

# CODING DevOps

# Product Overview



Tencent Cloud

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# Product Overview

## Overview

Last updated: 2024-09-05 15:28:53

### Introduction to CODING DevOps

Tencent Cloud CODING DevOps is a one-stop R&D collaboration management platform designed for software development teams. It supports the entire process from requirements, design, development, build, testing, release, to deployment, providing comprehensive coordination and R&D tool support. The CODING solution helps enterprises achieve unified and secure code control, quickly implement Agile development and DevOps, improve software delivery quality and speed, reduce R&D costs, and upgrade R&D efficiency.

### CSS Products

Sub-products	Product Description	Applicable Scenario
Code Hosting	Provides enterprise-level Git/SVN code management services, supporting refined permission control, parallel branch development, and multi-version management features.	Enterprise code management, code review, branch management, etc.
Project Management	Software development teams can freely choose the appropriate R&D management model, supporting multi-project management, Agile iteration management, requirement management, defect tracking, multi-dimensional report data, etc.	Agile R&D management, requirement management, defect tracking, etc.
Test Management	Provides a one-stop cloud testing platform for Agile teams, supporting visual test planning and multi-dimensional test reports to meet the diverse needs of Agile teams regarding the testing process.	Test collaboration, test case management, etc.
Continuous Integration	Offers cloud-based automated code building, testing, analysis, and deployment workflow services, supporting rapid creation of build tasks through templates and visual	Automated build, automated testing, etc.

	orchestration, greatly improving the build efficiency of software development teams.	
<b>Artifact repository</b>	Provides cloud-based artifact management services, supporting both cloud and local build pushes, enabling fast indexing and archiving of build artifacts, and version control.	Dependency package storage, artifact repository quality control, application distribution, etc.
<b>Continuous Deployment</b>	Provides fully automated software deployment, sustainably and controllably releasing software artifacts to service clusters online, supporting multiple release strategies such as blue-green deployment and gray release (canary release).	Gray release, blue-green deployment, release approval, etc.
<b>Performance Insight</b>	Focuses on a metrics platform for R&D efficiency, visualizing contextualized R&D efficiency data in the full lifecycle of DevOps using professional measurement methods, aiding various roles like managers, developers, project managers, and R&D efficiency experts to analyze, understand, and gain insights into overall efficiency for continuous improvement.	Organizational R&D efficiency assessment, R&D team efficiency metrics, project delivery value stream analysis, personal efficiency improvement, etc.

# CSS Products

## Code Hosting

Last updated: 2024-09-05 15:30:23

### Overview

As a sub-product of CODING DevOps, CODING Code Repositories (CODING-CR) is a convenient cloud-based collaborative R&D tool. It aims to deliver a simple and efficient development experience to more developers and supports Git and SVN version control systems. Its cloud-based high-availability environments guarantee the security of your data. CODING-CR offers various features such as code hosting, code review, and branch management.

### Strengths

CODING-CR is a convenient cloud-based collaborative R&D tool powered by Tencent Cloud. It boasts the following benefits.

#### High-availability repositories

CODING-CR provides high-performance remote code repositories and supports both Git and SVN version management modes. It leverages distributed computing and storage, offering unlimited cloud computing resources. It ensures a high-availability cloud environment for users, guaranteeing data security. Localized services offer a faster experience, supporting unlimited upload and download speeds.

#### Code review

CODING-CR allows developers to create a merge request after writing codes in order to invite other developers for code review. Codes can be reviewed line by line, which delivers better code reading and review experience and helps establish an all-around code review mechanism to minimize code errors and improve code quality.

#### Release management

Version management is Git Tag-based, which helps you package and release codes at target nodes, with each version corresponding to a Tag. You can select the latest code of a branch to release a version, automatically generate a changelog, standardize version numbers, and associate these with task milestones to make source code release and delivery more efficient.

#### Code browsing

CODING-CR provides an excellent code browsing tool, supporting vertical and horizontal comparison modes when viewing code. This allows clear comparison of code before and after each modification, showing how many lines of code have been altered. It also supports commenting on each modified line. Every code change is clearly visible.

## Branch protection

CODING-CR supports granular code branch management, enabling refined permission management based on team members' roles. You can set branch administrators, so only authorized members can make changes, protecting specific branches from being tampered with, ensuring organized and orderly team collaboration.

## Application Scenario

### Code management

CODING-CR supports code management based on Git and SVN, allowing R&D teams to efficiently manage code resources. Git supports commit history, code comparison, branch protection, and public key deployment. But SVN only supports code browsing.



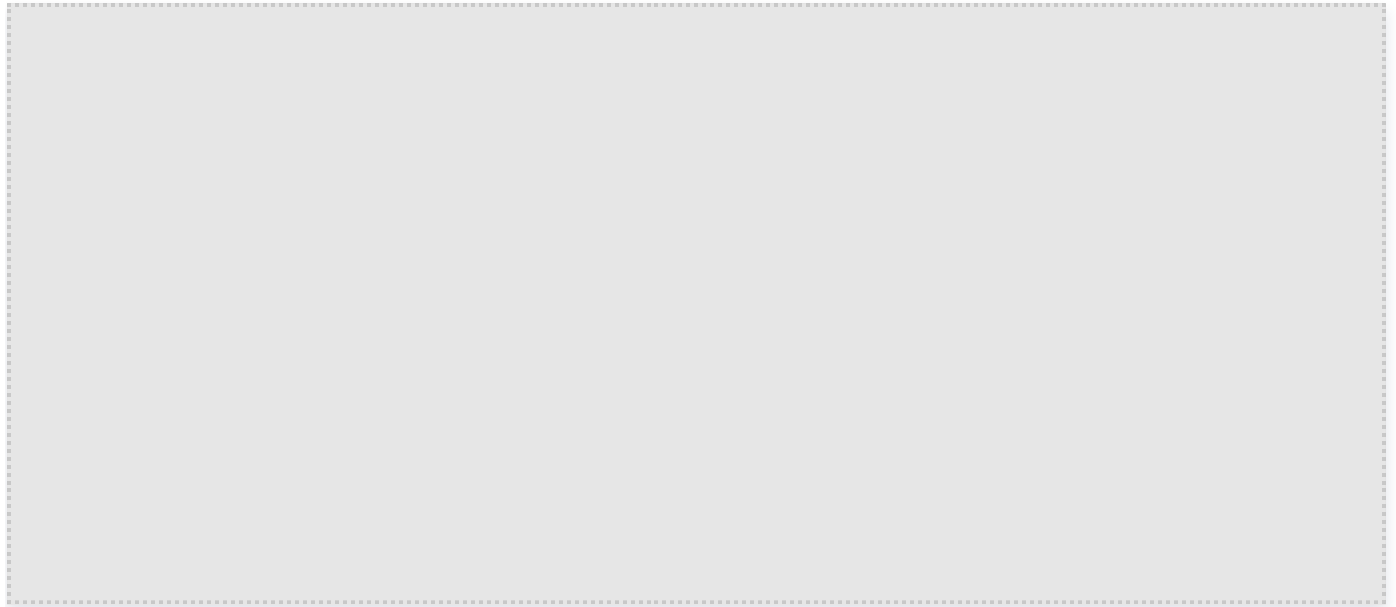
### Branch management

With CODING-CR, you can view the permissions of each branch during team collaboration, set branch operation permissions for each member, and perform accurate and effective management for enhanced security and seamless collaboration.



## Code review

Written codes can be reviewed and approved by team members before being merged into the master branch. You can configure automated tools such as continuous integration to check the code style and quality for supplementary review.



