

Big Data Middle Platform Solution

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Challenges and Issues

02

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Success Stories

Challenges and Issues

01

Disorganized Data Abundance

- Numerous isolated application systems cannot interconnect.
- Non-standardized data fails to meet business needs.
- Large data volumes incur high collection costs.

02

Fragmented Data Application

- Incomplete data dimensions lead to limited, superficial use cases.
- Lack of end-user perception and feedback mechanisms.
- Absence of operational data analytics.

03

Dispersed Operational Data

- Business management reports are scattered across multiple systems.
- Lack of tracking and monitoring for management directives.

04

Legacy System Limitations

- Current systems do not support standard data warehouse modeling operations.
- Existing systems cannot handle multi-dimensional modeling without risking database failure.

05

Lack of Self-Service Analytics

- Analytical reports require dedicated data developers to complete.
- Business departments cannot independently generate needed reports.

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Big Data Middle Platform



The digital age has given rise to a critical new asset: **data**. As data evolves into a pivotal factor of production, building a robust data asset framework has become an urgent priority.

Amidst this technology-driven revolution, the digital economy is the new engine for enterprise growth. Across all sectors, the focus is on developing digital industries—from management to manufacturing—tailored to regional strengths, with the goal of fostering leading digital enterprises.

Development Goals



Data Convergence, Storage, and Computing

Build the foundational software environment for an enterprise data resource pool to break down data silos.



Data Governance

Establish unified data standards to enable information integration and sharing, achieving the goal of a single source of truth.



Data Services

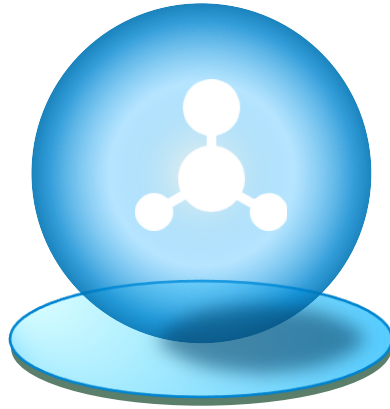
Enhance the value of enterprise data by providing unified data services and support to downstream business systems.

Expected Benefits



Achieve Data Sharing

Centralize data via the platform to enable secure, privacy-compliant access across departments, maximizing its value as a strategic business asset.



Enhance Business Collaboration

Integrate dispersed data from various systems into a unified platform, facilitating cross-departmental cooperation and providing a foundation for enterprise-wide analysis and oversight.



Drive Business Innovation

Empower business teams to conduct multidimensional analysis and data mining based on detailed, trusted data, creating favorable conditions for service, product, and business model innovation.



Increase Development Efficiency

Provide a consistent data foundation through the platform, simplifying complex data sourcing and processing to significantly improve the efficiency of building and operating IT systems.



Improve Data Quality

The data warehouse integrates and cleanses dispersed data, systematically enhancing overall corporate data quality and practicality.

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Platform Development Plan

1

Establish a Data Governance Foundation

Build a data quality inspection system to identify, categorize, and resolve data issues, initiating systematic governance.

2

Unify Business Data Standards

Analyze business systems to create and implement unified data standards, ensuring consistent terminology across all operations.

3

Build a Scalable Data Warehouse

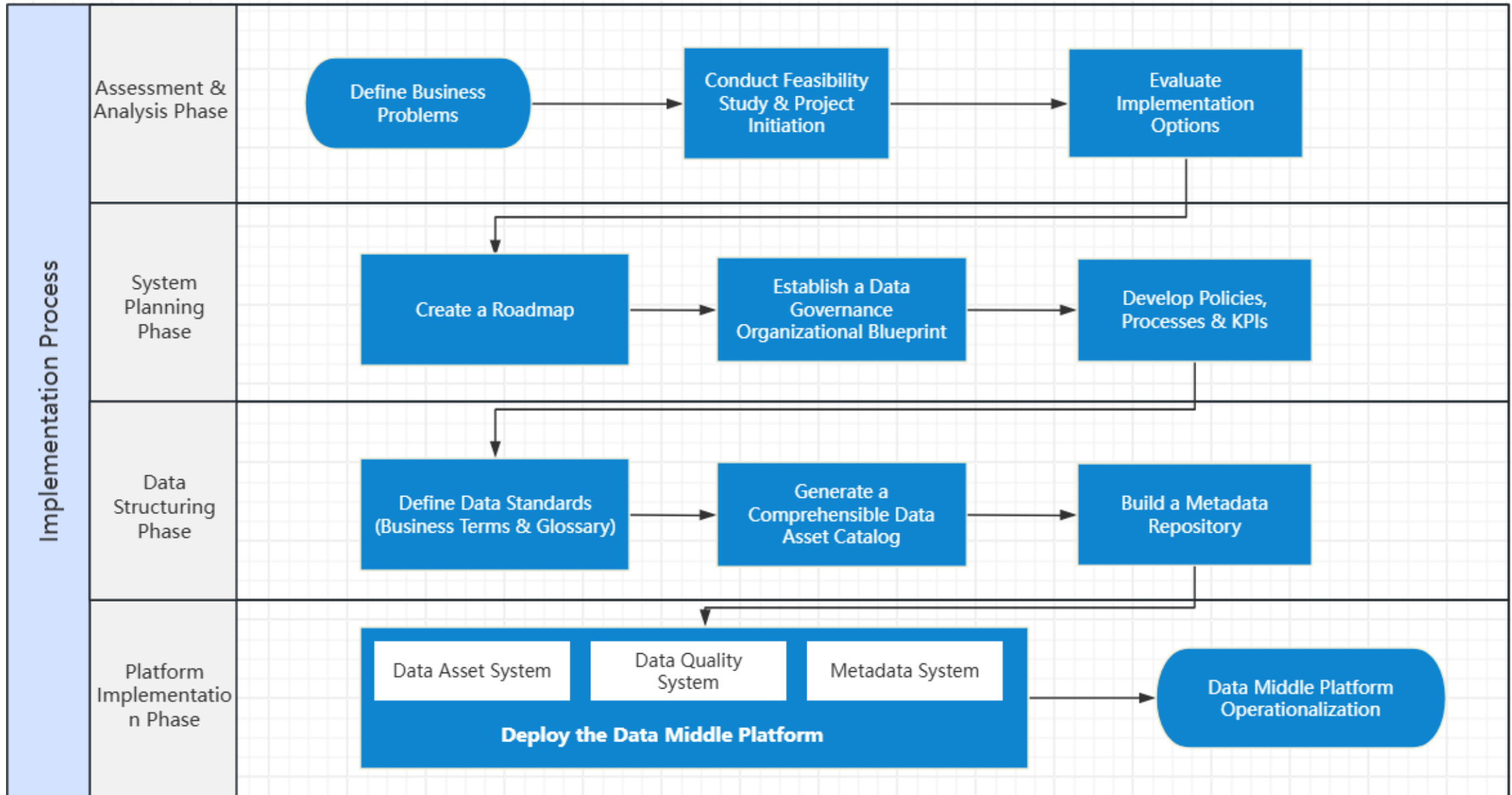
Develop a stable, scalable data warehouse framework that integrates core business data for efficient access and historical analysis.

