



Eficode ROOT DevOps Platform **Service description**

v.1.12

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1 About Eficode ROOT DevOps Platform

This document describes the Eficode ROOT DevOps Platform and its related setup, support, maintenance, and consultation services.

Eficode ROOT is a complete software assembly line, provided as a managed service. The platform scope covers all tooling required by software development and operation functions, from project management systems to automated deployments and environment monitoring (see figure 1).

The platform can be implemented as a complete toolchain right from the very beginning, or in phases, by starting with a subset of the platform architecture. This can be later expanded to a more complete integrated assembly line. The setup is highly flexible and can adapt to organizational needs.

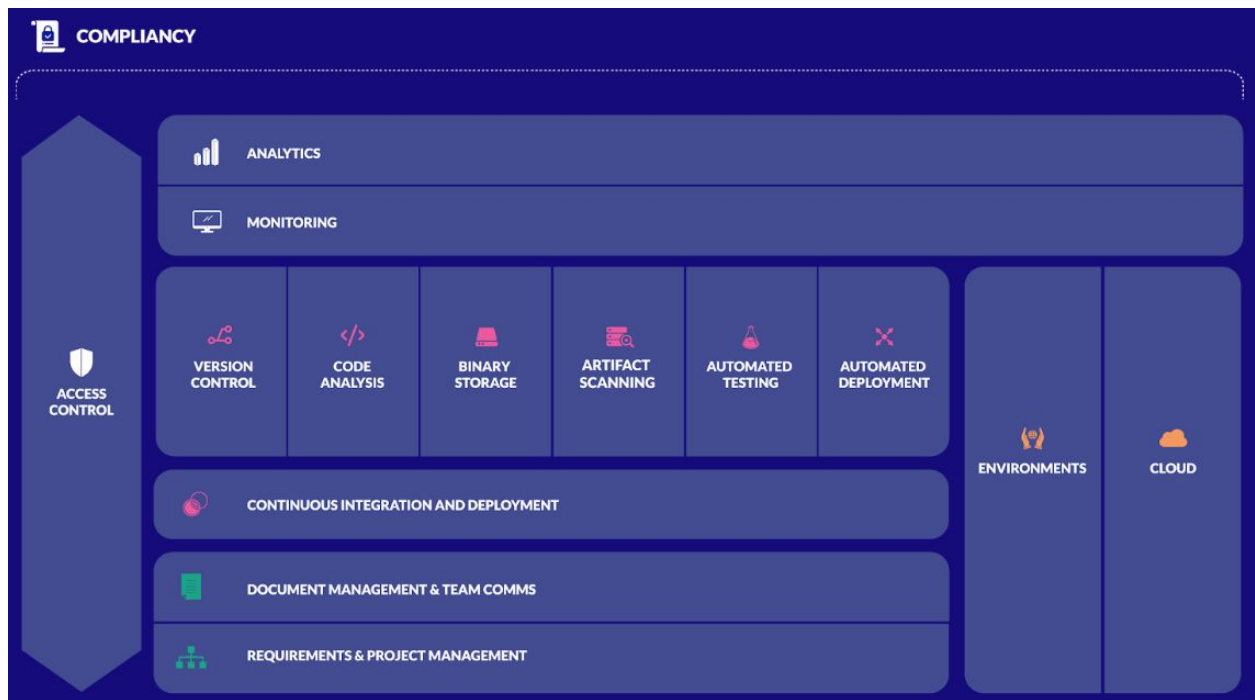


Figure 1. Functional scope

Eficode ROOT platform services relieve customer product development and development support teams from time-consuming toolchain administration and maintenance tasks. The teams are able to shift their focus entirely to more value-adding project work.

Alongside ensuring smooth day-to-day tool operation, the Eficode ROOT service team takes responsibility for continuous platform development. Eficode's tool experts continuously scan the market for new or improved solutions and make them available to customers as tested and pre-integrated platform extensions.