# Project Management

Last updated: 2024-09-05 15:31:16

## Overview

CODING-PM is a subproduct of CODING DevOps. Projects are the smallest unit for practicing CODING DevOps. You can use it as the most fundamental tool for visualizing project progress and coordination, associating merge requests with matters, and assigning defects to relevant personnel. The Project Collaboration feature module in CODING acts as the scheduling center for various matters. We provide two options: **Scrum Agile Project Management Mode** and **Classic Project Management Mode**. Teams can choose the appropriate mode based on management preferences. CODING enables all collaboration to occur in the cloud, achieving seamless collaboration through reasonable task allocation and processing mechanisms, helping teams overcome challenges, produce efficiently, and improve delivery efficiency.

## Feature Overview

### Iterations

Based on your team's development performance, you can divide development into iterations, each lasting two to three weeks, and use the planning feature to add requirements or bugs to the iterations. After an iteration begins, you can check its details and progress on the Iteration Overview page and view its requirements, tasks, and bugs in the Issue List.

### Requirement management

A requirement refers to a software feature needed to solve a certain problem or achieve a certain goal. Requirements determine the direction and outcome of software development. Requirement management includes features such as requirement creation, requirement decomposition, requirement processing, and task decomposition. When creating a requirement, you can set priority, due date, and requirement category, and assign relevant personnel for handling. Larger requirements can be broken down into smaller sub-requirements, and tasks can be created or associated with requirements for the decomposition and assignment of development tasks.

### Task Management

A task refers to a specific activity carried out to meet a requirement. Task management mainly includes features such as task creation, task lists, and task processing. When creating a task in project collaboration, you can set priority, due date, and task description, and assign relevant personnel for handling.

## Bug Management

A bug refers to a business need that does not meet the initial definition. Bug management mainly includes features such as reporting bugs, bug lists, bug processing, and bug reporting. When creating a bug, you can set priority, due date, and bug category, and assign relevant personnel for handling. Processing status indicates the phase a bug is in during its lifecycle, used for organizing and tracking bugs.

## Custom Fields and Workflows

Teams can customize fields and workflows for requirements, tasks, and bugs of a project to cater to their specific needs. By defining global fields and statuses, they can ensure consistent definitions and efficient collaboration across projects and departments.

## Wiki and File

**Wiki Management:** Wiki supports Markdown format, version control, version comparison, and multi-level expansion. It allows project members to write and collaborate on documents more effectively, aiding in team knowledge accumulation. It also supports public document links and one-click static site generation.

**File Management:** The project file center supports uploading, downloading, collaborative editing, online preview, public sharing, and deletion of files. Each file has changelogs and historical versions, allowing you to view and download previous versions. You can preview Excel, PowerPoint, Word, and PDF files online and edit TXT or Markdown documents.

## Strengths

CODING-PM is suitable for R&D teams to manage projects or practice agile development, with the following product advantages.

## Integrated collaboration features

The project management tool has features for managing iterations, requirements, tasks, and bugs, enabling seamless collaboration among different roles in a team such as product managers, development engineers, testers, and operation engineers. It allows breaking down and associating tasks, estimating the time required, discussing requirements and tasks, accurately controlling the issue progress of each iteration, and achieving sustainable rapid iteration.

## Optional R&D Modes

CODING-PM offers a Scrum mode for agile teams and a classic mode for traditional project management. Teams can choose the desired mode that suits their project management needs. Agile development covers the entire software process. Iterations and incremental

software development are at its core. But traditional project management is based on plans and centered on requirements, resources, and time. Personnel assignments and scheduling take place after requirements are established.

## **Custom workflow**

CODING-PM provides a custom workflow feature where development teams can design the transition processes for requirements and tasks as needed. This helps standardize management and customize workflows tailored to your team.

## **Diversified permission management**

CODING-PM supports permission configuration for team member management and project member management. It can group team members by role, assign group permissions separately and customize permissions of each group by feature to build an efficient permission management system for your team.

## **Team knowledge base**

Within projects, it supports Word, Excel, PowerPoint, videos, and other formats, allowing online previewing, downloading, and sharing and organizing by folders. The Wiki feature supports online tree structure documentation editing and storage. Files and Wiki can maintain every historical version to meet the collaboration, management, and document resource tracing needs of teams of various sizes, aiding in team knowledge accumulation.

## **In-depth association of project resources**

Project requirements, tasks, and bugs can be associated with resources and related files/Wiki documents, making the relationships among matters traceable and locatable, helping teams quickly understand the context and background.

## **Visualized data reports**

CODING-PM offers visualized data such as Gantt charts for issue statuses and data reports, helping team members monitor the progress and development trends of issues across iterations at any time, analyze problems, and provide solid evidence to help the team manager make decisions, quickly adjust project expectations and plans, and bring the progress of agile collaboration under control.

# Test management

Last updated: 2024-09-05 15:32:33

## Overview

As a sub-product of CODING DevOps, CODING-TM provides collaboration management tools for orderly testing. From test case library management and test plan development to collaborative test task execution, it enables agile testing methodologies for the test team, improving the efficiency of collaboration between testing and R&D teams. It also offers visual work views and data reports for controlling test progress and planning at any time.

## Strengths

CODING-TM provides you with an organized test collaboration management tool service, which has the following advantages.

### Multi-role real-time collaboration

In CODING-TM, upstream and downstream members in testing, product management, and R&D within the team can collaboratively participate in test plans, maintaining real-time synchronization of test requirements, test tasks, and defect tasks. It records the testing process, facilitating problem reproduction for product and R&D and quickly identifying requirements and defects, thus achieving seamless collaboration across departments.

### Association of test cases and bugs

CODING-TM has a bug management feature that can immediately associate test cases that fail to meet expectations during the testing process with bugs so that developers can quickly locate test cases based on bugs and sync updated test results to the corresponding bugs.

### Test case reusability

The test case library in CODING-TM supports adding, importing, and editing test cases. The tree structure of the case library makes organizing test plans flexible, allows reuse of test cases in different plans, and avoids repetitive editing of the same case, significantly improving testing efficiency.

### Batch import of test cases

CODING-TM supports importing test cases in batches from Excel or CSV formats into specified projects without needing to re-edit the cases. This helps you move away from inefficient spreadsheet management and open up an efficient collaborative testing management approach.

## Visualized test progress

CODING-TM provides a visualized overview of project tests and the test progress. You can easily grasp the work progress and task load of every member in your team, accurately understand the peak and off-peak values of their workloads, and easily improve work plans.

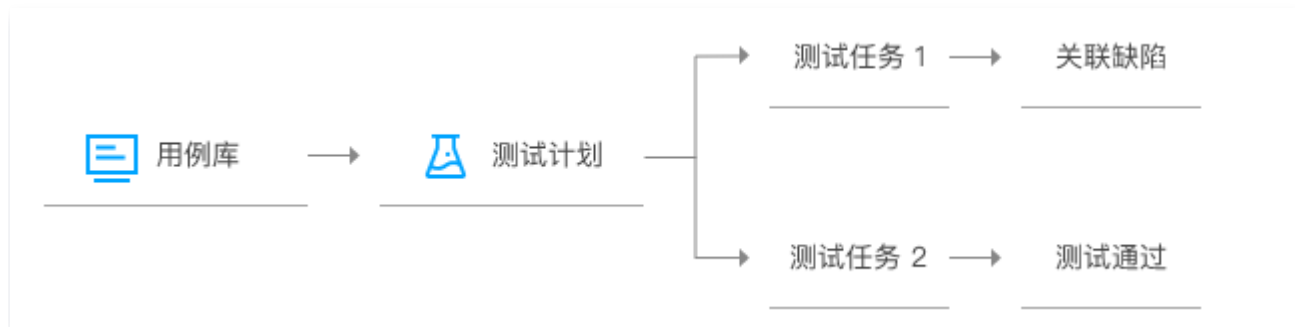
## Multidimensional data report

CODING-TM allows you to create regular data report templates. After a test iteration is completed, test reports in various dimensions such as test conclusion, chart, work distribution, and test duration can be automatically generated and sent to followers at the scheduled time.