4

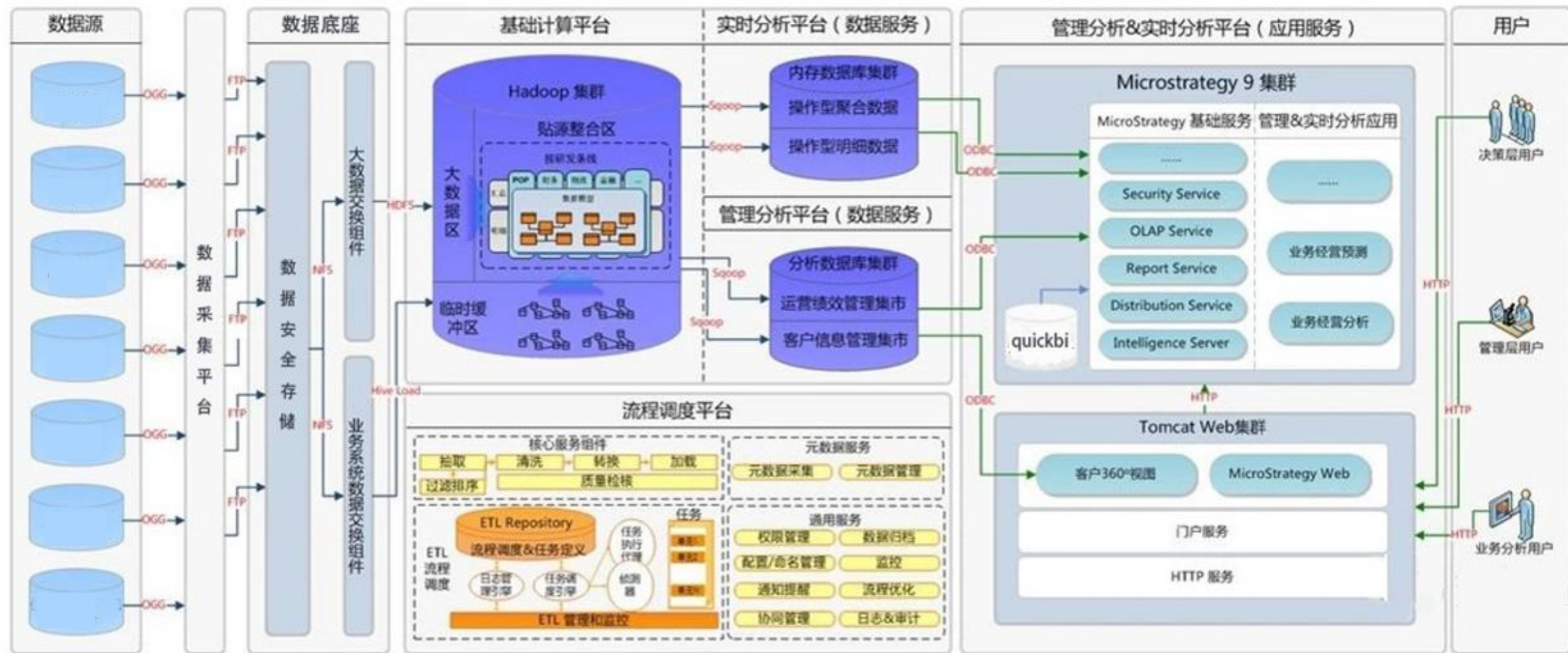
Drive Data-Driven Transformation

Unlock data value by applying it to practical business scenarios, making it the cornerstone of process innovation and strategic decisions.

