

# Challenges and Solutions of Industrial Digital Transformation

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# 01

## About WinHong

# WinHong, Cloud Computing Provider

- The standalone third-party server of virtualization software
- The leader of Cloud Computing provider in China
- The expert of Digital Transformation



# Recognition of authority agencies

“Professional positioning、  
Professional fields、 Unique  
advantages”



- ① Winhong was **the independent software provider** which owned the **server virtualization technique**.
- ② Winhong’s server virtualization products took the lead in software security, unifying management on SmartVirtualization, and automated operation and maintenance.

Source: Gartner, *Market Guide for Virtualization of x86 Server Infrastructure, China*.

**CNware HCI** was nominated by Gartner, hype cycle for ICT in China, 2018.

Source: Gartner, *hype cycle for ICT in China, 2018*.

“The only professional  
independent cloud  
computing vendor in the  
vertical field.”



Winhong was **the only professional independent cloud computing vendor** honored with the 2017 IDC China FinTech Pioneer.

Source: IDC, *2017 IDC China FinTech Pioneer Top 25*.

Winhong was **the only domestic independent third-party software vendor** for server virtualization on the IDC PRC SDC Software Tracker 2017H1 ’s list.

Source: IDC, *PRC SDC Software Tracker 2017H1*.

- “The leader of Finance Cloud”
- China’s VMware



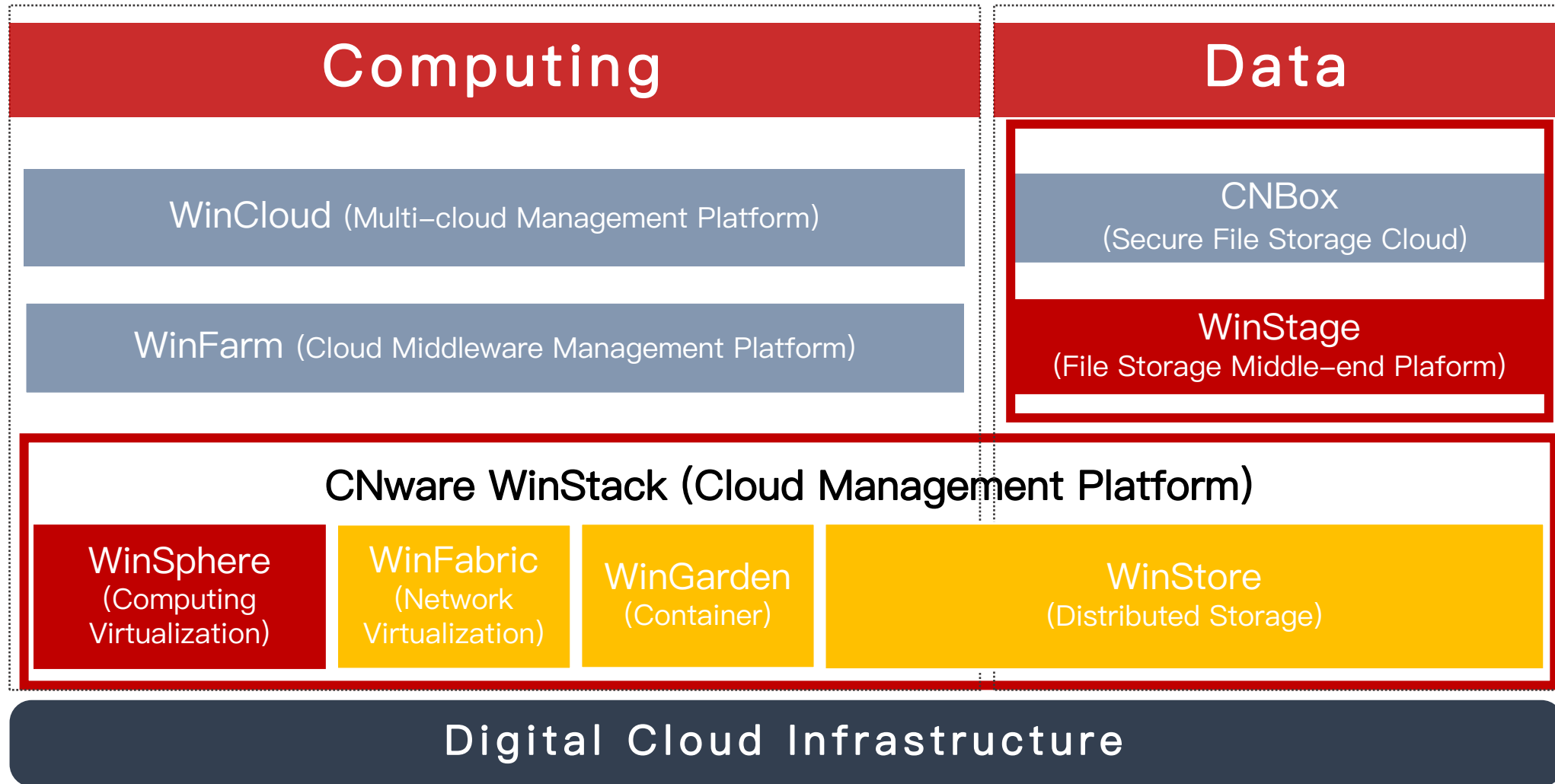
- ① Winhong had **obvious advantages** in the field of Bank Test Cloud and Production Cloud.
- ② Winhong dominated and occupied 9.5% the Finance Cloud market.