## Application Scenario

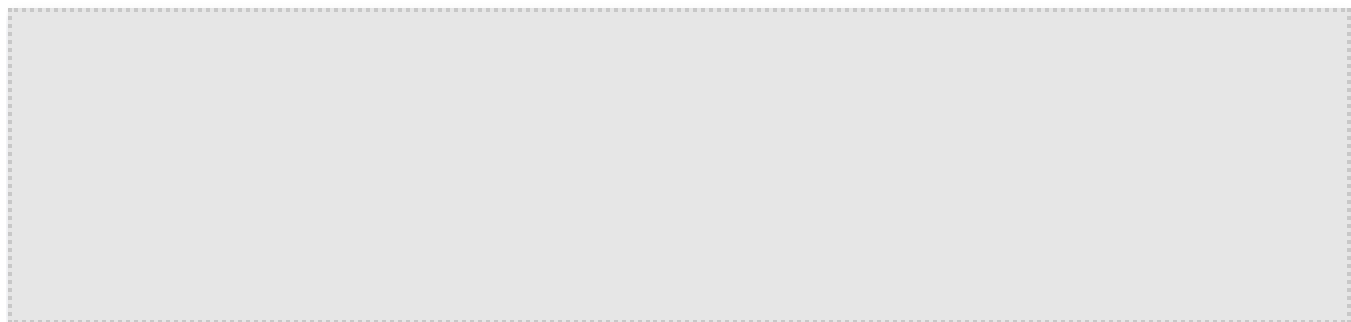
### Test collaboration

CODING-TM helps the test team establish an orderly test collaboration process, including writing test cases, developing test plans, distributing test tasks, and recording test results. It also helps the test team collaborate with R&D personnel to sync the test progress and results.



### Test case management

CODING-TM is used to create a test case library for the team and manage test cases for each feature or page, with each case including the description, steps, and expected results. The library management facilitates case reuse, avoiding the repetitive writing of test cases and improving work efficiency. It supports importing test cases in Excel and CSV formats, freeing testers from complicated table editing.



## Test plan formulation

CODING-TM helps test team managers formulate test plans according to the objectives of different stages, automatically generates corresponding test reports after tests, and analyzes test outcomes to provide data support for the next test plan.



# Continuous Integration

Last updated: 2024-09-05 15:33:22

## Overview

CODING Continuous Integration (CODING-CI) is fully compatible with Jenkins' continuous integration services. It supports popular programming languages, such as Java, Python, and Node.js, and building Docker images. Its graphical orchestration, high-spec clusters, and multi-plan parallel builds help you comprehensively accelerate your build tasks. It supports mainstream Git code repositories, including CODING Code Repositories (CODING-CR), GitHub, and GitLab. In terms of build dependency pull, it has dedicated network optimizations for major image sources such as Maven and npm to ensure a high pull speed and further accelerate the build process.

## Strengths

Benefits of CODING Continuous Integration (CODING-CI):

### Comprehensive build types

In addition to Docker image builds, CODING-CI also supports the builds of JAR, APK, and other software packages. Plus, it has many preset build environment images such as Java, Python, and Node.js.

### Parallel execution of multiple build plans

CODING-CI supports parallel builds of single projects to meet the high-level continuous integration needs of users. Its backend server cluster can schedule responsive computing resources according to user needs in real-time, ensuring that build tasks start quickly and reduce queue time.

### Cache acceleration

During the continuous integration and build process, the repetitive downloading of dependent files may result in a long build time. CODING-CI supports caching between different build tasks to accelerate repetitive builds by an average of 300%.

### Graphical orchestration

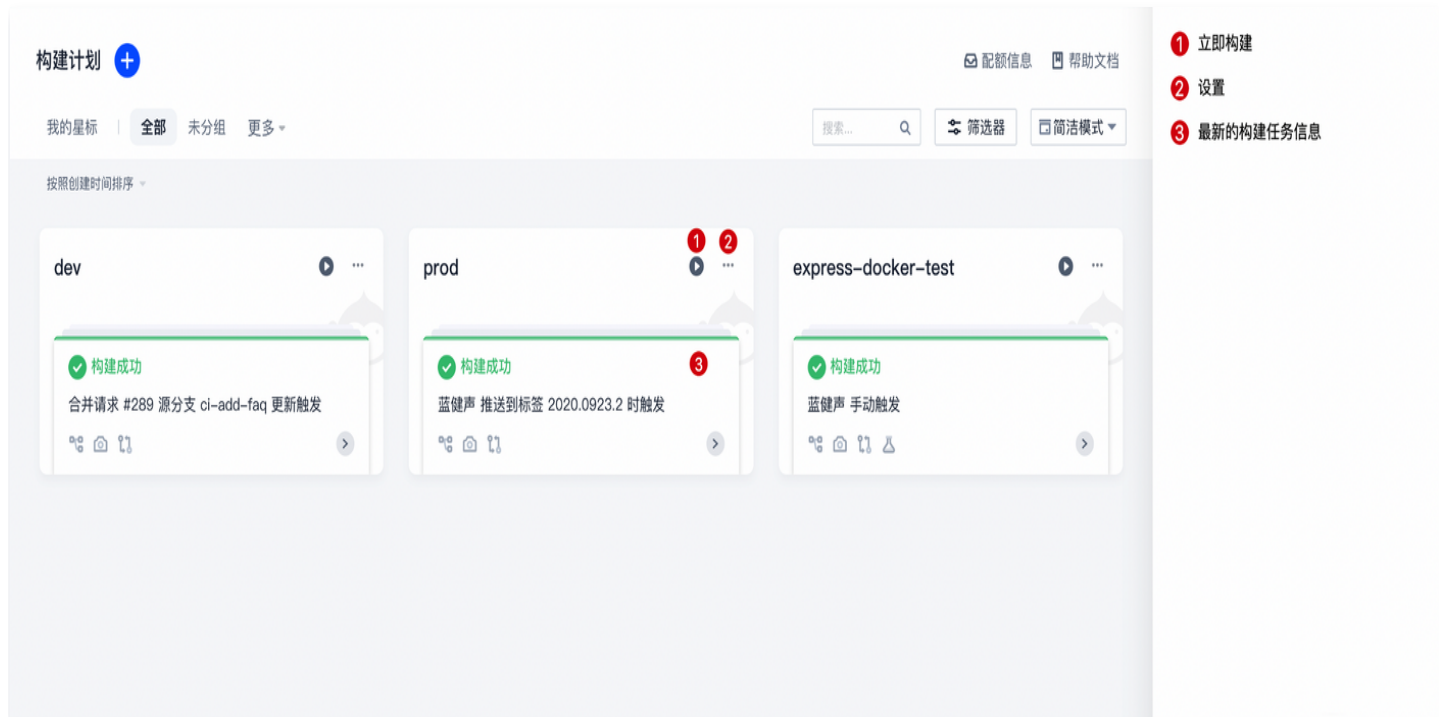
In addition to manual build script editing, CODING-CI also offers high-quality graphical orchestration capabilities for greater ease of use. For each step of the build, it offers various build script templates that you can choose from, delivering an intuitive editing experience.

