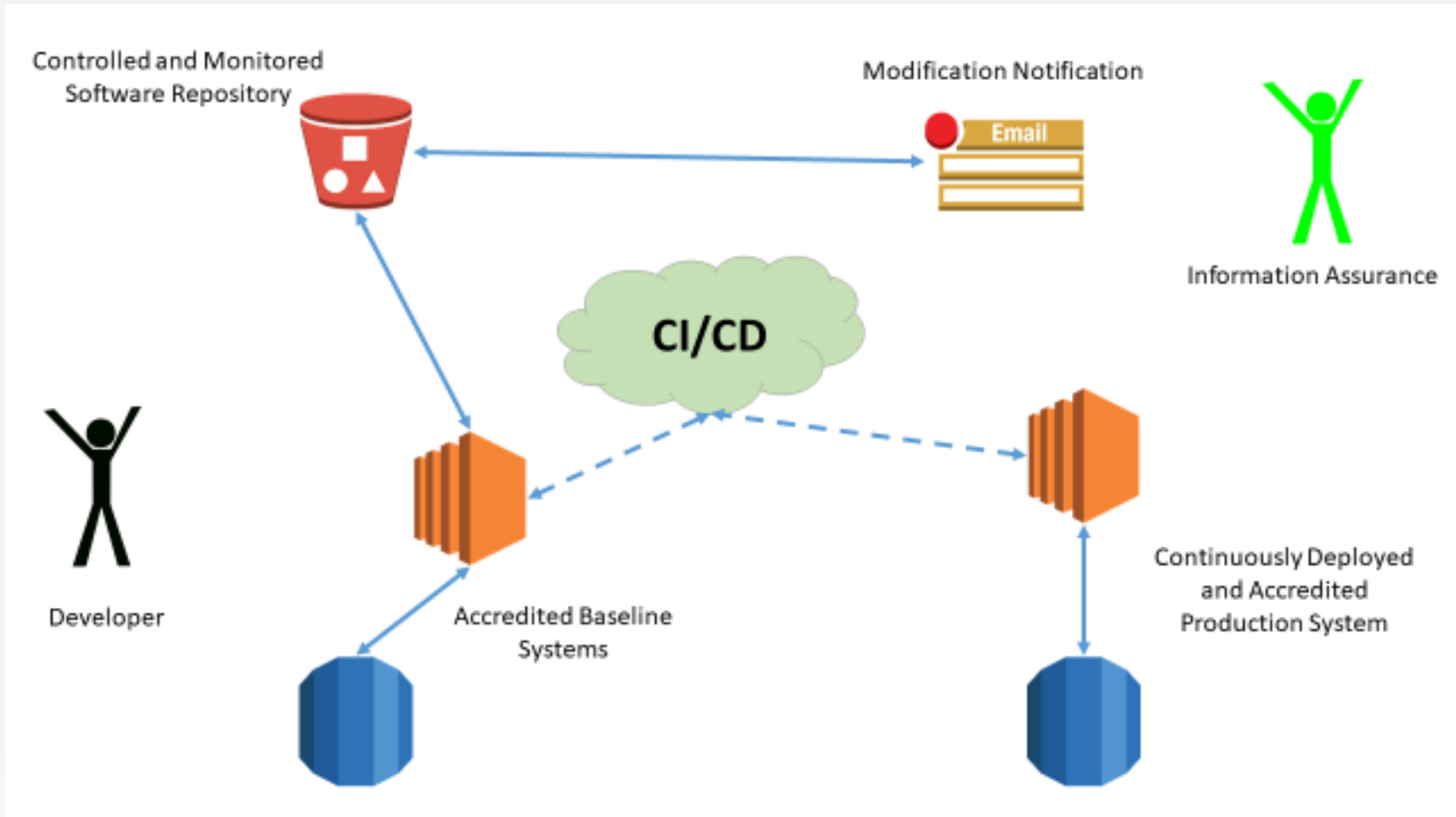
CI/CD Pipeline Use Case 1



CI/CD Pipeline Use Case 2



Controlled Infrastructure



DevOps + RMF Improvements

- **Controlled Baseline** – Development and deployment are accomplished on prior accredited baselines, inheriting security controls.
- **Accredited Software Repository**– Centralized repository used to enable importing of previously accredited software. Additions to the repository are sent to IA for change processing.
- **Expedited Change Management** – Through agile methodology, controlled infrastructure and CI/CD pipelines, members stay informed and applications can be deployed seamlessly anytime and anywhere.



MANAGEMENT

STRATEGY

SOLUTIONS

QUESTIONS?