Source: CCW Research, *2016–2017 China Finance Cloud Market Status and Development Trend Research Report*.

- ① Winhong had market competitiveness in the field of China Cloud Management Platform (CMP).
- ② **It was currently the closest domestic manufacturer to achieve the goal of "China's VMware"**.

Source: CCW Research, *Competitiveness quadrant of various brands in China's CMP market from 2016 to 2017*.

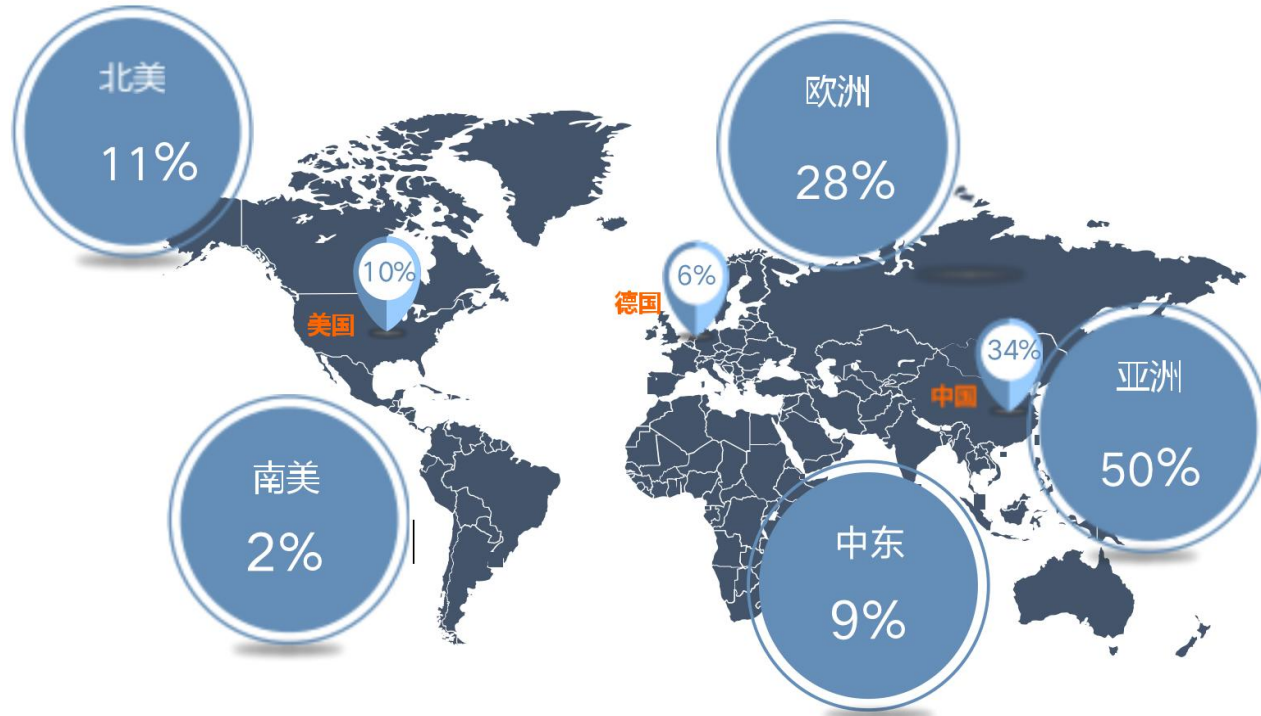
# The Secure, Reliable, Intelligent Digital Cloud Infrastructure



