

Configuration Management Database

White paper



Table of Contents

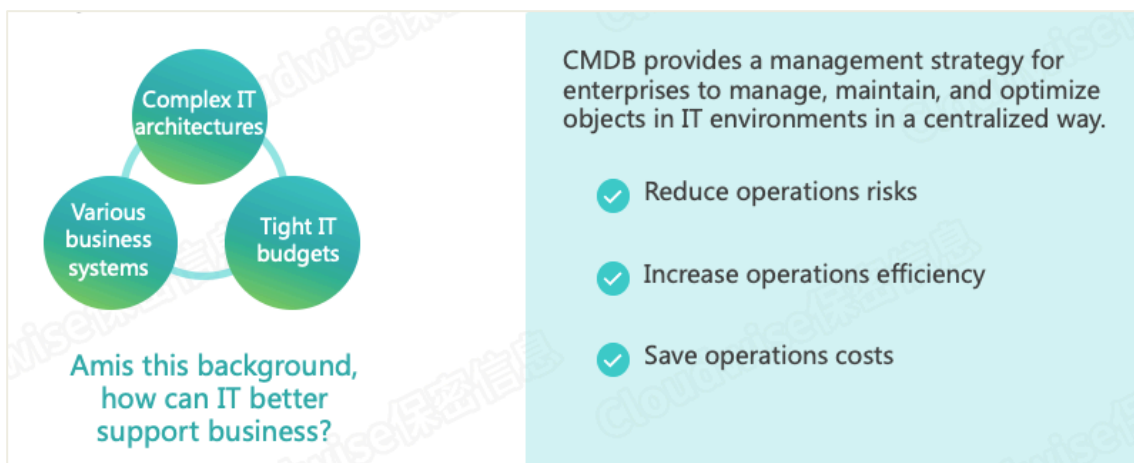
Background	1
CMDB vital to IT operation in new era.....	1
CMDB facing new challenges.....	1
Traditional CMDB VS New requirements.....	2
Product description.....	3
Business-centered CMDB.....	3
Product architecture	3
Product functions	3
Model management.....	4
CI management	6
Business management	6
Topology management.....	7
Visual CI statistics and display	7
System management.....	8
Product features	11
Dynamic modeling from a business view.....	11
Visual configuration management in various views.....	12
Data maintenance based on auto-discovery	13
OpenAPI in various scenarios	13
Interconnected with other Cloudwise solutions.....	14
Professional CI management consultation	14
Product values	15

Background

CMDB vital to IT operation in new era

In the digital time, IT and business are gradually being closer and even equal in some aspects. To ensure user experience and business development, the health of IT systems must be first guaranteed. The application of new technologies such as cloud computing in existed IT systems of enterprises has added complexity to business architectures. Meanwhile, the changes in the economic environment has urged business innovation-oriented enterprises to turn to management innovation-oriented ones with the application of new technologies. The management of the enterprises is also becoming finer-grained. The complex business needs and the tightening IT budget are making operations far more challenging than before.

Management strategies is the key of the solution to the preceding issues. Enterprises can manage, maintain, and optimize their IT environments only after they are able to manage and control objects in their IT environments efficiently. Amid this background, CMDB is as important as eyes and brain for IT operations in recording objects, object relationships, and how objects coordinate to support business development in the IT environments.



CMDB facing new challenges

Traditional CMDB service is faced with the following challenges amid the background of digital transformation and finer-grained management:

- With the emerging of tools and technologies such as big data, cloud computing, and AIOps, enterprises are posing higher requirements on configuration item (CI) management.

- IT environments are becoming more and more complex with the emerging of concepts such as clouds, containers, and microservices as well as the evolving of bimodal data centers.
- The logical relationships between objects must be focused on under the fusion of IT and business.

Traditional CMDB VS New requirements

Traditional CMDB service fails to meet the increasingly requirements of enterprises in the new era due to the following reasons:

- **Low data quality**

Operations data is of large scale, and therefore manual collection of data can lead to low accuracy and manual synchronization can hardly be in real time.

In this case, data maintenance is of low efficiency but with high costs.

- **Limited data consumption scenarios**

Application scenarios of traditional CMDB are limited and cannot meet the requirements of data consumption scenarios such as IT operations monitoring, automatic operations, and AIOps security auditing that require the application of new technologies and architectures.

- **Business view absence**

Traditional CMDB manages resources from a view of resources types instead of business, making it difficult to evaluate CI values.

To sum up, CMDB service with business at the center is necessary for business and technology development and act as pillars for enterprise digital transformation and finer-grained management.

Product description

Business-centered CMDB

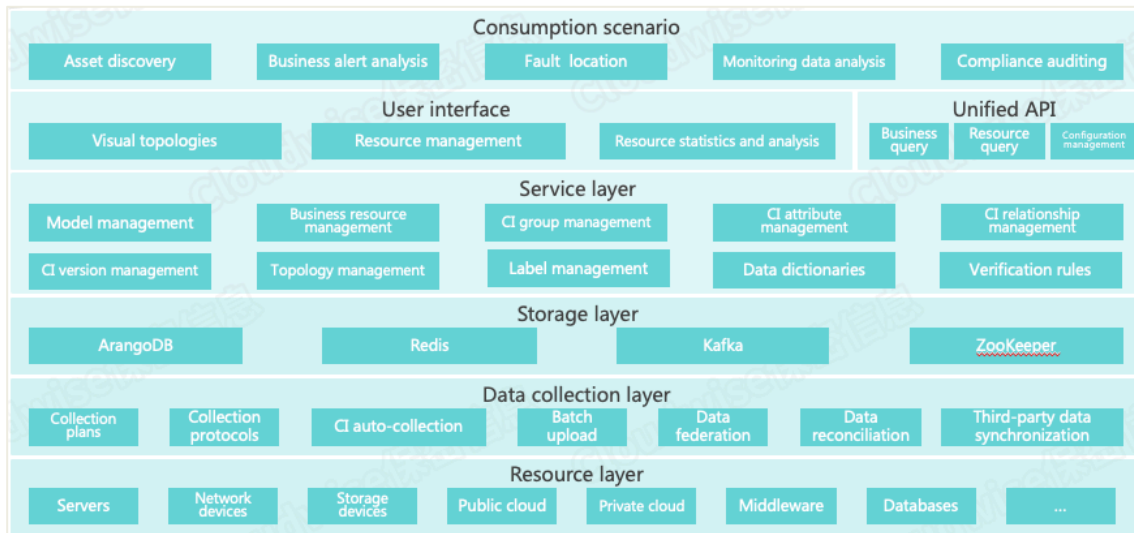
Cloudwise Configuration Management Database (Cloudwise CMDB) provides a new kind of CMDB service driven by business and is the cornerstone for operations solutions provided by Cloudwise. Cloudwise CMDB allows users to manage metadata from the IaaS, PaaS, and SaaS layers and can provide metadata support for Cloudwise ITSM, Cloudwise Automation, and operations monitoring products provided by Cloudwise.