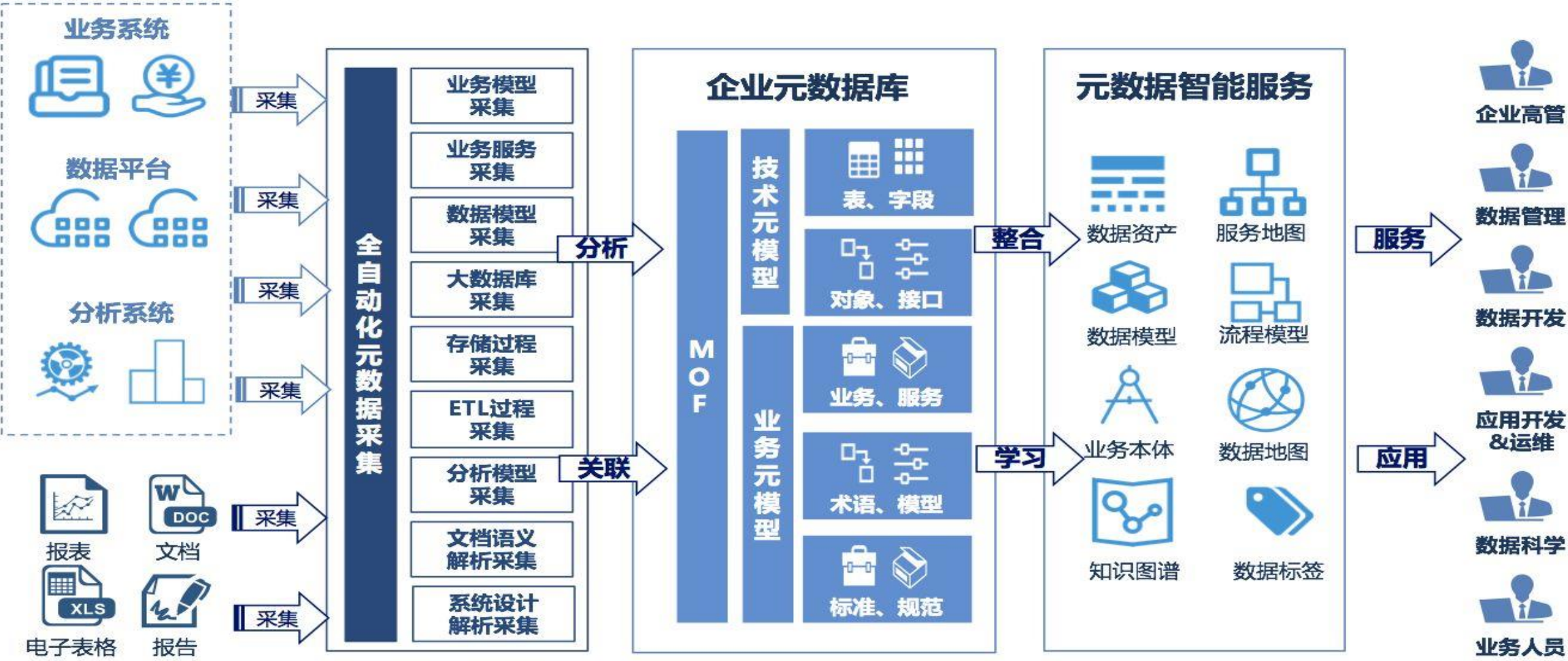
Implementation Process



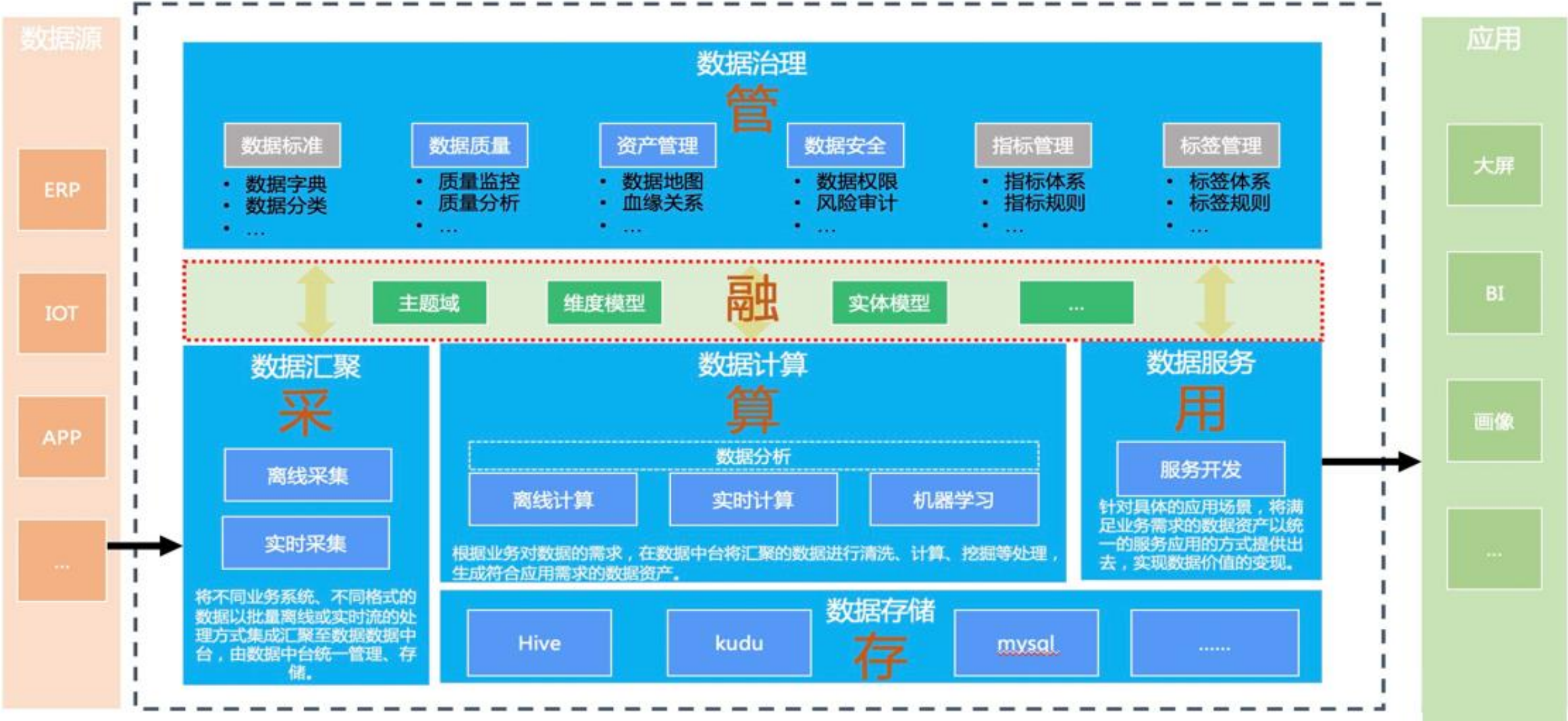
System Architecture



Platform Architecture



Product Architecture



Product Components



Data Collection



**Data Ingestion
into Lake**



**Data
Development**



Data Modeling

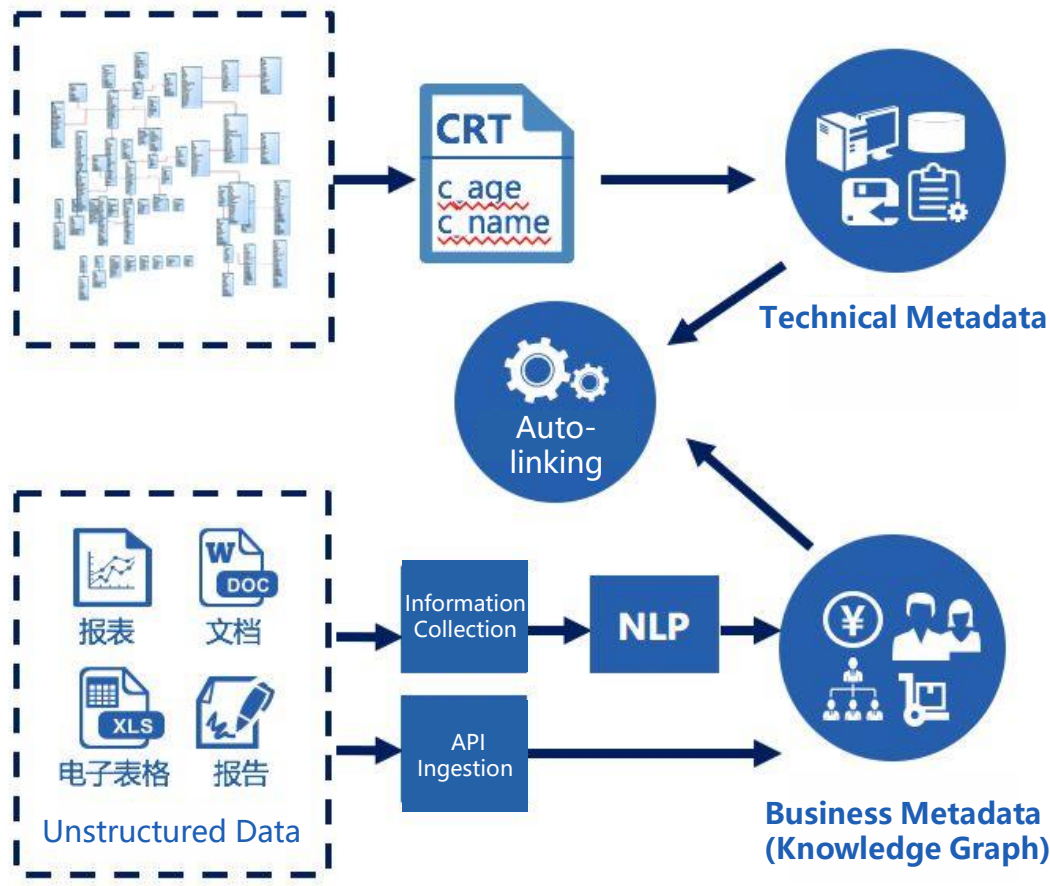


Data Services



**Business
Intelligence**

Features — Data Ingestion



The top part of the image shows a screenshot of the **DevOps** interface. It features a sidebar with navigation options like '用户管理', '工作空间', '用户权限', and '系统设置'. The main area displays a table of search results with columns for '用户类型', '资源类型', '最后更新时间', and '数据大小'. Below the table, there are filters for '数据大小' and '最后更新时间'. The bottom part of the image shows a **DATA** shopping cart icon with a '添加到工作空间' (Add to workspace) button. Below the cart, there is a diagram showing a data flow from 'PKP-CHTDP' to 'PKP' and then to 'REPORT01-FOSS01'.

Features — Data Governance

Operational Level

Progressively address reporting data quality issues to systematically reduce manual report corrections by frontline staff, using established data standards as the guiding basis.

01

Management Level

Establish a formal data quality management mechanism that encompasses the complete workflow of issue identification, root cause localization, and systematic resolution.

02

Data Error Correction

Implement a source-of-truth accountability principle: the individual or team that enters the data is responsible for its subsequent correction.