Other Eficode ROOT service benefits include:

- Key project assets (e.g. requirements, documentation, source code, installable packages) are stored safely and stay discoverable throughout the project life-cycle
- Fast platform deployment provides a fast track to having a DevOps-capable software assembly line
- The platform is pre-integrated to support tool-to-tool information sharing
- Eficode ROOT proactive maintenance services make sure the platform is properly scaled, always available, and up-to-date
- The Eficode ROOT support and maintenance team makes sure all platform modifications (software upgrades, plugins, extensions, integrations, new tools) are done in a safe and managed way, without breaking any existing functionality
- The Eficode ROOT support teams help with platform usage and development, especially in highly demanding admin tasks
- Eficode's professional services, whether leadership-focused, guiding cultural transformation, or hands-on implementation of automated software delivery pipelines, is readily available
- The optional Eficode ROOT Team Management (RTM) system provides a centralized access management system for all platform tooling
- The optional Eficode ROOT Track and Drive (TnD) dashboards provide an end-to-end view of project quality and performance

2 Platform tooling

2.1 Reference platform tooling

The reference platform serves as a starting point for a customer-specific platform design. The reference architecture tooling is pre-integrated as a complete software assembly line straight out of the box.

The reference platform components are chosen based on 10+ years of experience in providing DevOps tooling related consultancy, support, and maintenance services. The key criteria for choosing the reference platform tooling are as follows:

- Support for a wide selection of SW development technologies
- Flexible and extendable tool architecture
- Active, tool provider or open source community-based development, support, and maintenance practices
- Wide practical experience in using the tools in highly scalable software R&D environments
- Endorsed and known by a large number of software development, quality assurance and operations personnel
- Cost efficient

Reference platform benefits include:

- Fast deployment due to highly automated installation process
- Ready-made tool-to-tool integrations for seamless inter-tool information exchange
- Supports integrated access management via Eficode ROOT Team Management
- Supports integrated project quality and performance tracking with Eficode ROOT Track and Drive
- Economies of scale in support and maintenance operations enables cost-effective service pricing

The current reference architecture includes the tool listed in Table 1.

Tool name	Purpose
Atlassian Jira	Project and ticket management
Atlassian Jira Service Desk	Service Desk management
Atlassian Confluence	Document management
Atlassian Bitbucket	Version control
Jenkins	Continuous integration and delivery automation
SonarQube	Static code analysis
JFrog Artifactory Pro	Artifact repository
JFrog Xray	Vulnerability scanning
Sonatype Nexus Lifecycle	Vulnerability scanning
Rancher	Container orchestration
Zabbix	Monitoring
Prometheus	Monitoring
Robot Framework	Automated testing
Ansible	Infrastructure automation
Elastic stack	Log analysis
Eficode ROOT Team Management	Centralized user and group management
Grafana and Eficode ROOT Track and Drive	Project quality and performance dashboards

Table 1: Reference platform tools

2.2 Supported additional or alternative tooling

Tools in this category can be included in customer-specific platform instances as fully supported replacements or additions to the above-mentioned reference platform tooling.

Tool name	Purpose
Perforce Helix Teamhub	SVN and Git version control, centralized user management
Gitlab	Version control
Github Enterprise	Version control
Subversion	Version control
Atlassian Bamboo	Continuous integration and delivery automation
Sonatype Nexus Repository	Artifact repository
Octopus Deploy	Deployment automation
Xebialabs XL Deploy	Deployment automation
Xebialabs XL Release	Release automation
Chef	Infrastructure automation
Puppet	Infrastructure automation
Sysdig	Monitoring
Rocket.chat	Team communications

Table 2: Supported alternative tooling

2.3 Custom tooling

Customer specific Eficode ROOT instances can be equipped with additional or alternative tools not present in the current reference architecture or supported alternative tooling selections.

2.4 Integrations with cloud-based tools

Eficode ROOT integrates with widely used, cloud-based tools. Most common integrations include:

Tool name	Purpose
Slack, Flowdock, Microsoft Teams	Team communications
Atlassian Jira, Confluence	Cloud-based project and document management tooling
Gitlab, Github, Atlassian Bitbucket, Perforce Helix Teamhub	Cloud-based version control systems

Table 3: Cloud tool integrations

3 Environment options

Eficode ROOT provides a variety of options for environment selection. The private cloud environment, when combined with the rest of the Eficode ROOT service offering, is typically the most cost effective solution.

3.1 Private cloud

Eficode ROOT runs as a turn-key solution in a customer-specific private cloud environment managed and maintained by Eficode as part of a continuous maintenance and support service.

Eficode is responsible for the availability, support and maintenance of the complete platform architecture including HW, OS, any supporting SW, and the tool applications.

All the above-mentioned parts are also covered by the Eficode ROOT full stack Service Level Agreement.