Cloudwise CMDB has the following benefits:

- ❖ Dynamic modeling from a business view
- ❖ Data maintenance based on auto-discovery
- ❖ Visual configuration and management from multiple views
- ❖ OpenAPI for various consumption scenarios
- ❖ Interconnection with other solutions provided by Cloudwise

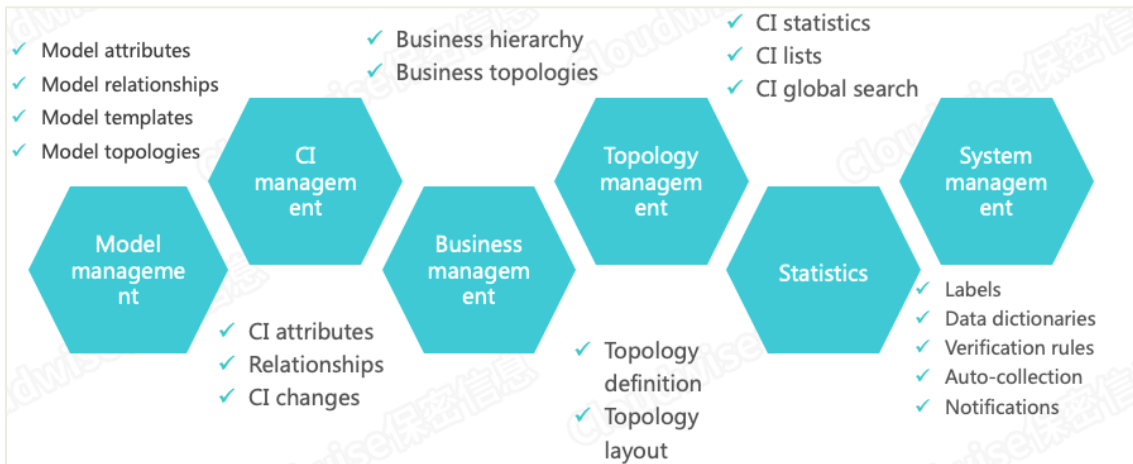
Product architecture

The following figure describes the product architecture of Cloudwise CMDB.



Product functions

The following figure describes the main functions of Cloudwise CMDB.

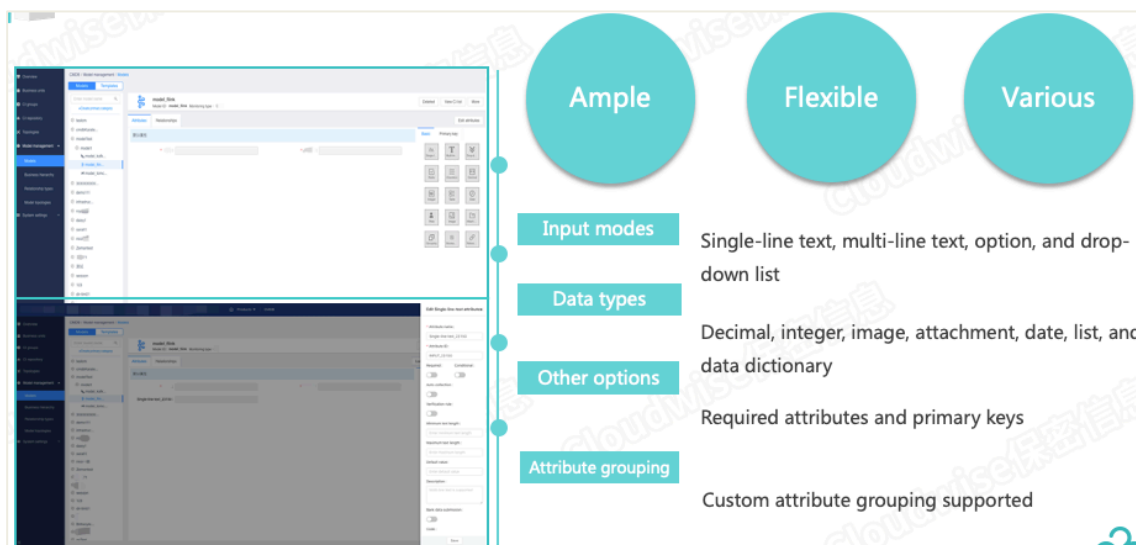


Model management

Allow users to manage the attributes, relationships, templates, and topologies of models in a centralized way.

■ Model customization

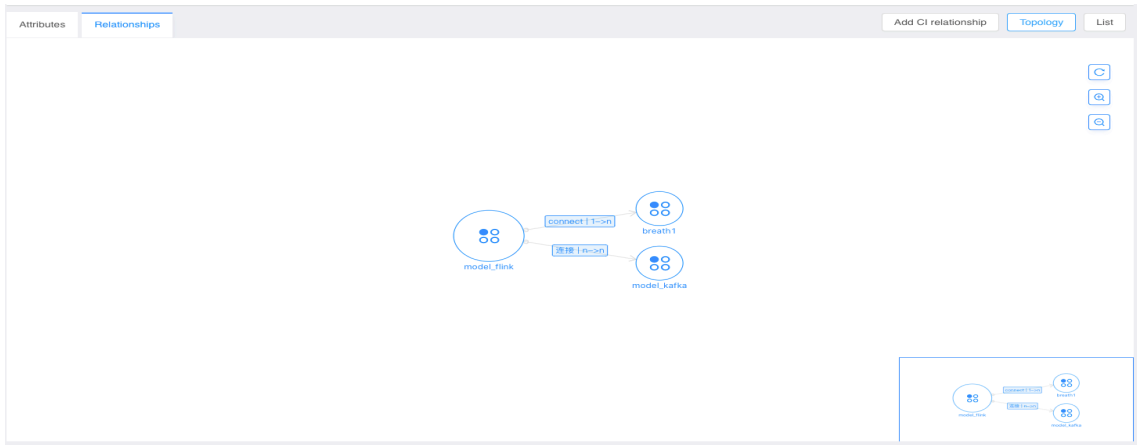
Allow users to customize models by designing model attributes dynamically.