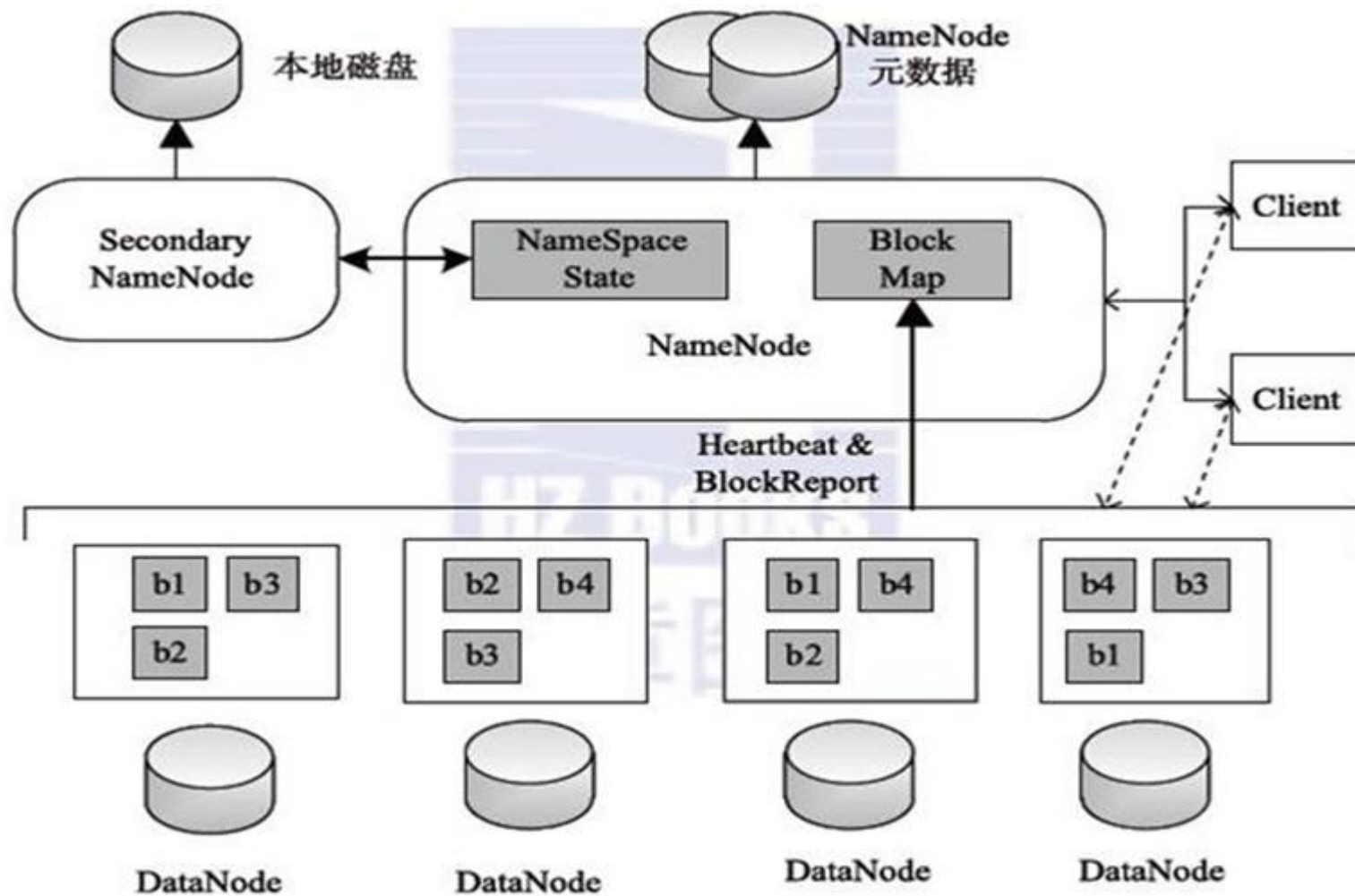
03

IT System Development Level

Embed data quality validation rules directly into IT systems. This creates a verifiable data quality ledger, providing an objective basis for resolving issues and conducting performance evaluations.

04

Features — Data Storage



Features — Data Security

In the process of big data development, addressing security risks—such as personal privacy exposure through data correlation analysis—is a primary concern. We have established the following key data security metrics: Confidentiality, Integrity, Availability, Accountability, Authenticity, and Reliability.

Risk management primarily involves the following four activities:

- Establish a big data risk management strategy aligned with the organization's overarching security policy.
- Select appropriate safeguards based on risk assessment outcomes, including but not limited to data masking (e.g., 139****1234), data encryption (plaintext: 12345, ciphertext: \$2a\$10\$LVqJWl3Mvo...), and data obfuscation (e.g., before: "数据中台", after: "电台期发").
- Formulate specific security policies and update the overall security strategy as necessary.
- Develop and execute security plans to implement the approved protection measures.

Features — Analytics & Modeling

1、Model Change

Structural changes, business field changes.

Example: Field length, field type.

2、Impact Analysis

Determine the scope of impact based on metadata changes.

(Analysis based on: Chinese name, English name, data type, length, valid values...)

3、Define Impact Scope

Scope both inside and outside the data warehouse, within the big data environment.

Example: ODS (Operational Data Store), Core Layer, Risk Data Mart.

4、Process Triggering

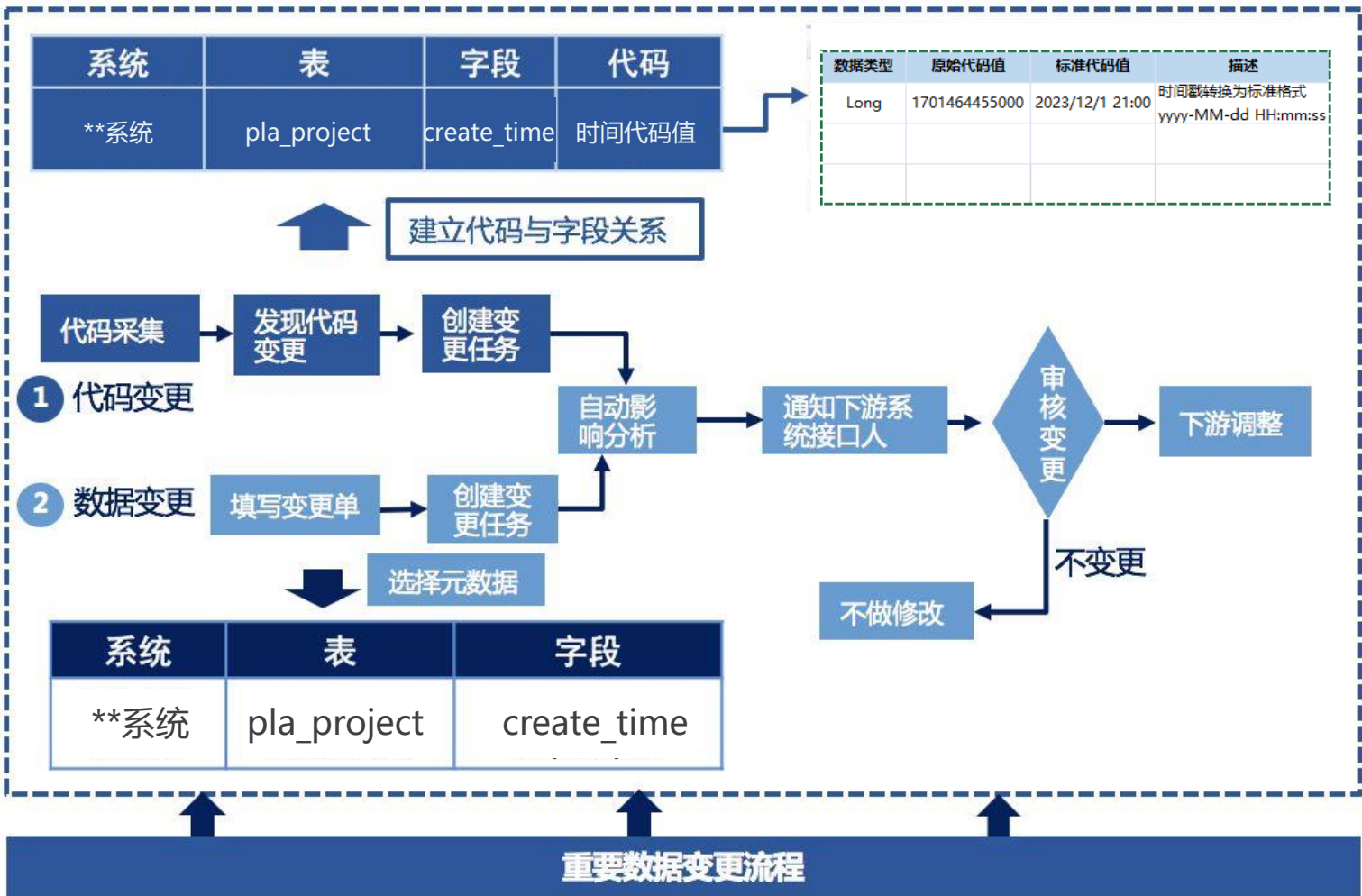
Trigger notifications across the data pipeline.