Our private cloud data center locations are:

- Hetzner Online Frankfurt, Germany
- Hetzner Online Tuusula, Finland

3.2 On-premise

Eficode ROOT can be installed and maintained in an on-premise data center managed by the customer or by a third party service provider. In these cases, the Eficode ROOT service team manages the platform tools remotely via secure network connections.

Unless otherwise agreed, Eficode's responsibility (including the SLA) typically covers the application layer tooling only, whereas the HW and OS layers are managed by the customer or a third party.

3.3 Public cloud

Eficode ROOT can be installed in a public cloud service of the customer's choosing, including (but not limited to)

- Amazon Web Services
- Microsoft Azure
- Google Cloud Platform
- Alibaba Cloud

Eficode ROOT requires a separate cloud service account or a sub-account remotely accessible by the Eficode ROOT support and maintenance personnel.

Unless otherwise agreed, Eficode is responsible for the system contained by the (sub)-account as a whole, including efficient usage of the cloud infrastructure.

4 Service overview

The Eficode ROOT service offering expands across the platform life-cycle from platform design and setup to continuous platform operation and development.

Figure 2 provides an overview of the Eficode ROOT Services.

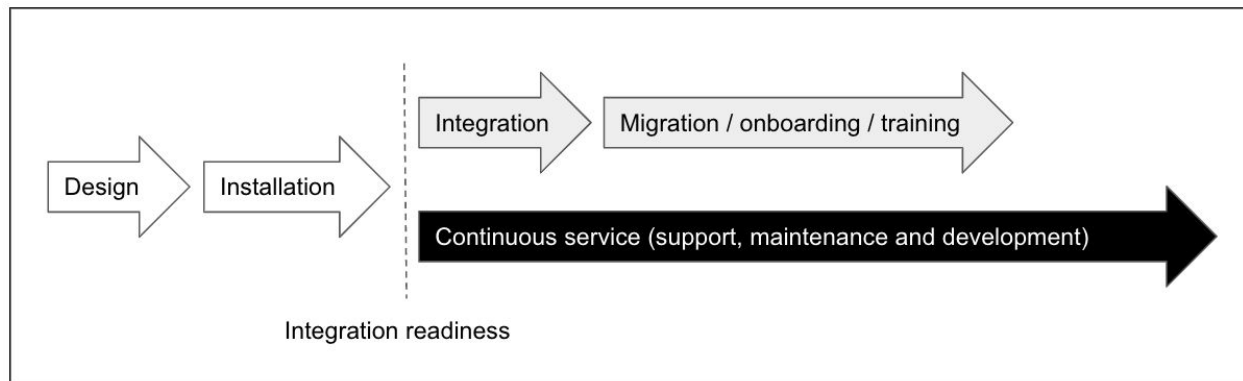


Figure 2. Service overview

The platform setup phase includes platform design and installation in the chosen environment. Integration is part of the setup process and includes setting up the necessary networking, user management, and tooling connectivity with existing customer-side infrastructure.

Once the platform is fully integrated it is ready for project onboarding, which may or may not include data migration from existing project resources.

The continuous service phase covers the basic day-to-day platform operation with proactive platform maintenance activities and on-demand support service. Platform development includes e.g. new tool installations, extensions, and integrations.

5 Platform setup

5.1 Design

Each Eficode ROOT Platform is individually designed to meet the customer's requirements and criteria. Customer-specific variations include:

1. Functional composition, e.g. which functionalities are chosen to be part of the managed service
2. Tool selection. The reference architecture tool are recommended but not mandatory
3. Environment selection
 - a. Private cloud (recommended)
 - b. On-premise
 - c. Public cloud
4. Integrations with customer networks
 - a. User management (recommended)
 - b. Secure connectivity (recommended)
 - c. Integrations to tools outside the managed service scope (e.g. cloud-based tools such as Slack)

5.2 Installation and configuration

The Eficode ROOT service team installs the platform tools in the target environment. The installation includes the required tool plugins and extensions.

Configuration of the system based on the design phase plans includes

- Default workflows
- Tool-to-tool integrations

Installation of the supporting infrastructure includes

- Networking equipment (VPN, reverse proxies, backup system)
- Monitoring system for 24/7/365 performance, availability, and SLA monitoring
- Ticketing system for the support requests and other customer communications

Once this phase is completed, the platform is integration ready.