■ Model relationships

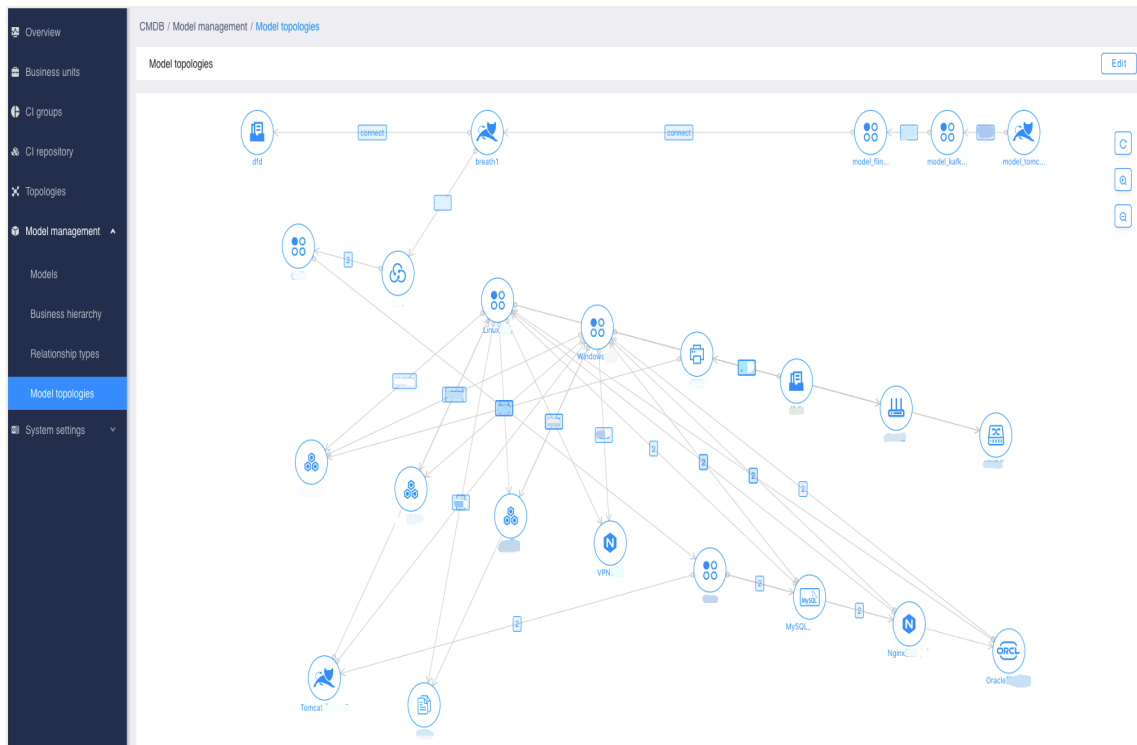
Allow users to specify and manage model relationships in a centralized way, and group model relationships by types and show them in topologies. Models can be associated through the relationships to regulate the relationships between CIs within the models.

Attributes		Relationships			Add CI relationship	Topology	List
Type	Involved model	Constraint	Identifier	Actions			
connect	breath1	1->n	Common relationship	Delete			
	model_kafka	n->n	Common relationship	Delete			



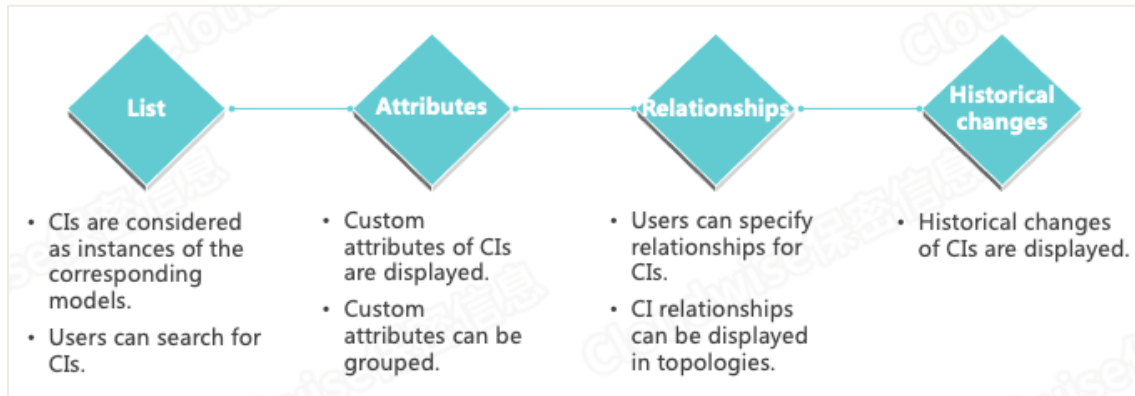
■ Model topology

All model relationships can be displayed in the topology in a unified way. Allow users to view relationships between all models from a global view within a single topology.



CI management

Allow users to define and manage CIs in a centralized way. The auto-discovery, manual upload, and batch upload of CIs are supported. Users can also specify CI relationships, view CI historical changes, and search for CIs.



Business management

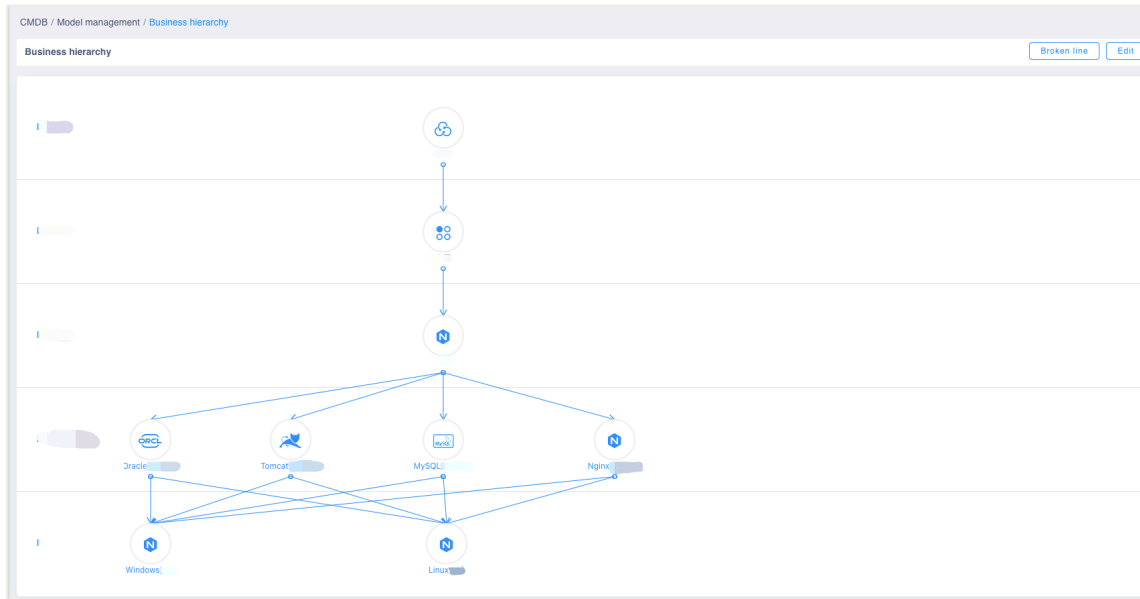
Allow users to specify the business hierarchy and manage business topologies.