# 02

## The trend in industrial digital transformation

# "Lighthouse Network" points the new way for industrial digital transformation



Geographical distribution of the global Lighthouse Network

With the establishment of the Global Lighthouse Network, a group of Lighthouse Networks had been demonstrators of Digital Manufacturing and Globalization 4.0.

Advantages:

- ① they prompt enterprises' operation and decision-making through data analysis.
- ② they develop smart products by collecting and analyzing industrial big data.
- ③ they accelerate predictive maintenance services that lead to new business models.

Therefore, the Lighthouse Network is honored as the demonstrator of the fourth industrial revolution and industrial innovation.

# The challenge from digital transformation

## Digital Equipment



- Device status cannot be obtained
- The underlying datas cannot be standardized
- The underlying resources cannot be efficiently controlled

## Digital Workflow



- The job position in the production line isn't clear
- The production collaboration process isn't clear

## Digital Enterprise



- Difficulty in delivering enterprise data between department
- Difficulty in customers' requirement collecting
- Difficulty in production decision supporting



# Intelligent Factory

## Digitization

### Internet of Everything

- LoRa Industrial sensor network
- Wireless Ad Hoc Networks
- Industrial Neural Networks
- Intelligent identification analysis
- Device Intelligent Sensing Warning

## Intelligent

### Intelligent decision-making

- Intelligent integrated production management
- Intelligent production planning and scheduling
- Intelligent logistics management
- AR/VR industrial scene visualization
- Self-iterative and self-improving intelligent decision-making

## Lean

### Lean production

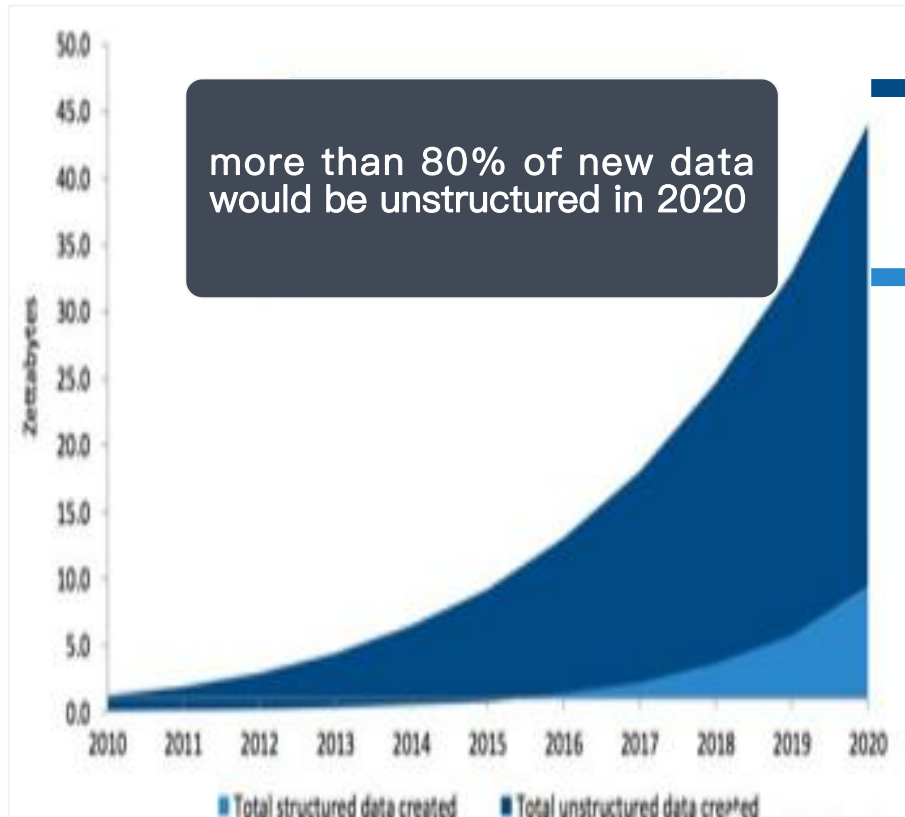
- Lean operation and lean evaluation system
- Lean manufacturing model
- Integrated manufacturing system
- Production for consumer demand
- Big data system optimizes production efficiency