## Full compatibility with Jenkins

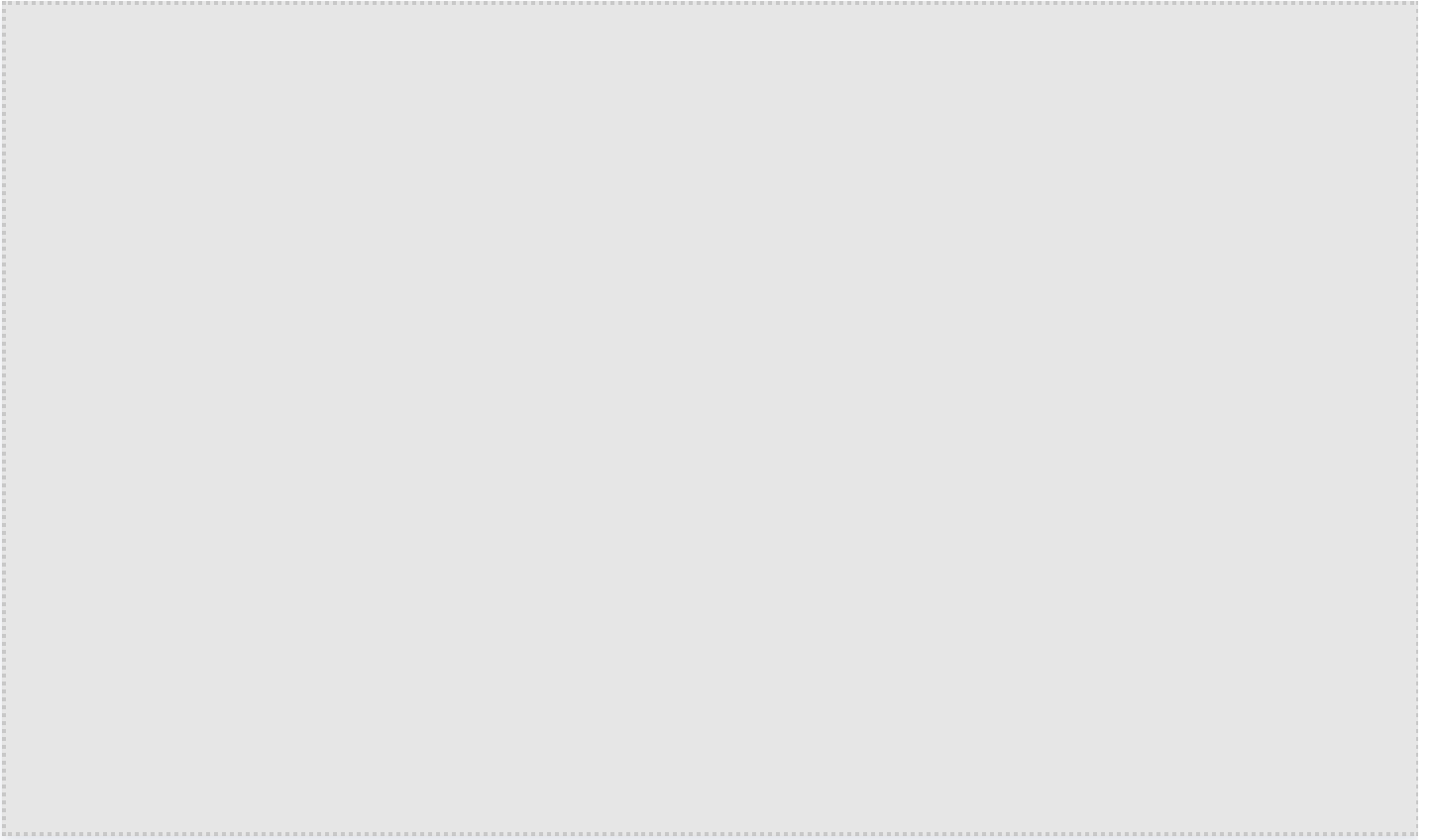
The build scripts of CODING-CI have full syntactical compatibility with Jenkins, the most widely used continuous integration tool in the world, which means that you can seamlessly and easily migrate Jenkins builds to CODING.

## Feature Guide

The core components of continuous integration are build plans. We use a card-based design form for display. Feature-related buttons are described below in the image:



Hover your cursor over an icon to display the feature description of the button.



On the build record page, users can conveniently set build plans and filter build records.

构建计划 +
x dev | CODING + 中国上海 1
@ 状态徽标 @ 定时触发 @ 缓存 ⚙ 设置
立即触发

1 代码源和构建节点
 2 筛选基于特定标签/分支/修订版本构建的记录

只显示我触发的 
筛选: 全部 2

全部构建状态	触发信息	持续时长	开始时间	快速查看	操作
✔ 构建成功	合并请求 #291 源分支 mr/... #601   ⇨ 57cb55a	38 秒	32 分钟前		...
✔ 构建成功	蓝键声 推送到分支 master... #600   ? ma...   ⇨ 1e5c096	46 秒	15 小时前		...
✔ 构建成功	合并请求 #292 创建触发 #599   ⇨ 5d7023e	40 秒	17 小时前		...
✔ 构建成功	合并请求 #291 创建触发 #598   ⇨ e027190	38 秒	18 小时前		...
✘ 增量检查 git commit / 构建失败	合并请求 #290 源分支 mr/... #597   ⇨ 32fc33c	33 秒	18 小时前		...
✘ 检查代码规范 / 构建失败	合并请求 #290 创建触发 #596   ⇨ c281b6b	27 秒	19 小时前		...
✔ 构建成功	合并请求 #289 源分支 ci-... #595   ⇨ 24fd3	49 秒	2 天前		...
✔ 构建成功	合并请求 #289 创建触发 #594   ⇨ 889317e	39 秒	2 天前		...

1-15 个, 共 601 个
每页显示行数 15 | 1 2 3 4 5 6 ... 41 >

In a single build record, you can quickly locate the build branch and revision version via links. In the quick view area, you can also follow links to see the build process, build snapshot, and change log.

The screenshot displays the '构建计划' (Build Plan) interface in CODING DevOps. The main area shows a table of build tasks for the 'dev' branch. The table columns are: 全部构建状态 (All Build Status), 触发信息 (Trigger Information), 持续时长 (Duration), 开始时间 (Start Time), 快速查看 (Quick View), and 操作 (Action). The table lists several build tasks, including successful ones and failed ones. A red box highlights a specific build task with ID #599, and a tooltip labeled '构建过程' (Build Process) is shown over its '快速查看' icon.

全部构建状态	触发信息	持续时长	开始时间	快速查看	操作
构建成功	合并请求 #291 源分支 mr/... #601   57cb55a	38 秒	35 分钟前		...
构建成功	蓝健声 推送到分支 master... #600   ma...   1e5c096	46 秒	15 小时前		...
构建成功	合并请求 #292 创建触发 #599   5d7023e	40 秒	18 小时前		...
构建成功	合并请求 #291 创建触发 #598   e027190	38 秒	18 小时前		...
增量检查 git commit / 构建失败	合并请求 #290 源分支 mr... #597   32fc33c	33 秒	18 小时前		...
检查代码规范 / 构建失败	合并请求 #290 创建触发 #596   c281b6b	27 秒	19 小时前		...
构建成功	合并请求 #289 源分支 ci-... #595   24fd3	49 秒	2 天前		...
构建成功	合并请求 #289 创建触发 #594   889317e	39 秒	2 天前		...

1-15 个, 共 601 个

每页显示行数 15 | 1 2 3 4 5 6 ... 41 >

## Build plans

Build plans (jobs) are the basic units of continuous integration. You can open a build plan to set its code source, build process, trigger rules, environment variables, and notifications. In the future, this plan will be triggered based on the set rules to implement an automated build pipeline.