6 Integration

Eficode ROOT integrates with the existing customer networking infrastructure along with tools outside the managed Eficode ROOT service scope.

6.1 User Management

Eficode ROOT integrates with the following corporate user management systems:

- Active Directory
- Azure AD
- ADFS and other SAML2 based SSO solutions

The integration can be done either directly between the main corporate user directory or via Eficode ROOT Team Management (RTM) component (recommended).

Eficode ROOT Team Management synchronizes with the main user directory and enables project personnel to control access to the relevant project assets directly via RTM, without having to request the access rights tool-by-tool from corporate level user directory administrators.

6.2 Secure connectivity

Eficode ROOT integrates with rest of the customer infrastructure via secure VPN connections.

6.3 Other integrations

Integrations to tools outside the managed service scope:

- Cloud-based tools such as Slack (see chapter 2.4)
- Existing customer or third party tools, which are not part of the Eficode managed service

7 Data migration services

Eficode offers data migration services based on customer request. All migrations are separately planned and executed without risking the legacy system operation.

8 Project onboarding support

Hands-on project onboarding support can be requested by customers. Onboarding assistance can include:

- Project work space setup across the tool chain
- Workflow design
- Data migrations
- CI/CD pipeline definition

9 Tool training

One to two-day hands-on training sessions on platform usage targeted at customer side admin users, as well as project personnel.

Topics include:

- Tool training (e.g. Atlassian Jira, Confluence)
- DevOps best practices

10 Proactive maintenance services

10.1 Proactive maintenance

Proactive maintenance service include:

- Tool (and environment) maintenance
- Vulnerability tracking
- Critical security and performance-related fixes
- Tool version upgrades
- Proactive and reactive performance analysis and related performance tuning
- Troubleshooting
- Problem prevention
- Backups
- Disaster recovery planning and test runs
- SW license management

10.2 Critical security and performance related fixes (minor versions)

Security and performance-related fixes are done on a monthly basis, during separately agreed service breaks. Off-cycle updates are done as necessary, in case of severe security threats.

10.3 Tool version upgrades (major versions)

Service includes 2-4 scheduled tool version updates per year. Exact upgrade cycle depends on new software version availability and maturity.

10.4 Backups

Eficode ROOT daily backups are stored for 60 days. The backups include both the customer data and the platform configurations required for a full system recovery.

11 Monitoring and incident management

Monitoring and incident management ensures 24/7/365 service availability, following the Eficode ROOT Service Level Agreement.

The Eficode ROOT service team is responsible for the incident management, including first response, problem solving, and incident reporting duties. Incident management is included in the basic service pricing, unless the incident is caused by incorrect use of the platform (please refer to Chapter 14, The tool-by-tool responsibility matrix).

12 On-demand Support Service

The Eficode ROOT service team provides on-demand platform support based on customer requests.

The team responds to the support requests during normal office hours, Monday through Friday.

The service levels are documented in the Eficode ROOT Service Level Agreement documentation.

13 Software license management

Eficode ROOT service team manages the licenses for the software included in the customer-specific platform instance. Eficode acts as a license reseller, while the customer remains as the license owner.

License management contains the following tasks:

- Ordering and renewing the licenses in a timely manner
- Ensuring that the license costs are aligned with the actual software resource usage

14 Tool-by-tool responsibilities

14.1 General (applicable to all tools)

Task	Customer	Eficode	Comment
Tool availability monitoring		x	By using the Eficode ROOT monitoring system
Tool performance monitoring		x	By using the Eficode ROOT monitoring system
System scaling		x	
Incident management		x	See chapter 10
Backups		x	See chapter 9.2
Disaster recovery planning and test runs		x	
Tool update		x	Security and performance enhancing patches. Eficode must confirm that the update does not negatively affect the system behavior (e.g. broken functionality, decreased performance)
Tool version upgrade		x	Eficode must confirm that the upgrade does not negatively affect the system behavior (e.g. broken functionality, decreased performance)
Install a plugin or an extension		x	Eficode must confirm that the plugin does not negatively affect the system behavior (e.g. broken functionality, decreased performance)
Export / import project data		x	Data migration to/from the platform tools
Tool integration		x	Integration with another system or tool
Add user to the system	x		Typically, via customer AD
Add user to a project	x	(x)	Self-service or via Eficode support
Modify user rights / permissions	x	(x)	Self-service or via Eficode support
Delete user	x		Typically, via customer AD