# 03

## The Challenge of Massive Data

# The demand for unstructured data storage

80% of new data was unstructured



**Unstructured data**  
Text, graphics, images, audio, video, etc.

**Structured data**  
Database data: CRM data, ERP data, etc.



### Intelligent Manufacturing

- ① Intelligent quality inspection of the production line
- ② Quick input of information + quick analysis
- ③ Files quantity > 1 billion/month

180ZB

Data increased rapidly  
8 ZB(2015) → 180 ZB (2025)

95%

Unstructured data had occupied 95% of the commercial field.

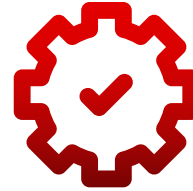
# Business has new demand on storage

## Data storage



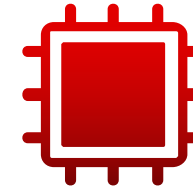
- ① Efficient access to data
- ② High-performance access to massive data

## Data management



- ① Optimize data governance
- ② Reduce storage costs for historical data

## Data intelligence



- ① Collect data value
- ② Empowering smart finance by AI

**Business demands become more accurate**

### Paperless transaction

Electronic Voucher / Electronic Seal / Electronic Signature / Electronic Receipt

### Long-term retention of data

Centralized storage, retention for 20 years  
Random access, multi-dimensional retrieval

### Quality specification

File photo clarity; Double-recorded quality inspection (audio quality, video quality)

**Regulatory policies become stricter**



### Double-recorded

audio, video  
Onsite / Remote / Self-Service



### Electronic file

Bank / Insurance / Securities  
Material electronization  
Account opening information / contract / bill / insurance policy

# Analysis of Customer Demands

## The requirement of data unified storage

Change the application status of decentralized storage of unstructured data in various business systems; Optimize storage structure and improve storage resource utilization. These initiatives benefit for enterprises to use data efficiently.

## Demands data unified & standardized management

Develop unstructured data management standards, including data access standards, sharing standards between application systems, life cycle management standards, data collection standards, unified backup, etc.

## Data processing & decision support needs

Unified full-text retrieval technology, semantic analysis technology.  
Integrate with existing decision support systems based on structured design.  
Provide innovative document value-added services (eg. document mining, containers, etc.)

## Unify data accessing requirements

Provide unified access standards for unstructured retrieval, application, and security authentication.

### Data Standardized

- Unified and standardized management of unstructured data storage, circulation, application, life cycle, collection, security, etc.

### Improve data processing

- Unified the capability of semantic analysis, full-text search, data analysis and processing, and structured data integration.

### Improve data services

- Provide the capability of standard data application, and document value-added services.



### life cycle management

- It includes the whole life cycle process of data creation, application, review, validation, distribution, retirement, and destruction.