## Build tasks

After configuring a build plan, each build execution generates a specific build task. You can go to a build task to see its build process, change history, test reports, build artifacts, build snapshot, and other execution information.

## Jenkinsfile

A Jenkinsfile defines a continuous integration pipeline, which implements stream encapsulation and management of steps. Pipelines are the basic units in continuous integration. Pipelines can be executed in series or parallel.

# Artifact Repository

Last updated: 2024-09-05 15:33:42

## Overview

As a sub-product of CODING DevOps, CODING-AR is used to manage artifacts generated after source code compilation, supporting common artifact repository types such as Docker, Maven, Helm, npm packages, etc. It offers centralized version control with the source code and seamlessly integrates with local build tools and continuous integration/deployment in the cloud. It also supports vulnerability scanning and other features. It provides an efficient artifact management service for R&D teams to control the quality of build artifacts.

## Strengths

CODING-AR has the following advantages:

### Supports multiple artifact types

Supports various artifact repository types including Docker, Maven, npm, Generic, Pypi, and Helm, fulfilling the needs of multiple artifact repositories within a single project. It can support both Docker and Maven in the same project.

### Seamless integration with popular build tools

CODING-AR is compatible with all common artifact format standards. You can use familiar build tools or install any other local software or plugins.

### Supports rapid distribution

CODING-AR supports rapid artifact distribution for public and private repositories. Relying on the powerful CDN of Tencent Cloud, it enables your team members to securely and quickly upload and download artifacts around the globe.

### Vulnerability scanning

You can use the built-in image security scanning feature or custom security scanning policies to check the quality of artifacts stored in CODING-AR and improve project security.

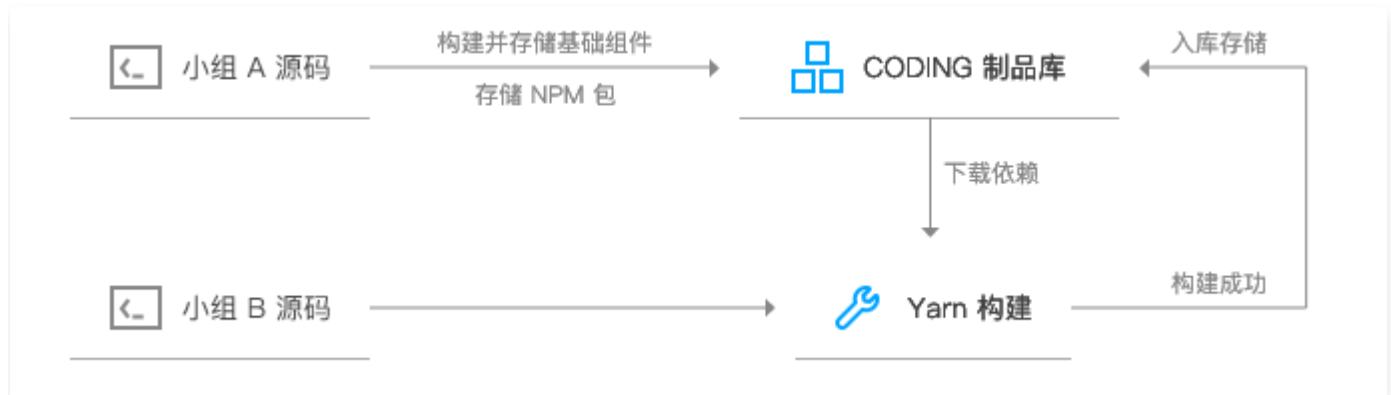
### Upstream-Downstream integration

CODING-AR provides well-adapted APIs to integrate with the upstream code repositories and downstream continuous deployment and operation systems, enabling upstream-downstream integration for DevOps.

## Application Scenario

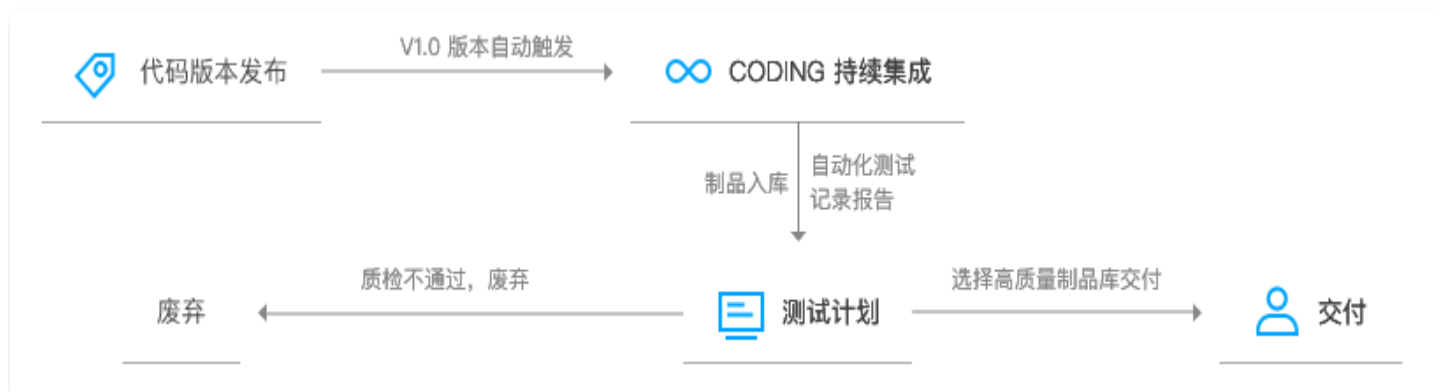
### Dependency storage

CODING-AR can be used to run and store private components or intermediate artifacts in the software development process for efficient collaboration on components across development teams.



### Artifact repository quality control

CODING-AR supports artifact vulnerability scanning which can be integrated with test management and bug management to record the bugs of artifacts and control their quality.



### Application distribution

Suitable for application distribution, whether it is desktop software or container images, users can quickly download through the pre-built high-speed global connectivity network.



# Continuous Deployment

Last updated: 2024-09-05 15:34:07

## Overview

CODING-CD is a sub-product of CODING DevOps. Continuous deployment refers to automating the process of frequently and continually deploying software to the production environment during software development, enabling rapid delivery of software products. As an extension of continuous integration, continuous deployment leverages the advantages of CODING's upstream and downstream products, forming a core process to achieve a closed DevOps loop and end-to-end control.

CODING-CD is used to manage the project release, deployment and delivery processes after build. It can seamlessly connect to upstream Git repositories and downstream artifact repositories to achieve automated deployment. It can also be integrated with webhooks as well as various development and Ops tools. Based on a stable technical architecture and Ops tools, it enables blue/green deployment, grayscale release (canary release), rolling release, and fast rollback.

## Strengths

### Publishing multiple build artifacts

Docker images, WAR packages, Helm packages, and software source code can all be configured as to-be-released artifacts in CODING-CD, which can seamlessly connect to CODING-CI and CODING-AR to implement a complete CI/CD process.

### Supporting multiple operating environments

Based on Spinnaker's infrastructure management capability, CODING-CD can connect to common runtime Ops systems and cloud native environments such as CVM, SCF, TKE, and Kubernetes.

### Flexible release process orchestration

With continuous deployment streamlined by the release process, CODING-CD makes it easy to control the release of applications with multiple microservices across different cluster environments (e.g., production, testing, pre-release). It also supports process pre-orchestration, rollback, and more features.

### Powerful approval system

Predefined approval processes make the release more stable and reliable. Users can automatically adapt different approval processes based on the hierarchical levels of the

release. Roles such as tester, product manager, and technical leader can be added to a release approval process as needed. Automated procedures and notification mechanism greatly improve the release efficiency.