■ Business hierarchy

Allow users to group CIs in a business view, customize business levels, and create models based on the corresponding business levels. This is applicable to heterogeneous business with a complex business hierarchy.

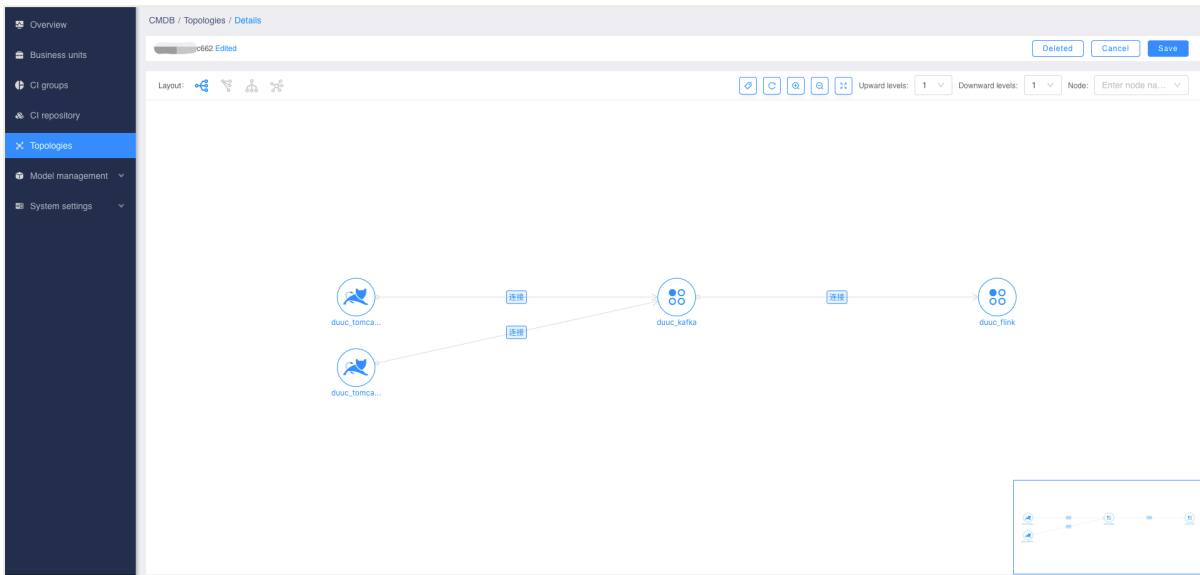
■ Business topologies:

Business units are applicable to business consumption scenarios and provide business data and resource relationships for business operations scenarios.



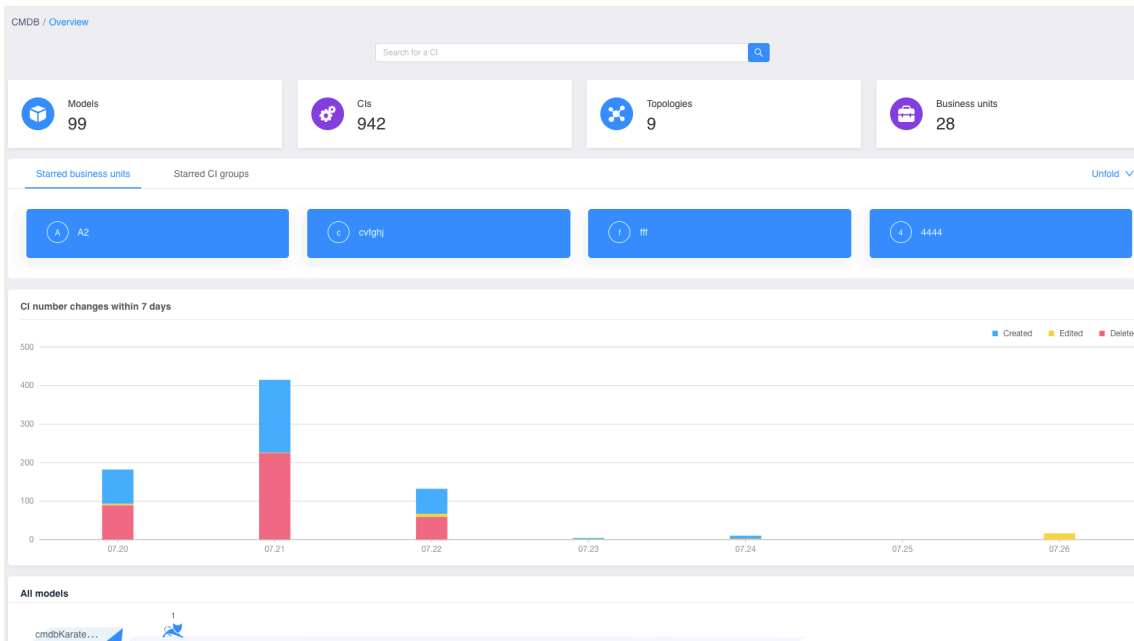
Topology management

Allow users to manage topologies of CI relationships in a centralized way and show CI relationships graphically from custom views. This can satisfy the requirements of viewing CI relationships in different scenarios.



Visual CI statistics and display

CIs are grouped and displayed based on the business, platform, and infrastructure classifications. CI drilling down is supported in this module.

