

Lack of Visibility and Control in Continuous Integration/Continuous Deployment Pipelines

Issue

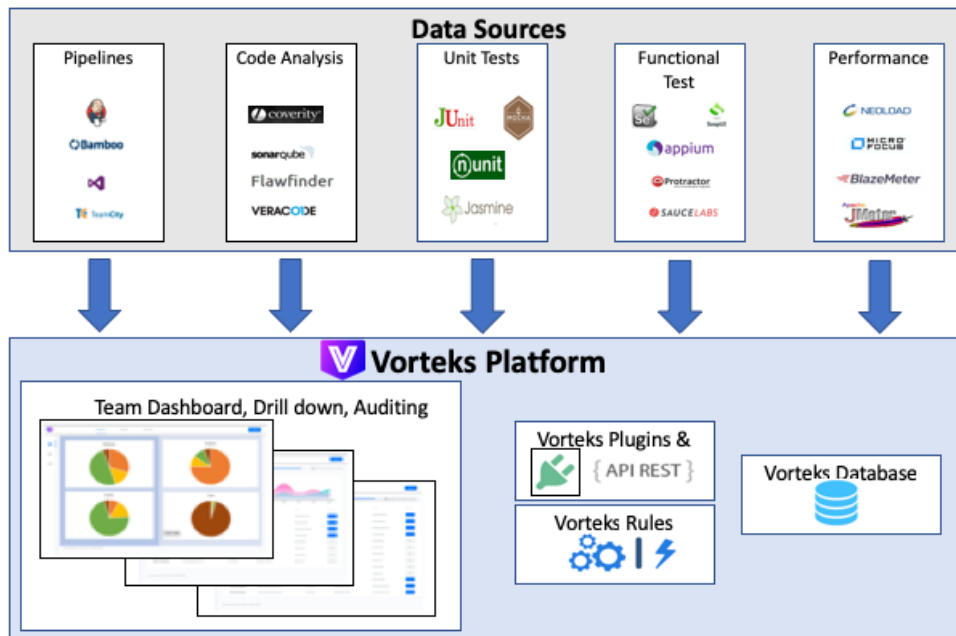
As organizations advance in their DevOps programs to migrate towards full continuous integration/continuous deployment/continuous test (CI/CD/CT), it is not uncommon to have variety of tools and processes that impede managements visibility and control for the build-test-deployment process due to these underlying issues;

- No central view to build pipelines when various tooling is used across teams.
- Collecting metrics from various pipelines, static code analysis, testing, and deployment sources without establishing a new project.
- No central audit trail for build and deployments pipelines.
- Rigid processing rules between pipeline steps that require manual intervention to override the “all pass” criteria.
- No central control for ensuring quality policies for quality.

Elyxor Solution

Elyxor Vorteks platform provides a central portal and data store for all pipeline metrics used as the information source to visualize the quality, velocity and status of code delivery; audit activity, and evaluate business rules for pipeline quality gates.

Figure 1: Elyxor Vortex platform components

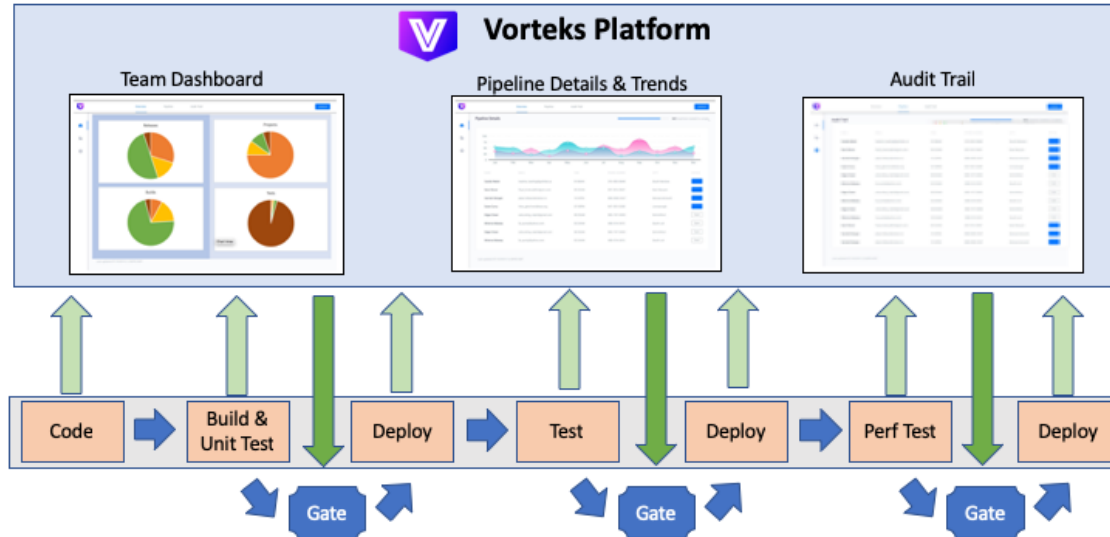


Depicted in figure 1, the Vorteks platform is comprised of the following components;

- **Adaptors** – Plug and play integration points for various data sources (Static code analysis, testing, deploy). A framework for developing custom adapters as required if one does not already exist.
- **Dashboard** – A single view for the project team, management, and auditors into historical pipeline results and trends.
- **Centralized Database** – Single point of a truth, gathering results from multiple sources, that can be used for additional custom reporting.
- **Rules engine** – Evaluates configurable quality gates within pipelines to govern the promotion and deployment of builds within your CI/CD.
- **REST API and plugins** – these allow for querying into the database to obtain metrics and rules engine output
- **Notifications** - broadcaster and reporting for failures within the CI/CD pipelines and test automation.
- **Role based security controls** – manage configuration and data access.

As depicted in figure 2, the Vorteks platform collects the results of static code analysis, unit tests, functional tests, deployments as well as performance tests and rules using this data can be accessed real-time between pipeline stages, thus serving as a quality gate to code delivery. Thresholds can be set in Vorteks to determine if a build has passed a threshold for deployment, and then automatically deploy the build to the environment if passed. Vorteks will also offer dashboards and reporting across all the tools used with SDLC to centralize control and monitoring.

Figure 2 Elyxor Vortex within the pipeline



Results

Elyxor Vorteks in combination, with the Elyxor Test Automation Framework, will provide the visibility and controls that will reduce the risk and improve the performance of any CI/CD implementation. With Vorteks, you will realize the following benefits;

- Full Pipeline Visibility
- Code and Deployment Auditing
- Enforce quality policies
- Flexibility to support differing quality requirements
- Supports various technical implementations and data sources
- Scale from Single project to full organization