## Static website service

As a key feature of CODING-CD, the service allows you to deploy the code or project files in your code repository as a static website, which supports binding custom domain names and automatic renewal of SSL/TLS certificates. You can also build personal blogs, corporate websites, and other simple websites.

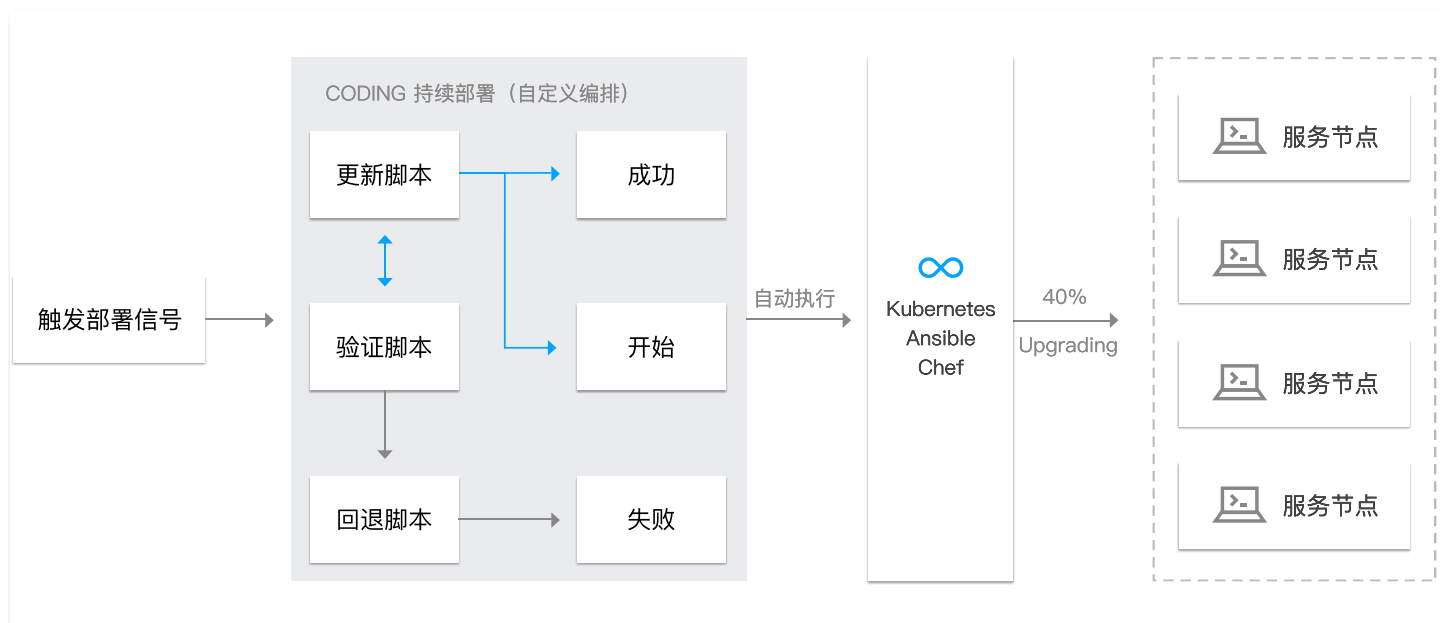
## Extended ecosystem

The CODING-CD console is built on Spinnaker, an open-source project of the Continuous Delivery Foundation. Optimized based on Spinnaker's international open-source ecosystem, the console can seamlessly connect to upstream and downstream development processes in CODING, providing an out-of-the-box development experience.

## Application Scenario

### Grayscale Release

CODING-CD allows you to configure release policies, and implement canary testing, grayscale release, and blue/green release using load balancers, monitoring tools, and other DevOps tools.



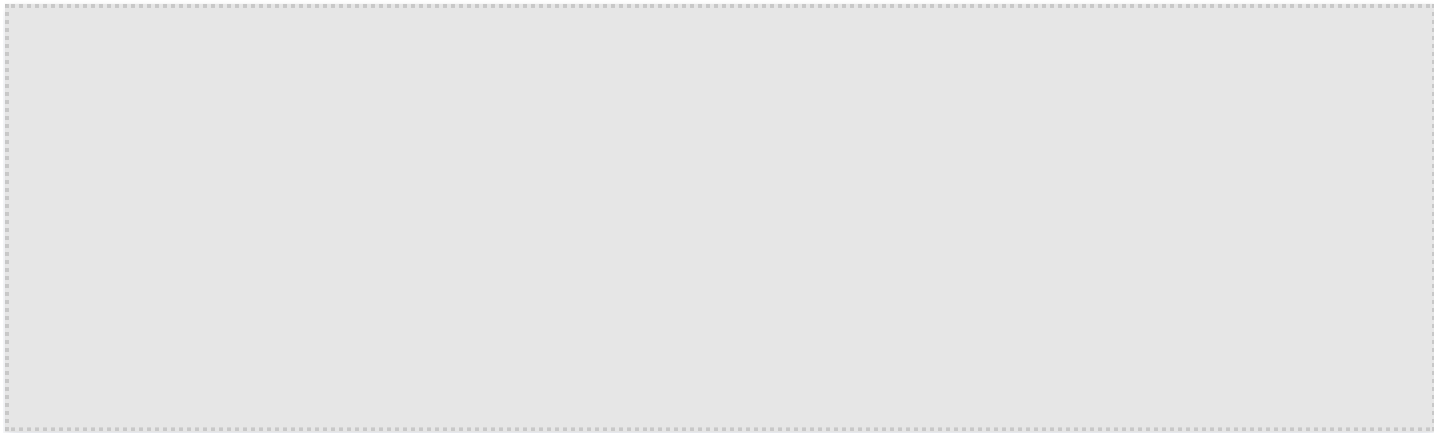
## App Listing

CODING-CD can directly deliver build artifacts of applications to App Stores for automated submission.



## Release Approval

CODING-CD supports manual and automated release approval in multiple scenarios before the release process starts.



# Efficiency insights

Last updated: 2024-09-05 15:35:26

## Overview

Performance Insight is a subproduct of CODING DevOps, which includes Template View, Template Charts, Chart Data Drill-down, and other features designed for statistical analysis of team members' issue distribution, issue overview, code distribution, etc., over a period. This helps measure the workload and work dynamics completed by team members. Like a probe program in a server, it collects work data after running and compiles it into a Visual View for analysis by team administrators.

Performance Insight also features Multi-dimensional and Cross-Project Filter Conditions Query Items, providing comprehensive coverage of delivery efficiency and establishing a more professional R&D Metrics System for the team.

## Strengths

### Out-of-the-box Metrics Template

We offer Out-of-the-box templates for team metrics, project metrics, individual metrics, quality analysis, requirement analysis, efficiency analysis, value and cost analysis, and other expert practice templates, helping you quickly start performance analysis and insight.

### Rich Metrics Indicators

Over 50 Statistical Metrics are provided, including Requirement Delivery Cycle, Defect Fixing Cycle, Code Submission Trend, Build Frequency, and Deployment Success Rate, giving organizations and teams a statistical perspective covering the entire software development lifecycle.

### Flexible Customization Capabilities

Each metric can be freely configured for presentation style and data filtering conditions, time range, comparative time dimensions, etc., flexibly meeting different scenario analysis needs.

### Automated Data Collection

CODING Insight integrates into the CODING DevOps toolchain, completing data collection from requirements, code, build, testing to deployment stages automatically without manual intervention, ensuring data objectivity and accurate reflection of the R&D status.