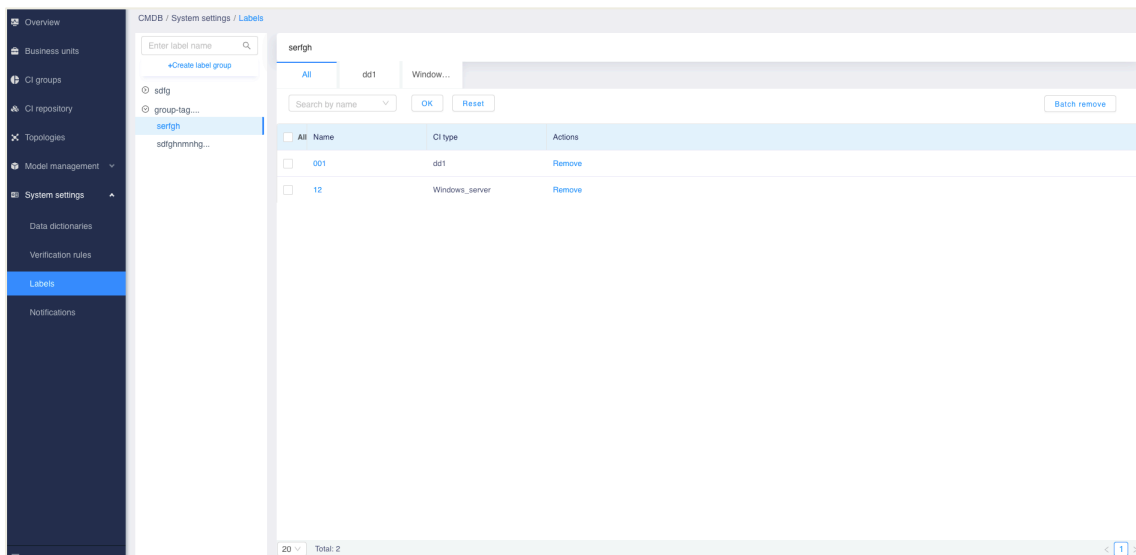


System management

Allow users to manage labels, data dictionaries, and verification rules. The auto-collection of CIs is also supported in this module.

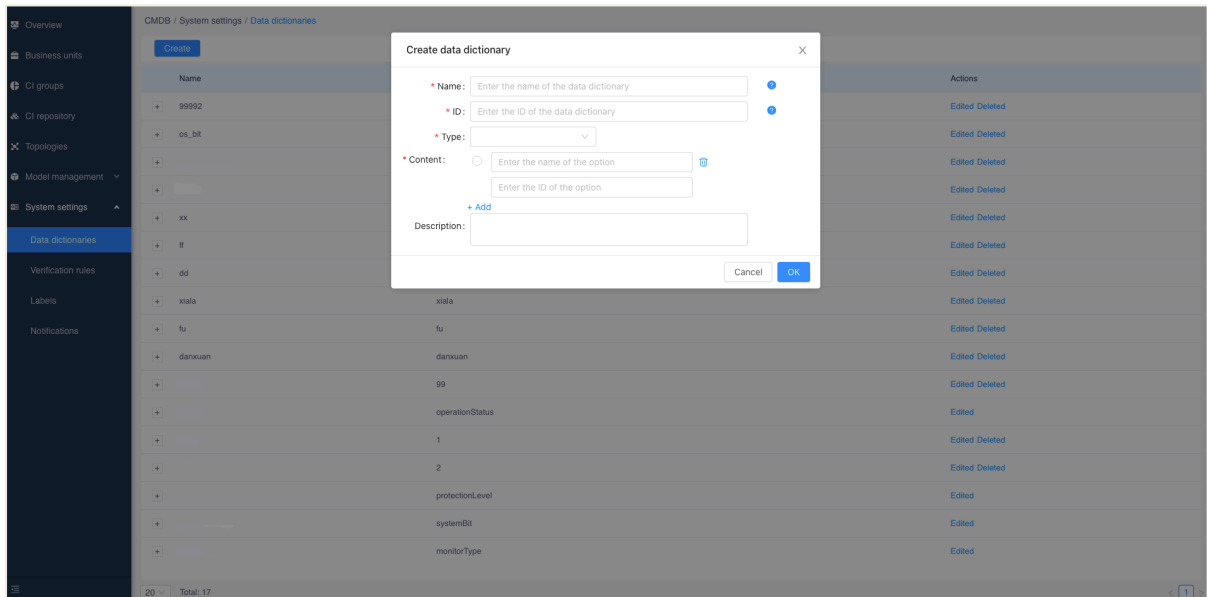
■ Labels

Allow users to attach labels to CIs, view CIs by labels, and manage labels by groups.



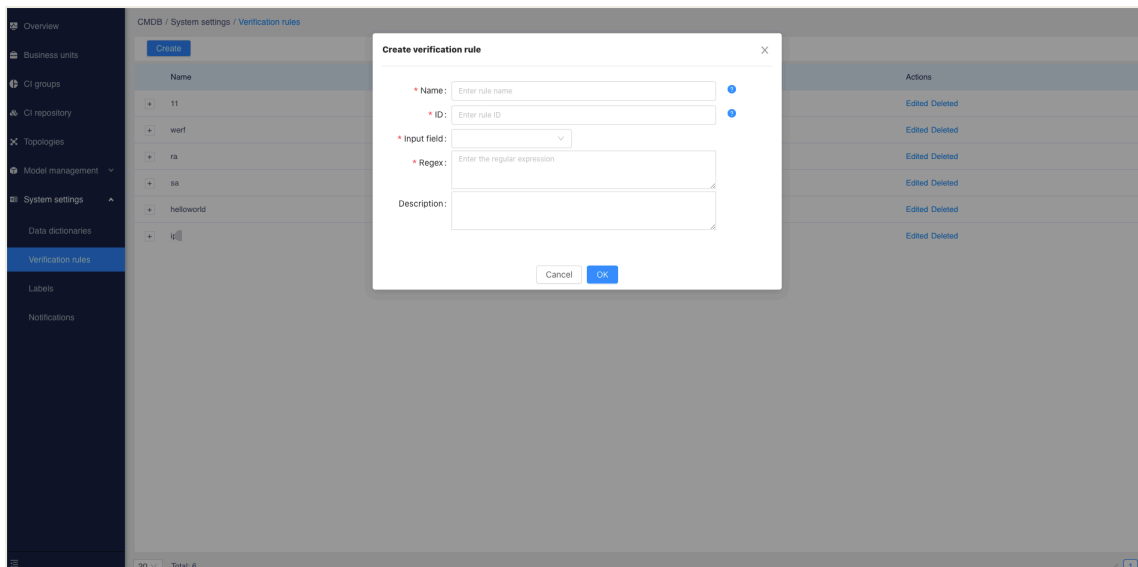
■ Data dictionaries

Allow users to manage data dictionaries in a centralized way. This can provide standard data for users to create CI attributes easily and modify CI information based on business changes quickly.