x = primary responsibility

(x) = secondary responsibility, based on the customer's choice

14.2 Atlassian Jira

Task	Customer	Eficode	Comment
Create a new workflow		x	Eficode ensures that the workflow does not negatively affect the system behavior (e.g. broken functionality, decreased performance).
Modify a workflow		x	Eficode ensures that the workflow does not negatively affect the system behavior (e.g. broken functionality, decreased performance).
Create projects	x	(x)	Self-service or via Eficode support
Create, modify, delete a board	x	(x)	Self-service or via Eficode support

x = primary responsibility

(x) = secondary responsibility, based on the customer's choice

14.3 Atlassian Confluence

Task	Customer	Eficode	Comment
Create a workspace	x	(x)	Self-service or via Eficode support
Create, modify, delete a workspace	x	(x)	Self-service or via Eficode support
Change theme		x	E.g. with RefinedWiki

x = primary responsibility

(x) = secondary responsibility, based on the customer's choice

14.4 Atlassian Bitbucket

Task	Customer	Eficode	Comment
Create a project	x	(x)	Self-service or via Eficode support
Create a repository	x		Self-service
Create, modify, delete repositories	x		Self-service

x = primary responsibility

(x) = secondary responsibility, based on the customer's choice

14.5 Jenkins

Task	Customer	Eficode	Comment
Create a project / folder	x	(x)	Self-service or via Eficode support
Create, modify, delete projects / folders	x	(x)	Self-service or via Eficode support
Create jobs	x		Self-service
Agent configurations		x	Via Eficode support

x = primary responsibility

(x) = secondary responsibility, based on the customer's choice

14.6 SonarQube

Task	Customer	Eficode	Comment
Create project	x	(x)	Self-service or via Eficode support
Modify, delete project	x	(x)	Self-service or via Eficode support

x = primary responsibility

(x) = secondary responsibility, based on the customer's choice

14.7 JFrog Artifactory Pro

Task	Customer	Eficode	Comment
Create a repository	x	(x)	Self-service or via Eficode support
Create, modify, delete a repository	x	(x)	Self-service or via Eficode support
Create group		x	

x = primary responsibility

(x) = secondary responsibility, based on the customer's choice

14.8 Rancher

Task	Customer	Eficode	Comment
Create, modify, delete stacks	x	(x)	Self-service or via Eficode support
Manage environments	x	(x)	Self-service or via Eficode support

x = primary responsibility

(x) = secondary responsibility, based on the customer's choice

14.9 Zabbix

Task	Customer	Eficode	Comment
Create and modify host groups, templates, dashboards etc.	x	(x)	Self-service or via Eficode support
Configure alarm media types	x	(x)	Self-service or via Eficode support

x = primary responsibility

(x) = secondary responsibility, based on the customer's choice

14.10 Eficode ROOT Team Management

Task	Customer	Eficode	Comment
Create / modify / delete user or a bot	x		Self-service
Create / modify /delete groups	x		Self-service

x = primary responsibility

(x) = secondary responsibility, based on the customer's choice

14.11 Grafana

Task	Customer	Eficode	Comment
Create a project		x	via Eficode support
Create, modify, delete a project	x	(x)	Self-service or via Eficode support
Add a new metric	x	(x)	Self-service or via Eficode support
Modify an existing metric	x	(x)	Self-service or via Eficode support
Create a new dashboard	x	(x)	Self-service or via Eficode support
Modify an existing dashboard	x	(x)	Self-service or via Eficode support

14.12 Eficode ROOT Track and Drive (TnD)

Task	Customer	Eficode	Comment
Create a project	x	(x)	Self-service or via Eficode support
Create, modify, delete a project	x	(x)	Self-service or via Eficode support
Add a new metric to		x	Via Eficode support

TnD			
Modify an existing TnD metric		x	Via Eficode support
Create a new TnD dashboard		x	Via Eficode support
Modify an existing TnD dashboard		x	Via Eficode support

x = primary responsibility

(x) = secondary responsibility, based on the customer's choice

15 Service pricing

15.1 Platform setup

Platform setup is a one time-cost and it includes the design and installation services described in chapters 5 and 6. The exact price depends on

- The number of tools that will be part of the managed platform instance
- The number and type of integrations to systems outside of the managed service
- Target environment type (private cloud, public cloud, on-premise)

15.2 Migration and project onboarding

Eficode prices the data migration and project onboarding work based on the actual hours worked, with an agreed hourly price.