### Storage & Retrieval specifications

- Standardized catalog management, index management, label management, encryption, collection, backup specifications.

### Data application specification

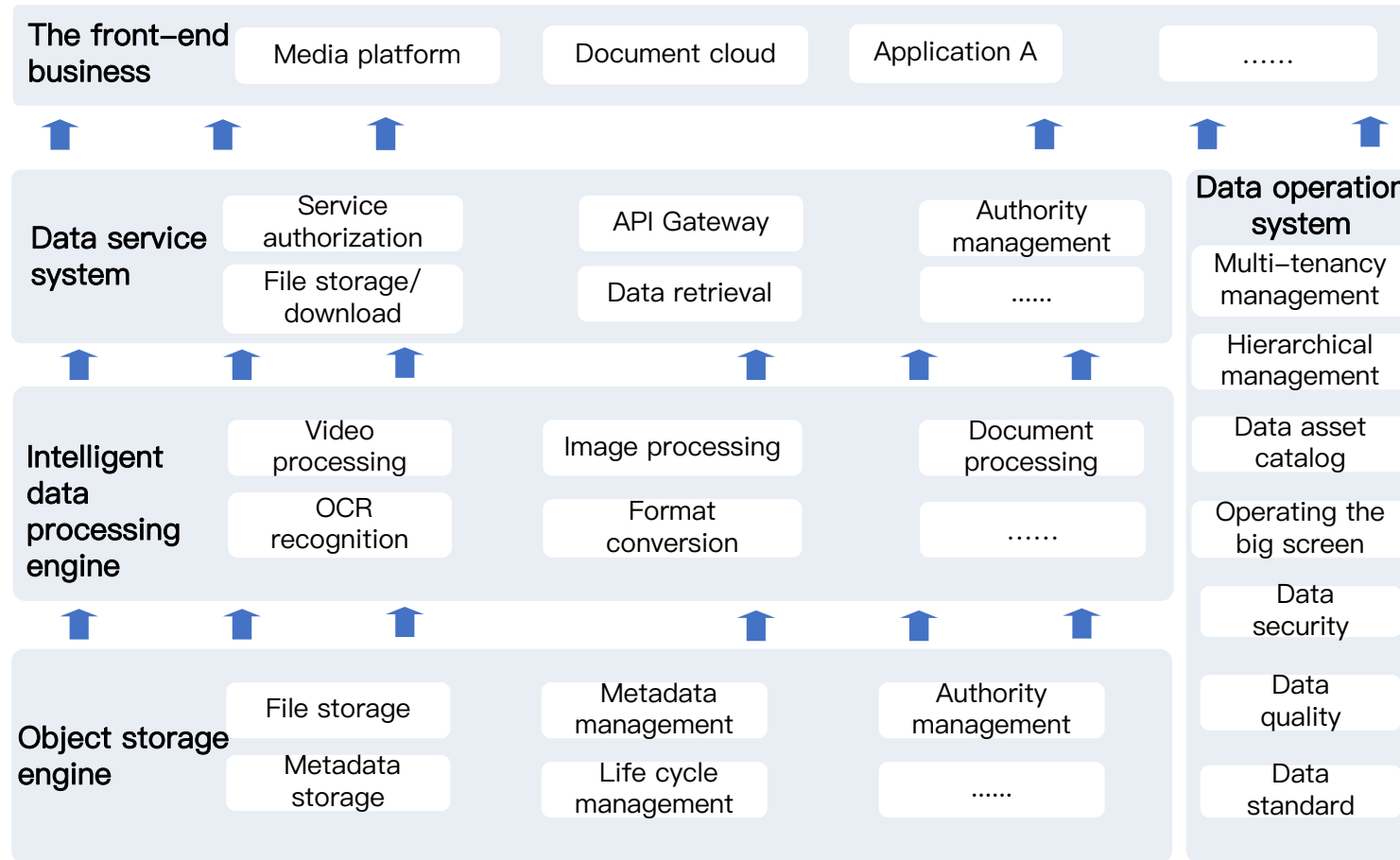
- Application system specification, data access specification.

