

EVOLVEN

DEVOPS CI/CD RISK GATEWAY

Visibility and Risk Control Across End-to-End Enterprise Pipeline

Agility Changes Everything

The transition to agile development and automated integration and delivery processes reduces the applicability of traditional ITIL-based manual change and configuration management. At the same time, Continuous Integration and Continuous Delivery (CI/CD) Pipelines which are a common backbone of the agile processes lack complete visibility into risks of the configurations and changes propelled through them, even while implementing individual risk reduction steps such as vulnerability scanning, discrete compliance checks, and automated tests.

A further compounding issue is that siloes still exist between different functional teams like security managing configuration of user access, development creating new functions and features, and operations keeping everything running. And these teams are looking at their piece of the process and environment through different tools with different priorities and responsibilities sometimes at odds with other functions and oftentimes oblivious of the shared risks.

These different team perspectives and their different tools lead to decentralized risk management in the CI/CD pipeline. Where deployment used to be based on a Change Advisory Board (CAB) decision, now a new microservice could be changed and deployed by one developer at midnight on a Friday. It's like we have F1 race cars being driven by experts, but the cars are stripped of safety features that protect the cars, drivers, race course, and spectators.

There is a need for the new automated risk control that will facilitate rather than prohibit the speed of the delivery while identifying and mitigating stability, compliance and security risks triggered by misconfigurations and changes delivered through the CI/CD pipelines and outside of them.

More Agile Risk Management

The ideal solution would be a CI/CD Risk Gateway serving as an "automatic CAB" that looks at every configuration, code or data change that goes through the pipeline and assesses its potential risks

- **Tracks changes** from a version control repository to actual pre-production and production deployments, both executed through CI/CD pipelines and outside of them.
- **Estimates risks** of configuration and code changes going through the pipelines using AI-based Analytics and alerts on the detected risks.
- **Correlates** issues and failures with changes along with pipeline metadata from each step to contextualize them.
- **Verifies** configurations and code changes against compliance frameworks and user-defined policies.
- **Provides a single pane of glass** into the status and progress of changes and underlying configurations across all the pipelines.

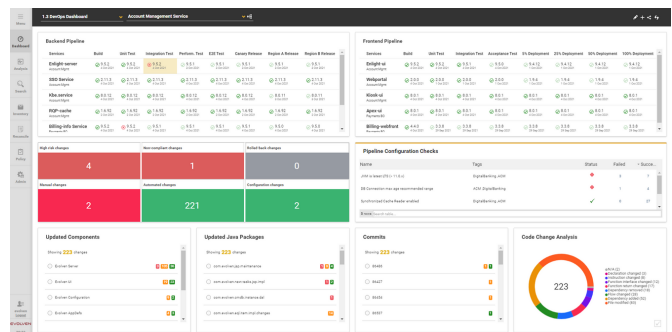
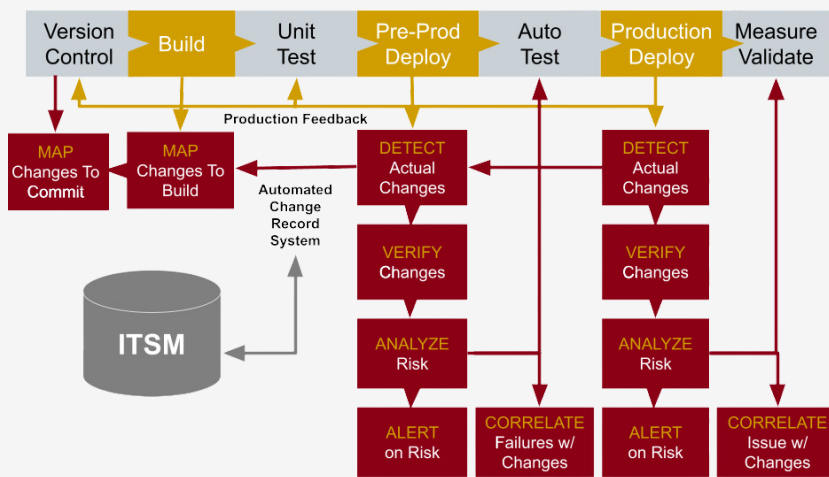


Figure 1: Evolven's CI/CD Pipeline Analysis estimates risk of changes at each step

Evolgen Integration with CI/CD Pipeline



Risk Visibility Everywhere

Evolgen's Configuration Risk Intelligence platform provides visibility into all the changes going through the CI/CD Pipeline to provide a risk score at every step. Whether changes are in application code, configuration settings, databases, containerized platform, infrastructure, cloud, or any other relevant technology component Evolgen automatically detects and analyzes them in near real-time.

Evolgen's AUTOMATIC risk assessment is done by a patented change-centric AI that looks at who made the changes, what was changed, how the change was made, and how extensive the change was in addition to many other risk factors.

Automate CI/CD Risk Measurement

Evolgen features a mix of methods for evaluating the risk factors of changes and configurations going through CI/CD pipelines including:

- Contextualized analysis of changes and configurations correlated with their metadata available in the CI/CD pipelines
- A combination of ML-based statistics and heuristic algorithms (6 patents)
- Analysis of both committed and actual changes and configurations
- Knowledge base with tunable content that enhances algorithm output

Evolgen's single view of configurations and changes for applications and infrastructure, across different technologies, across multiple pipelines, in hybrid multi-cloud, or in legacy systems provides shared risk-based visibility throughout the CI/CD pipeline for developers, operations, and security teams.

Evolgen uses artificial intelligence machine learning (AI ML) analytics to determine if changes are the actual underlying cause of a problem and the degree of risk incurred by the change.

Greater Stability, Faster MTTR, Lower Risk

- 35% or greater reduction in the stability issues by increasing visibility and early risk detection throughout the CI/CD Pipeline
- 50% or greater reduction in Mean Time To Resolution (MTTR) by capturing all changes and configurations and presenting developers, operations, and security with a single pane of glass for root cause analysis that can be done in minutes instead of hours or days
- 25% or faster Release-Time-To-Market by reducing the drag on staff assessing risk in the DevSecOps pipeline and providing all teams actionable risk metrics
- 45% Increase in DevSecOps Productivity by eliminating silos of information and facilitating communications of shared risk
- Increase in Compliance by analyzing risk and providing change audit via automated functions not manual efforts

To find out more visit www.evolgen.com and follow updates on [LinkedIn](#) and [Twitter](#).