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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 over-ride 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.

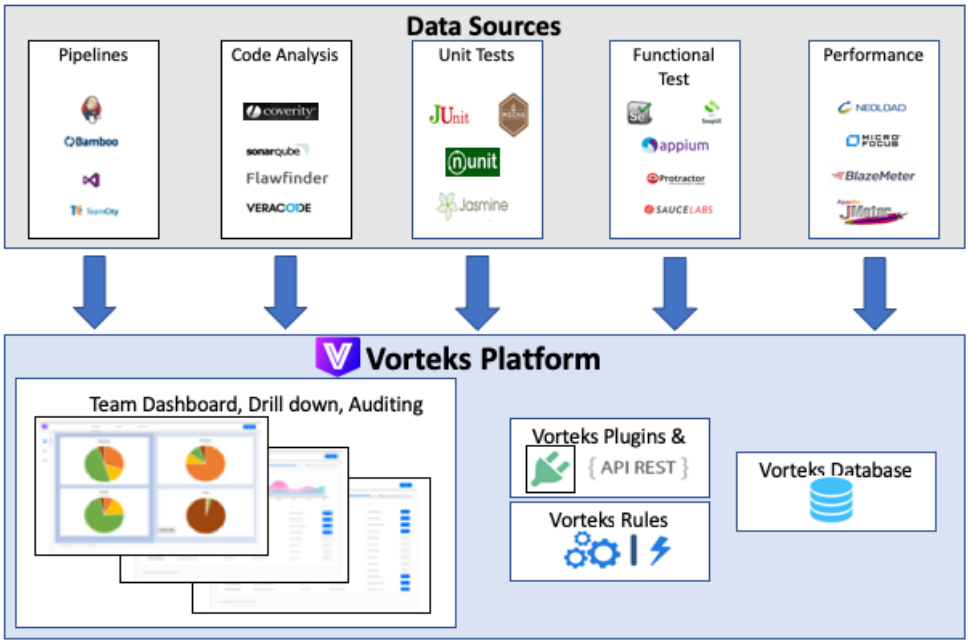

Figure 1: Elyxor Vorteks platform components

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

- **Adapters** – 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 no 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 with in the **CI/CD** pipelines and test automation.
- **Role-based security controls** – manage configuration and data access.

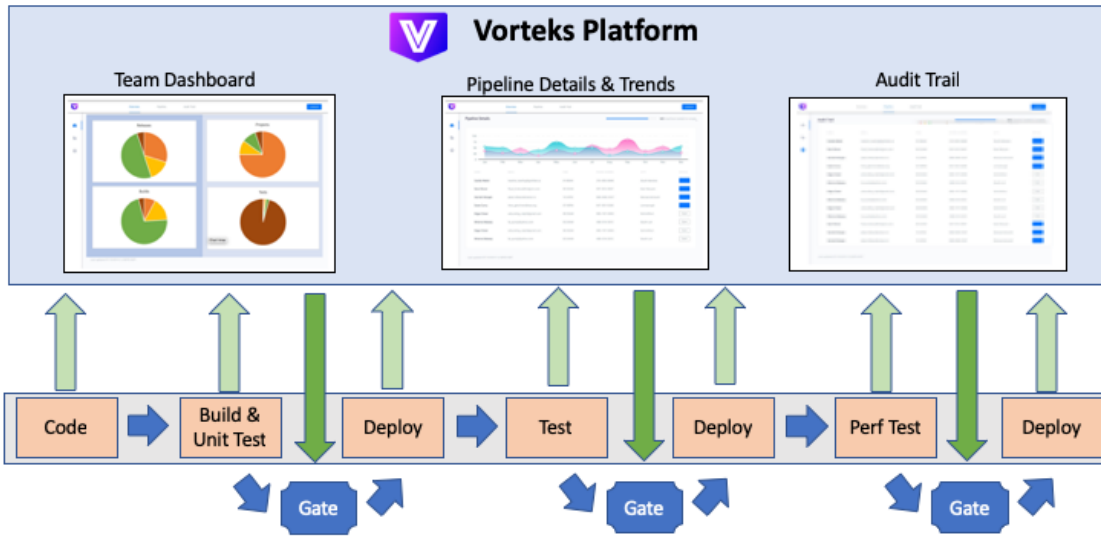

Figure 2. Elyxor Vortex within the pipeline

Figure 2 illustrates Vorteks in the context of a build pipeline. It collects the results of static code analysis, unit tests, functional tests, deployments information, performance and test metrics. Rules using this data is accessed in real-time between pipeline stages, providing quality gates to code promotion through environments. Thresholds configured in Vorteks determine whether a build has passed a gate for deployment. Vorteks includes dashboards and reporting across all the tools used with SDLC to centralize control and monitoring.

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Results

Elyxor Vorteks, in combination with the Elyxor Test Automation Platform, provides the visibility and controls that reduce the risk and improve 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