Goal

Standard



# File Storage Middle-end Platform



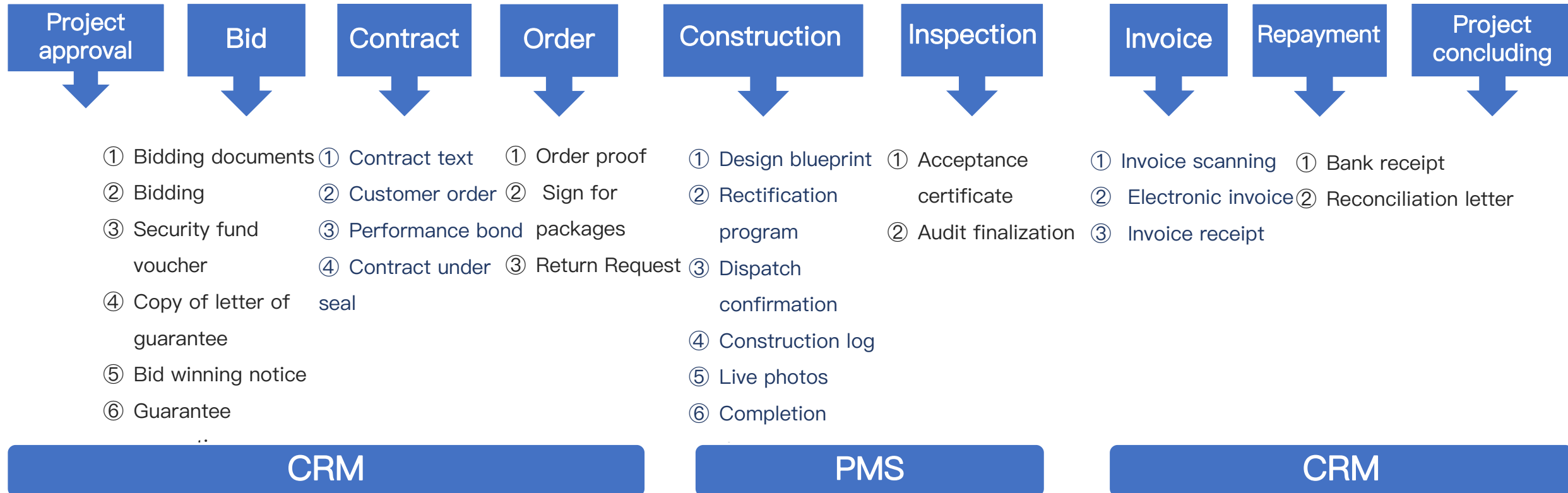
- Unified data accessing service
- Unified intelligent data processing
- Unified data asset management
- Unified data mining and analysis