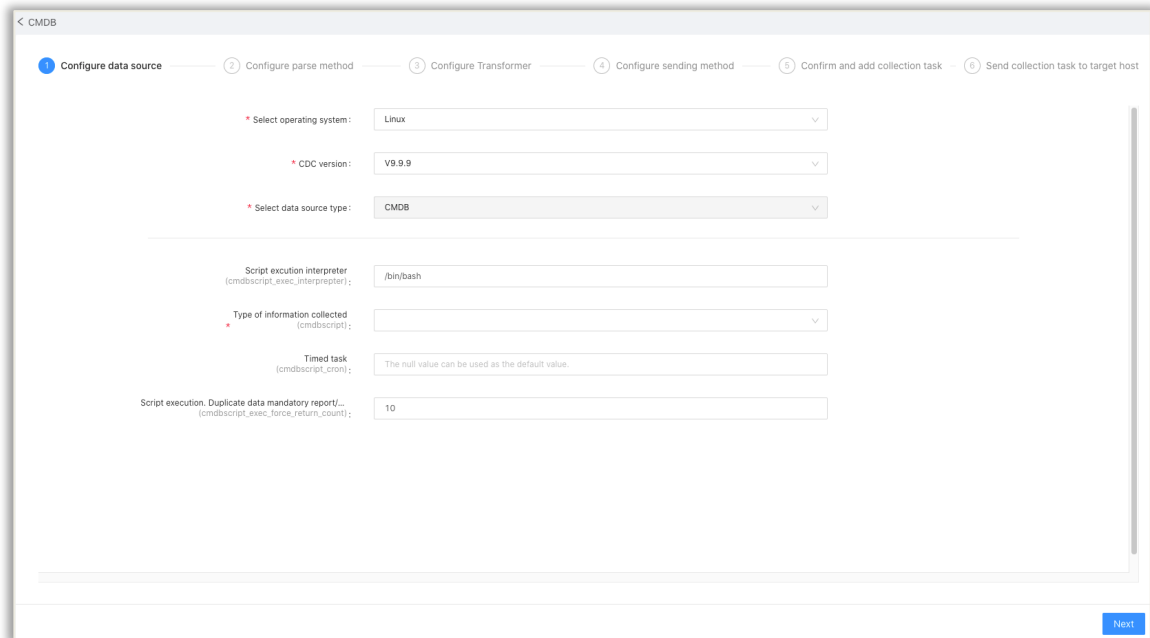
■ Verification rules

Allow users to manage verification rules in a centralized way. Regular expressions and uniqueness verifications are applied to improve data accuracy and prevent faults caused by misoperations.



■ Auto-collection

Support automatic collection of CIs from multiple sources, reconcile the data based on the built-in rules, and update the data in Cloudwise CMDB automatically. This can accelerate data update of Cloudwise CMDB and avoid problems such as low efficiency, high workload, and errors, reducing costs as well as enhancing data accuracy.



■ **Notification management**

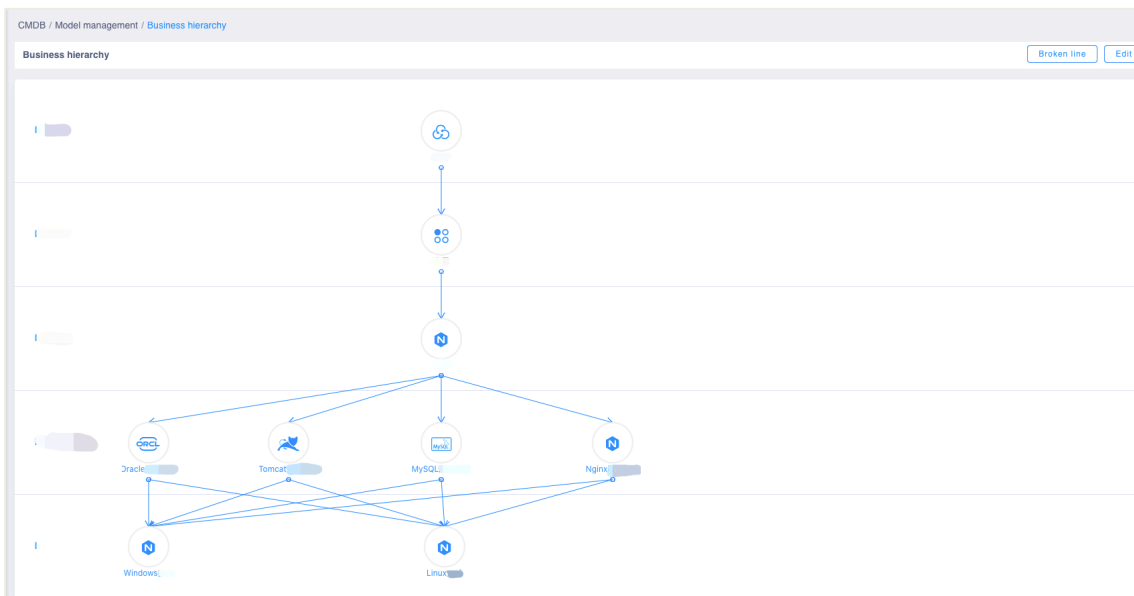
Cloudwise CMDB allows users to customize subscriptions. When data such as CI attributes, CI relationships, model attributes, and model relationships changes, Cloudwise CMDB will notify the changes to the specified channels so that the administrators can handle the changes in a timely basis.

Subscription name	Created by	Created at	Actions
232	admin	2021-05-29 00:05:20	Edited Deleted
ra	admin	2021-07-10 16:57:02	Edited Deleted
wef	admin	2021-07-12 18:40:42	Edited Deleted
sa	admin	2021-07-07 18:50:52	Edited Deleted

Product features

Dynamic modeling from a business view

Unlike traditional CMDB service, Cloudwise CMDB groups and manages software and hardware for enterprises from a business view. Hierarchical models based on business are used. Model relationships can be established across business levels to meet the needs of heterogeneous business. CIs can be managed based on the business hierarchy and displayed in topologies.