Via SMS, WeChat, etc.

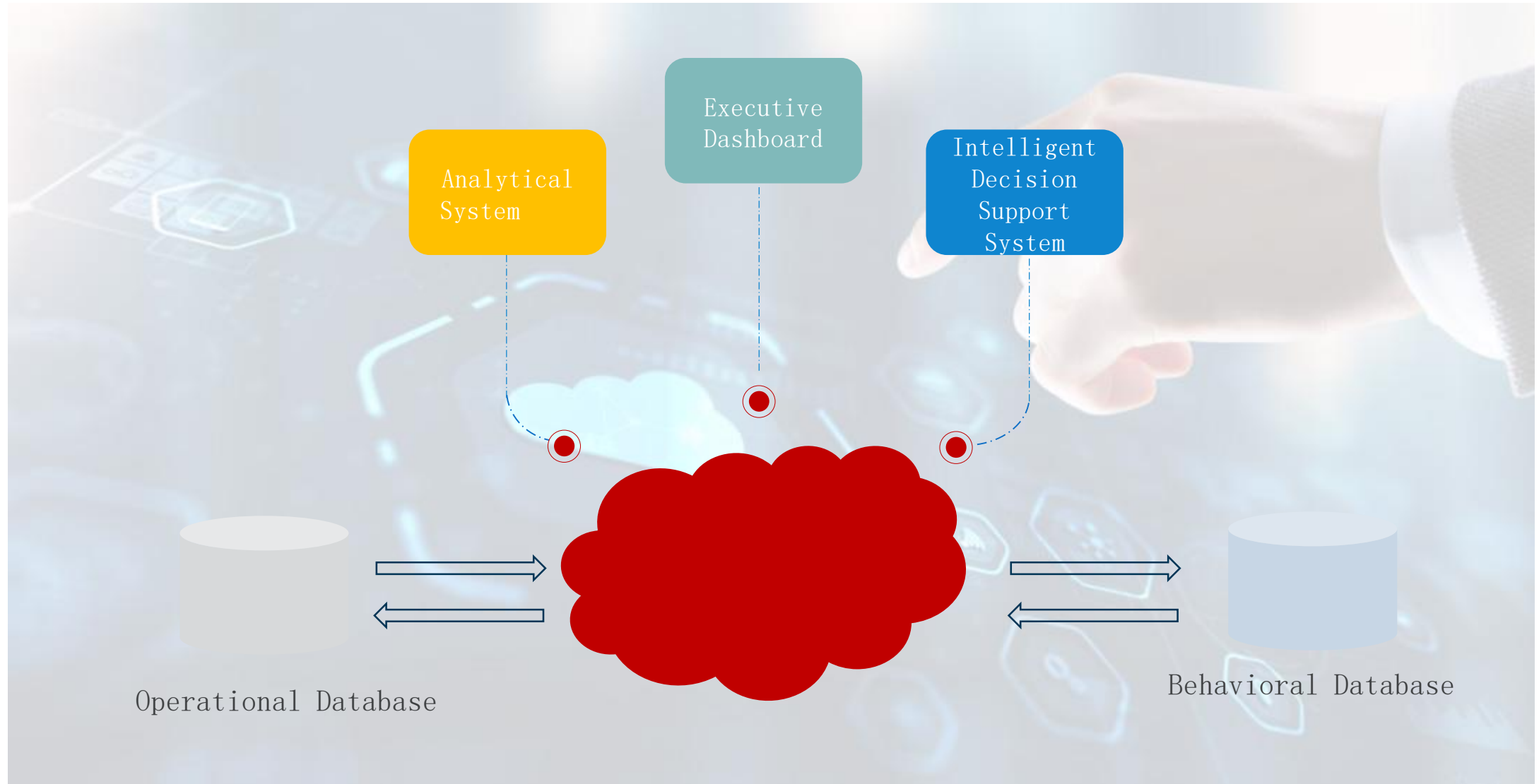
5、Modification Confirmation Process

Confirm and execute the relevant data modification procedures...

Example: Immediate modification, deferred modification, no modification (with reasoning and alternative handling methods).