All migration and onboarding projects begin with a planning phase, which results in a work estimate for the actual migration or project onboarding work.

15.3 Continuous service: monthly base fee

The monthly base fee includes the hosting (if applicable), monitoring, incident management and proactive maintenance work (see chapters 9 and 10) as well as readiness to deliver on-demand support services (see chapter 11).

The exact monthly fee depends on the following platform specific parameters:

1. The number and type of tools that belong to the managed service scope
2. The number of Eficode ROOT platform users
3. Environment costs: environment charges are included in the fixed monthly fee if the system runs in a private cloud environment. Eficode may also charge the public cloud infrastructure costs as part of the monthly bill, given that the platform operates on an Eficode managed account linked to the Eficode main cloud service account.
4. Software licenses: Eficode charges applicable software licenses for the tools included in the managed platform instance. The licenses are charged in advance for the whole license period (typically 1 year).

15.4 On-demand support service

Eficode charges the on-demand support work based on the actual hours worked. The minimum charge per support task is 30 minutes.

16 Meeting arrangements

Eficode and the customer meet regularly to a) review the state of the current service operation and b) to discuss possible changes to the service (e.g. modifications to the system or service content). The meetings take place at least once every 6 months, or on the request of either Eficode or the customer.

17 Additional services

The customer can order additional services from Eficode outside of the immediate scope of the Service. Additional services are subject to Eficode's availability. Additional services may include, for example:

- Additional training
- Automated test framework or release automation system design and implementation
- Automated test case implementation
- DevOps related management consulting

Annex: Typical software production line issues addressed by Eficode ROOT

Problem	Eficode ROOT solution
Distributed or missing critical project information	
Information is distributed across multiple parallel systems. There's organizational fragility due to single points of failure and missing project documentation	Centralized tools provide single points of truth and create organizational robustness
Critical project assets (requirements, source code, deliverables) are missing or not secured	Centralized, safe system for managing the key assets (project management system, version control, binary management)
Overlapping and/or hidden costs	
Multiple overlapping tool licenses cause cost overhead	Single, properly scaled tool instances with lower cost per user
Hidden costs of maintaining and supporting multiple overlapping production lines	One invoice covers all platform support and maintenance work for a single platform instance
Insufficient production line maintenance practices	
Production line tooling gets out-of date and/or unsecure	Tools are being regularly updated with security and performance-related patches, and upgraded to the latest SW versions
When the platform is updated, existing workflows, pipelines and integrations break uncontrollably	Updates are tested and then done in a controlled fashion. Risks are mitigated.
Unclear division of responsibilities, inefficient use of project resources	
Responsibilities over the production line tooling are unclear, there's no clear ownership for the maintenance and support tasks	Eficode ROOT support and maintenance team is responsible for the maintenance and support duties
Project personnel spend time tuning the tools,	Eficode ROOT maintenance team is

instead of more value adding project work	responsible for the production line operation, project teams focus on using them in the most efficient way
Skilled tool experts are not available and/or hard to find & recruit	Eficode ROOT platform team contains certified tool expertise
Delays caused by non-optimized processes or production line incoherence	
Unnecessary variation in tool selection leads to prolonged lead times in learning the tools while switching between projects	People and skills move across project boundaries due to more uniform tool selection
Setting up an automated production line for a new project takes days or weeks	A new project can be established in minutes on an already existing tool chain
Giving tool access to a new project member requires a request to the company IT and it may take days or even weeks get everything organized	The project manager is able to provide access to the project assets in a matter of minutes
Supplier specific tool production lines amplify supplier dependency and make it problematic to switch between suppliers when necessary (e.g. due to complex migrations)	Common platform under the customer control, centralized access management enables supplier switching while the production line remains the same
Lack of visibility	
Unclear view to the project state, no possibility for quick roll-backs	All code (application, environment, test code) is in version control with a mechanism to revert back to previous versions
Long feedback loops: devs get feedback from testing in days, weeks or even months	Instant feedback to devs with automated testing
No real-time visibility to project quality or performance	End-to-end, real-time visibility and project metrics with DevOps ensured quality and performance dashboards