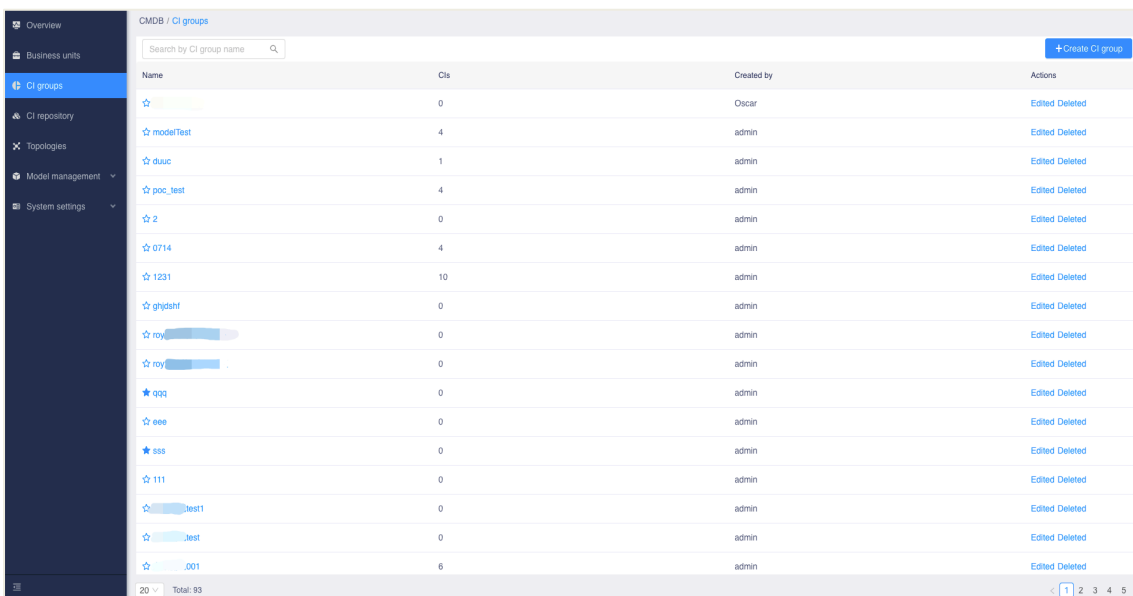


Visual configuration management in various views

Cloudwise CMDB **supports both business authorization and CI authorization**. Business authorization supports a fine-grained authorization by business level, satisfying the needs of different permission-control granularities. The combination of the two authorization methods is flexible and convenient, and can meet the complex and fine-grained requirements on permission control.

■ CI groups

The traditional view where CIs are managed and maintained based on classifications.



Name	CIs	Created by	Actions
☆	0	Oscar	Edited Deleted
☆ modelTest	4	admin	Edited Deleted
☆ duuc	1	admin	Edited Deleted
☆ poc_test	4	admin	Edited Deleted
☆ 2	0	admin	Edited Deleted
☆ 0714	4	admin	Edited Deleted
☆ 1231	10	admin	Edited Deleted
☆ ghjshf	0	admin	Edited Deleted
☆ roy	0	admin	Edited Deleted
☆ roy	0	admin	Edited Deleted
★ qq	0	admin	Edited Deleted
☆ eee	0	admin	Edited Deleted
★ sss	0	admin	Edited Deleted
☆ 111	0	admin	Edited Deleted
☆ .test1	0	admin	Edited Deleted
☆ .test	0	admin	Edited Deleted
☆ .001	6	admin	Edited Deleted

20 Total: 93

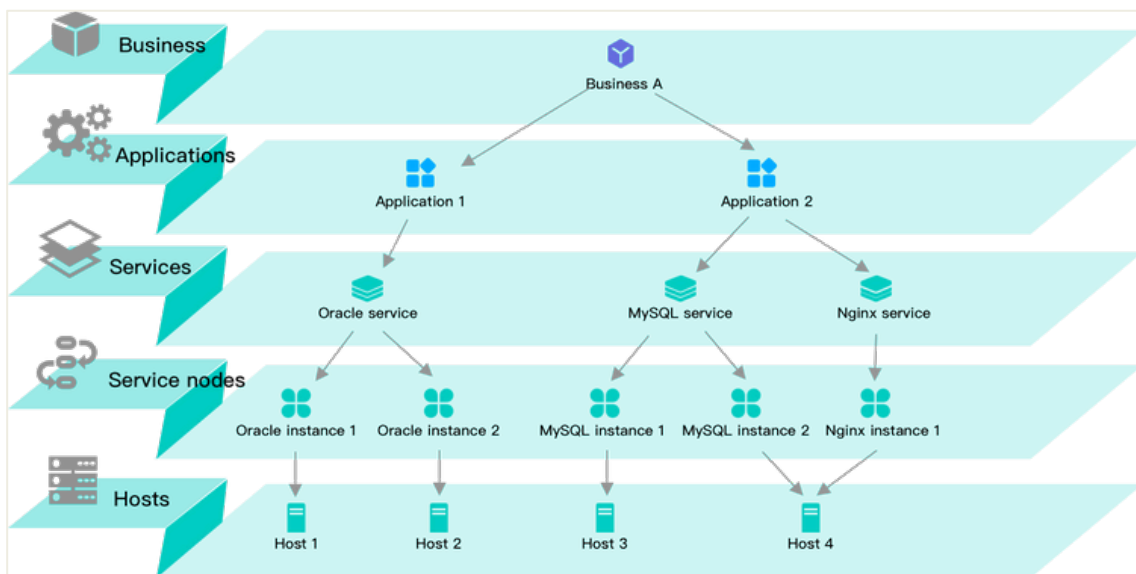
■ Business units

The new business view where CIs such as software and hardware, network, and services are managed and maintained based on business and applications to support different business operations scenarios.

Name	CIs	Created by	Actions
☆ jonie	1	jonie	Edit Deleted
☆ chloe	2	chloe	Edit Deleted
★ asdi	2	admin	Edit Deleted
☆ new	0	admin	Edit Deleted
☆ evelest	3	evelyn	Edit Deleted
★ cvright	0	admin	Edit Deleted
★ A2	0	admin	Edit Deleted
★ #	0	admin	Edit Deleted
☆ nico22	0	admin	Edit Deleted
★ nico	0	admin	Edit Deleted
☆ duuc	0	admin	Edit Deleted
☆ dd	0	admin	Edit Deleted
☆ 22222222	0	admin	Edit Deleted
☆ ww	0	admin	Edit Deleted
☆ ee	0	admin	Edit Deleted
☆ aaa	0	admin	Edit Deleted

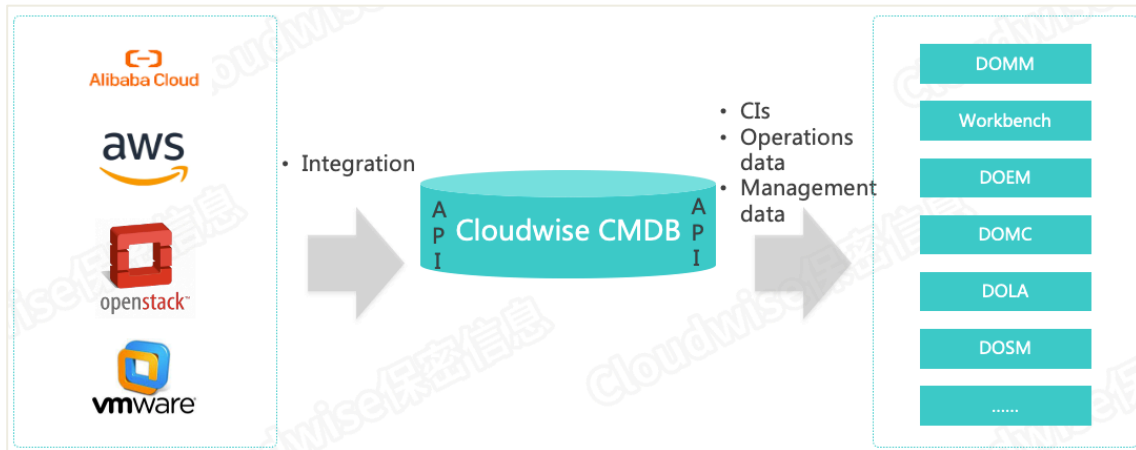
Data maintenance based on auto-discovery

CIs from the IaaS, PaaS, and SaaS layers are automatically collected through channels such as agents and APIs. Data is collected from multiple resources in a federation way and reconciled to ensure data comprehensiveness and accuracy in the Cloudwise CMDB.