Features — Data Services



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今日统计

查看更多

采集任务

333 ↑

成功

331 ↑

失败

2 ↑

处理中

0 ↑

应用系统	采集任务	采集成功	采集失败
	13	13	0
	10	10	0
	16	16	0
	99	99	0
	52	52	0
	11	11	0
	0	0	0
	37	35	2
	31	31	0
	0	0	0
	64	64	0

功能模块

入湖&报表生成

大数据建模

数据库操作平台

数据服务

帮助文档

用户操作手册

常见问题解答

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消息管理

任务中心

系统管理

任务列表

全量采集任务

增量采集任务

实时任务

失败任务

采集表名

请输入采集表名

日期

2024-05-18 - 2024-05-24

应用系统

请选择应用系统

数据源

请选择数据源

状态

请选择状态

采集方式

请选择采集方式

搜索

重置

导出

业务编号	采集表名	数据源	应用系统	采集方式	上传总数(条)	上传总次数(次)	任务状态	开始时间	结束时间	操作
c0a8006f8f9baeec018f9baeec720059				全量同步	35	1	成功	2024-05-21 23:04:43	2024-05-21 23:04:43	
c0a8006f8f9baee6018f9baee63f0058				全量同步	33	1	成功	2024-05-21 23:04:42	2024-05-21 23:04:42	
c0a8006f8f9baee0018f9baee02a0057				全量同步	1	1	成功	2024-05-21 23:04:40	2024-05-21 23:04:40	
c0a8006f8f9baeda018f9baeda1a0056				全量同步	1	1	成功	2024-05-21 23:04:39	2024-05-21 23:04:39	
c0a8006f8f9baed4018f9baed4090055				全量同步	1	1	成功	2024-05-21 23:04:37	2024-05-21 23:04:37	
c0a8006f8f9baecd018f9baecdfa0054				全量同步	1	1	成功	2024-05-21 23:04:36	2024-05-21 23:04:36	
c0a8006f8f9baec7018f9baec7e80053				全量同步	1	1	成功	2024-05-21 23:04:34	2024-05-21 23:04:34	
c0a8006f8f9baec1018f9baec1b30052				全量同步	37	1	成功	2024-05-21 23:04:32	2024-05-21 23:04:32	

共 100 条

10条/页

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1

2

3

4

5

6

...

10

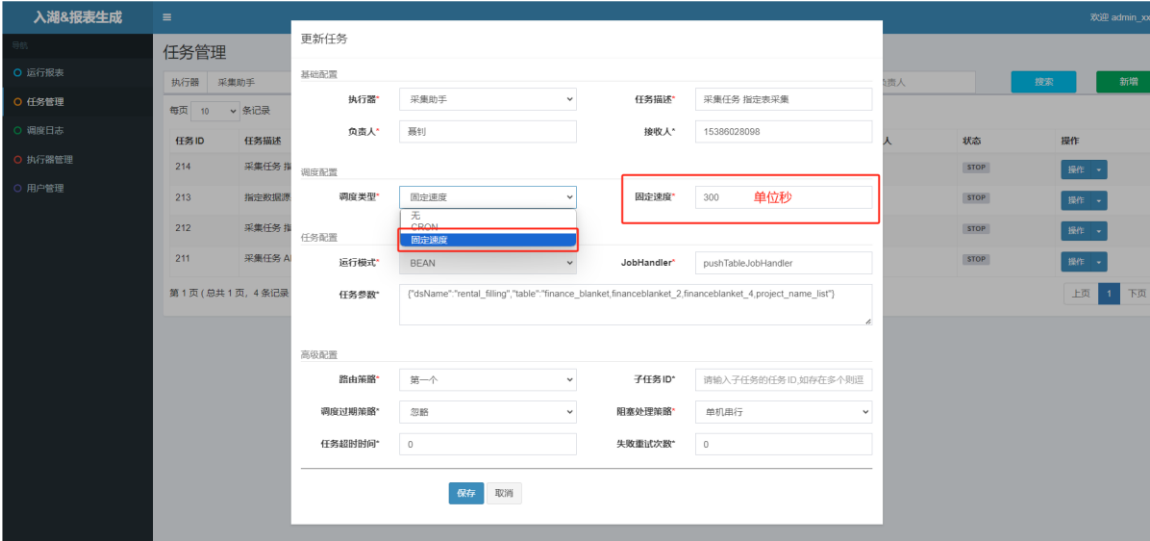
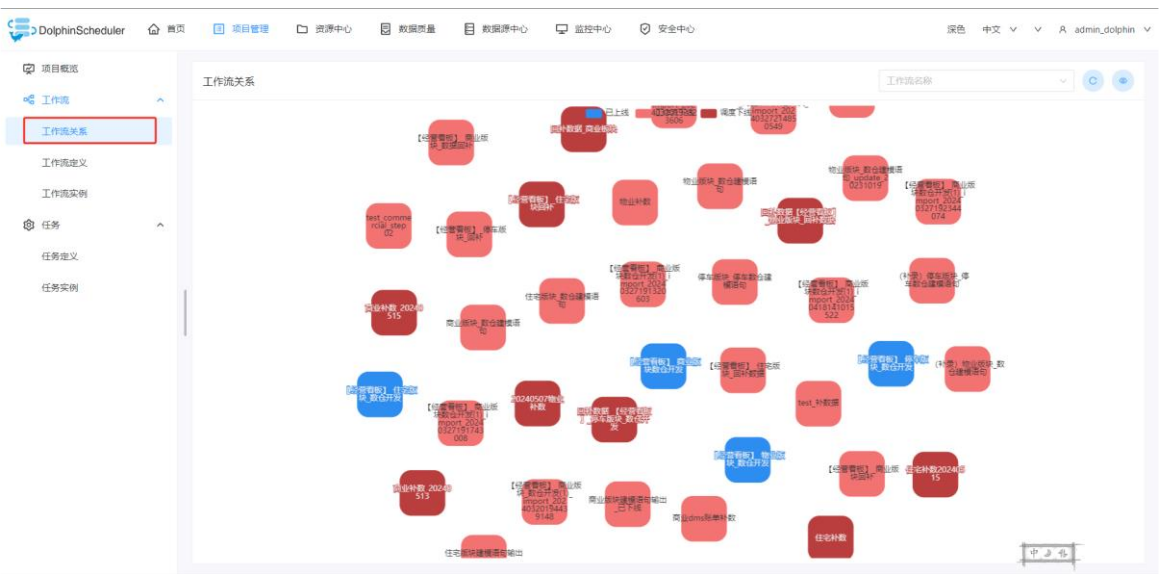
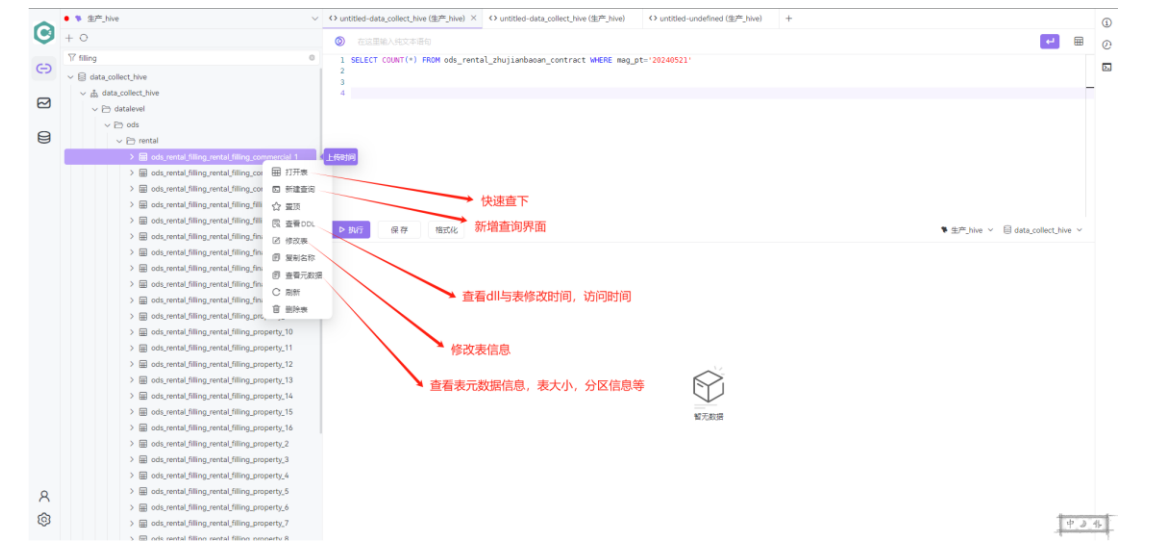
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前往