### Data visualization

Provides various Visual Chart Indicators such as Bar Chart, Pie Chart, Burndown Chart, Area Chart, which can be quickly generated with simple configuration. Supports One-Click Sharing, copy, data export for convenient operations.

## Professional Metrics Methods

Combining Lean, Agile, Continuous Delivery, and other advanced engineering philosophies and practices, it creates precise and effective R&D efficiency metrics, driving R&D Efficiency Improvement with professional methods.

## Application Scenario

### Organization-level R&D Efficiency Assessment

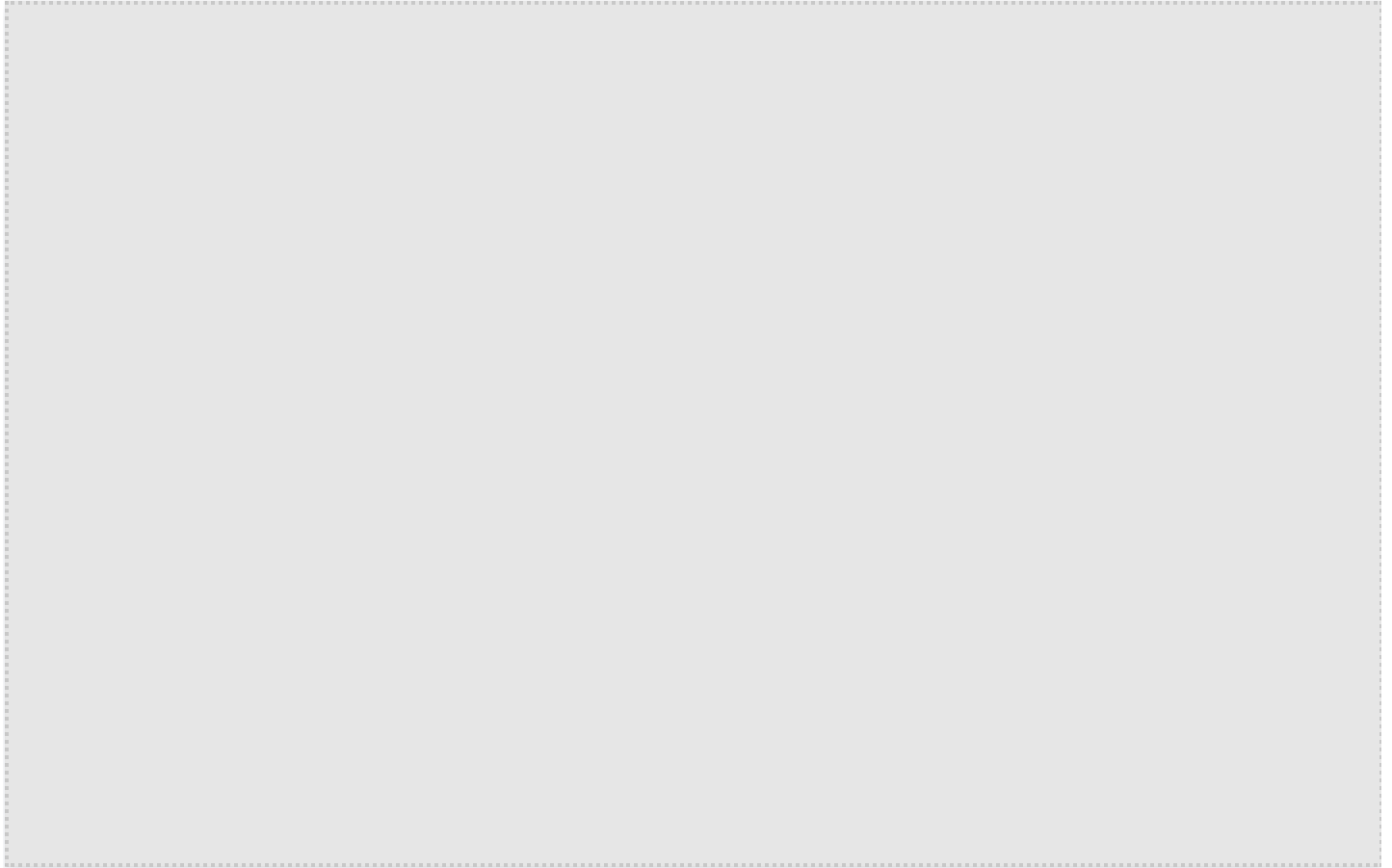
Systematically analyze various Quality, Efficiency, and Cost Indicators from a Global Perspective, including Process Indicators covering the Full Software Delivery Process Area. This helps organizations quickly understand internal R&D performance, identify global efficiency bottlenecks, and optimize based on evaluation results.



## R&D Team Efficiency Measurement

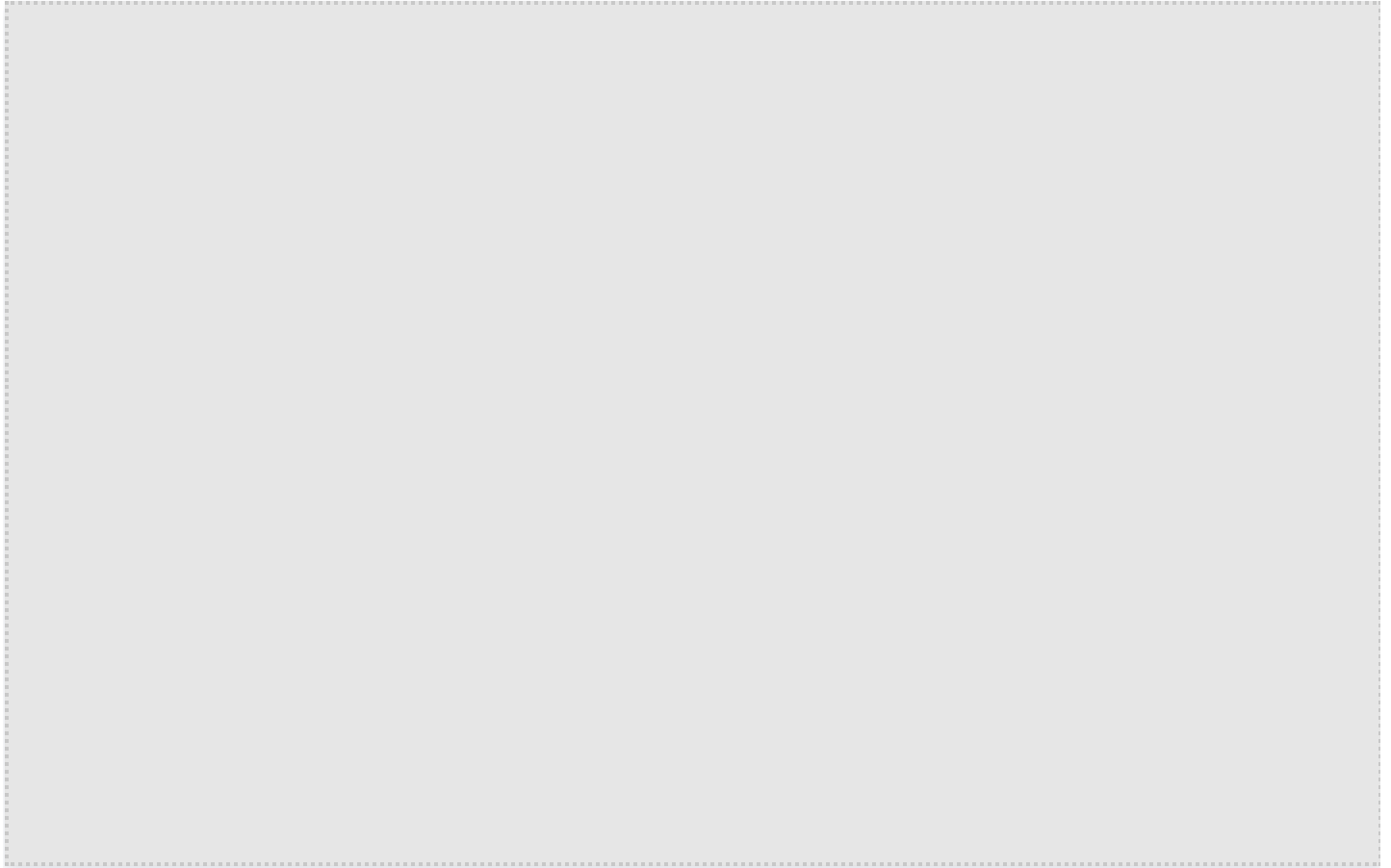
Provides quantifiable R&D metrics such as Code Submissions, Build Execution, Developer Self-Testing, driving teams to implement Process Improvement Analysis, adopt excellent

Engineering Practices, clear Technical Debt, optimize Resource Configuration, and objectively evaluate Team Members' Output and Cost.