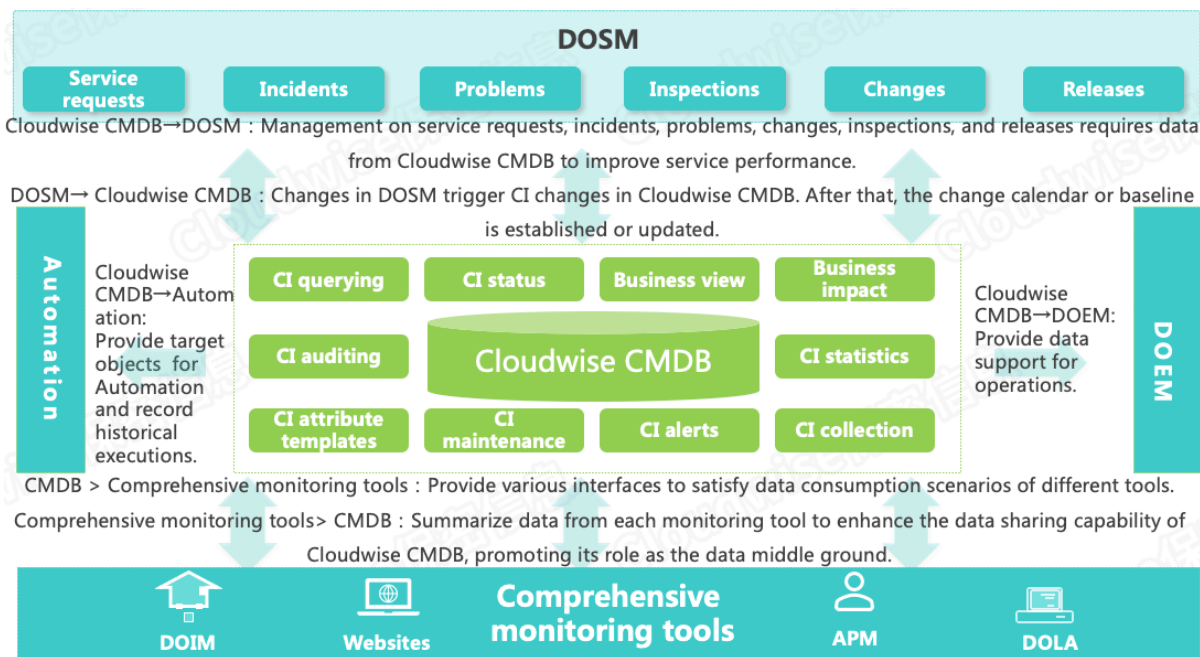
OpenAPI in various scenarios

The API interfaces provided in Cloudwise CMDB are standard, general, and full-featured, which can connect to other Cloudwise products as well as third-party products. This can not only provide support for data consumption scenarios such as IT structure management and alerting, but also synchronize data from other platforms to Cloudwise CMDB for centralized management.



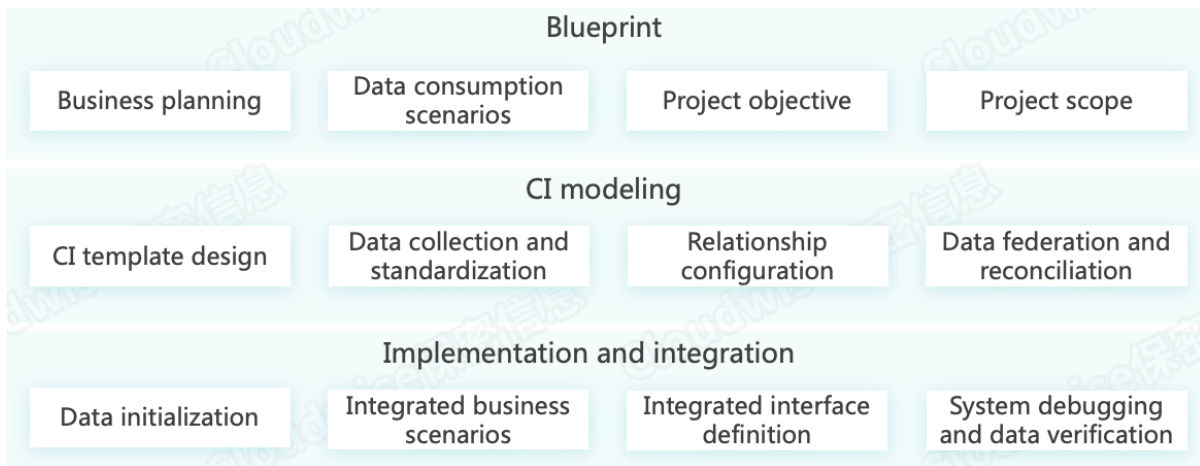
Interconnected with other Cloudwise solutions

As the cornerstone of solutions for AIOps provided by Cloudwise, Cloudwise CMDB can be interconnected with other products provided by Cloudwise such as DOSM, Automation, DOLA, and DOEM.



Professional CI management consultation

Cloudwise CMDB provides methodologies on collection, modeling, and management of CIs and empowers enterprises with the closed-loop ability of “Consultation + implementation + products + empowerment + best practices”, helping enterprises planning IT and service ecosystems, promoting the integration of IT and business objectives, and providing data support for AIOps.



Product values

Cloudwise CMDB can provide the following values for users:

- ✧ Cloudwise CMDB focuses on objects in the IT environments and integrate isolated data from different systems, allowing users to view and analyze data globally from a business view. This lays the foundation for IT systems in monitoring, automation, ITSM, and AIOps of the enterprises.
- ✧ Cloudwise CMDB can provide unified CI data for enterprises and allow users to manage CIs in a centralized way. This can reduce the data management cost as well as promote internal coordination.
- ✧ Cloudwise CMDB can decrease the repetitive work of junior operations staff, reduce communication costs, and improve the efficiency of routine work such as ticket handling and fault troubleshooting to enhance the overall efficiency and value of operation.
- ✧ Cloudwise CMDB can provide comprehensive and accurate information of all objects in the IT environment and therefore help managers to make business decisions.