2

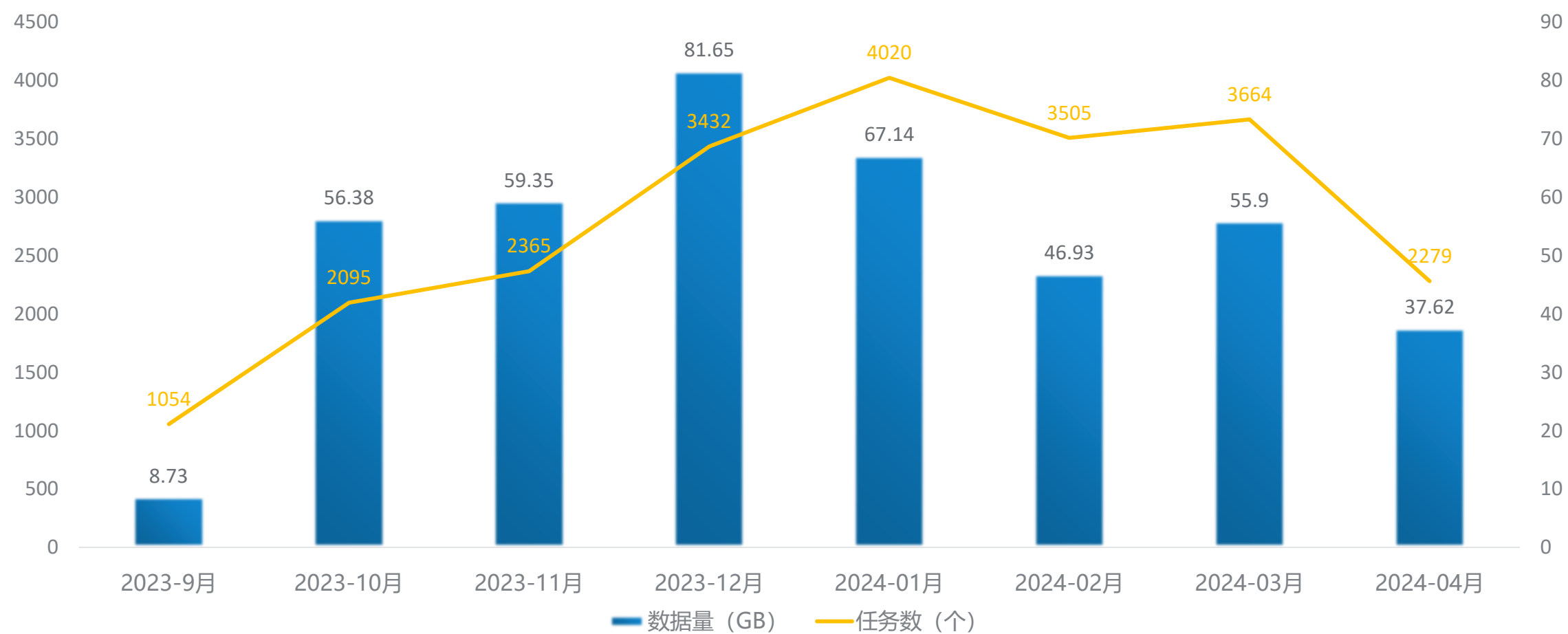
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Success Stories



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Post-Launch Operational Data of the Platform:



Thank you for your attention!

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