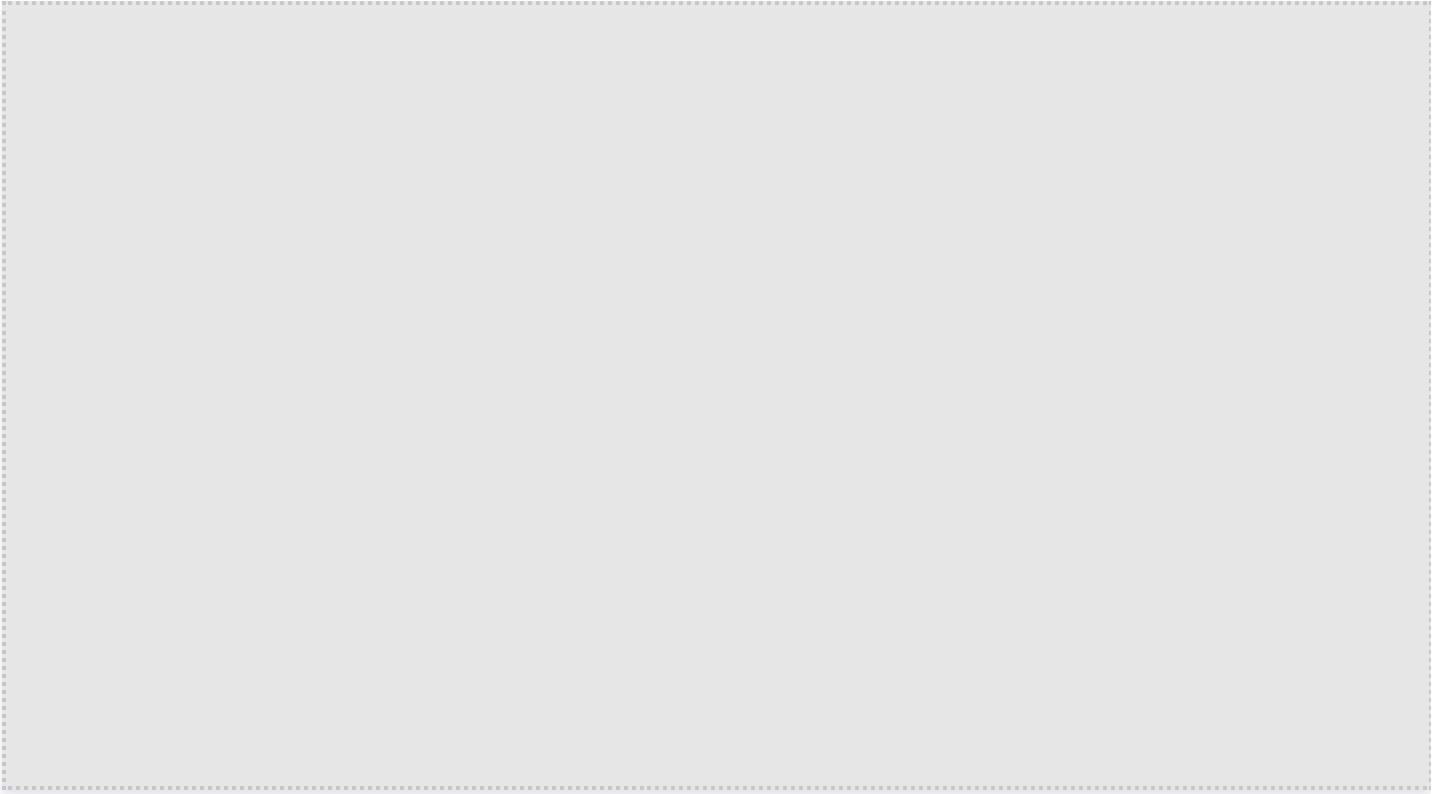
## Project Delivery Value Stream Analysis

Based on Lean Theory, visual indicators like Requirement Throughput and Delivery Cycle help teams identify bottlenecks and risks in the project delivery process. During Iteration Review, teams can effectively summarize and reflect, finding bottlenecks in project delivery, and continuously improving value stream efficiency.



## Personal Efficiency Improvement

Through metrics analysis views at the individual level, it helps developers fully and accurately understand their Development Efficiency, Development Quality, and Value Output, identify their work advantages and areas for improvement, and drive self-improvement.



# Strengths

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## Enhance R&D Efficiency

CODING combines with cloud advantages and integrates industry-proven agile project management and DevOps methodologies into the product. It bridges toolchain islands and collaboration barriers in the development process, covering the entire lifecycle of agile development. It helps teams manage requirements, iterations, development, testing, continuous integration, and continuous deployment comprehensively, thereby enhancing software R&D efficiency.

## Support Dual-mode R&D System Construction

CODING is suitable for development teams of varying sizes and different software development models (such as the Waterfall Model and Agile Model), meeting the collaborative needs of multiple business scenarios.

## Project Workflow and Metrics Data Visualization

CODING provides visual dashboards and supports detailed data reports on various dimensions such as code, project progress, and staff workload. This helps team managers make informed decisions, adjust project plans, and allocate R&D manpower reasonably.

## Seamless Integration with Third-party Platforms

CODING supports seamless integration with third-party code libraries such as GitHub and GitLab, as well as various common operation and maintenance systems and cloud-native environments, enabling users to achieve cross-platform seamless migration.

# Application Scenario

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## Enterprise-grade DevOps

Quickly streamline the end-to-end development process from requirements to deployment with Tencent Cloud's one-stop CODING DevOps toolchain. Achieve seamless integration between requirements, code, artifacts, and CI/CD, facilitating efficient cross-functional collaboration and ensuring stable and continuous software delivery.

## Agile Development Management

Tencent Cloud CODING DevOps deeply integrates with agile development principles. Starting from user stories to requirement pool management, task decomposition, defect management, and test management, the agile development process is systematically established. This helps enterprises verify the market impact of product versions with lower budgets and faster iterations.

## DevSecOps

Integrate the automated code scanning, artifact scanning, quality gate, and other capabilities provided by Tencent Cloud CODING DevOps with CI/CD to create an automated security detection chain from coding, building, testing to deployment, achieving "quality + efficiency" dual assurance.

## Cloud-native Practices

Tencent Cloud CODING DevOps offers application-centric cloud-native application lifecycle management tools, providing developer-friendly application modeling, deployment, and monitoring capabilities. This helps enterprises lower the barriers to cloud-native application adoption, enhance application delivery efficiency and reliability, and build a systematic application operations management capability.