# 04

A Case Sharing  
A Listed Communication Equipment Manufacturer

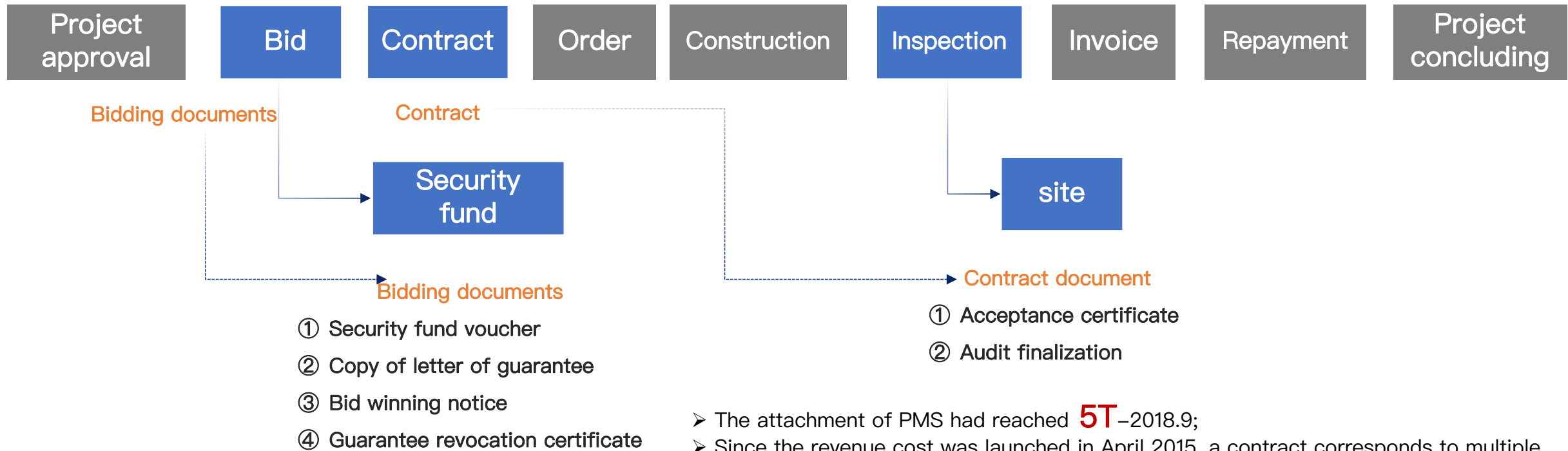
# Demand background

- The current marketing platform does not have unified attachment storage
- Business information of the contract management system is stored in the CRM, PMS, and other systems separately.



# Challenges

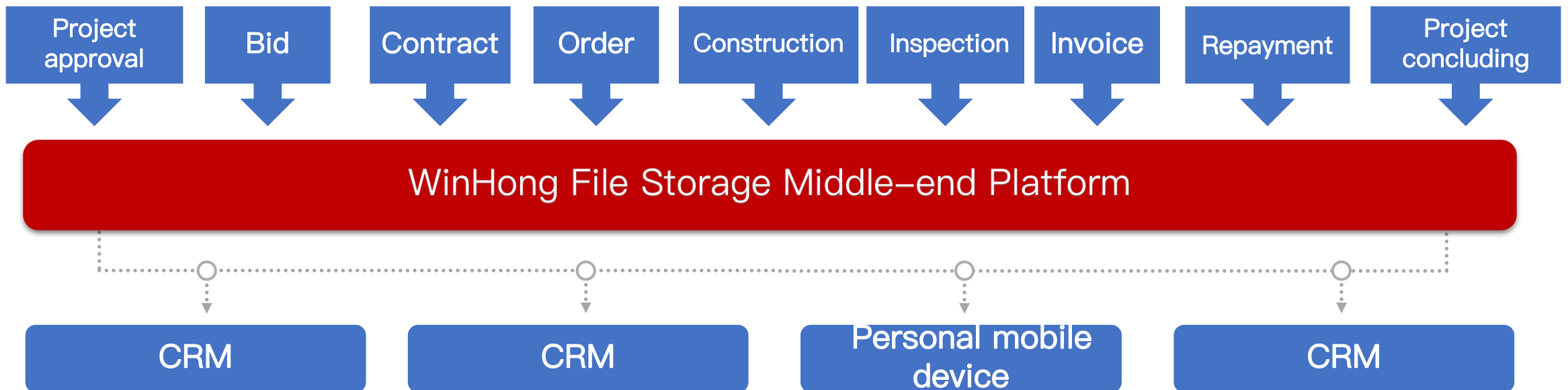
- When data is acquired, it needs to enter different systems and export from different nodes.
- When the process crosses nodes & systems, the attachments are not shared & associated; Proof materials require to be uploaded repeatedly.



- The attachment of PMS had reached **5T**-2018.9;
- Since the revenue cost was launched in April 2015, a contract corresponds to multiple sites to report revenue, and the contract data needed to be uploaded repeatedly in the site. The total number of sites was about **180,000**, the number of contracts was about **47,000**, and the number of repeated attachments was about **3.8X**.

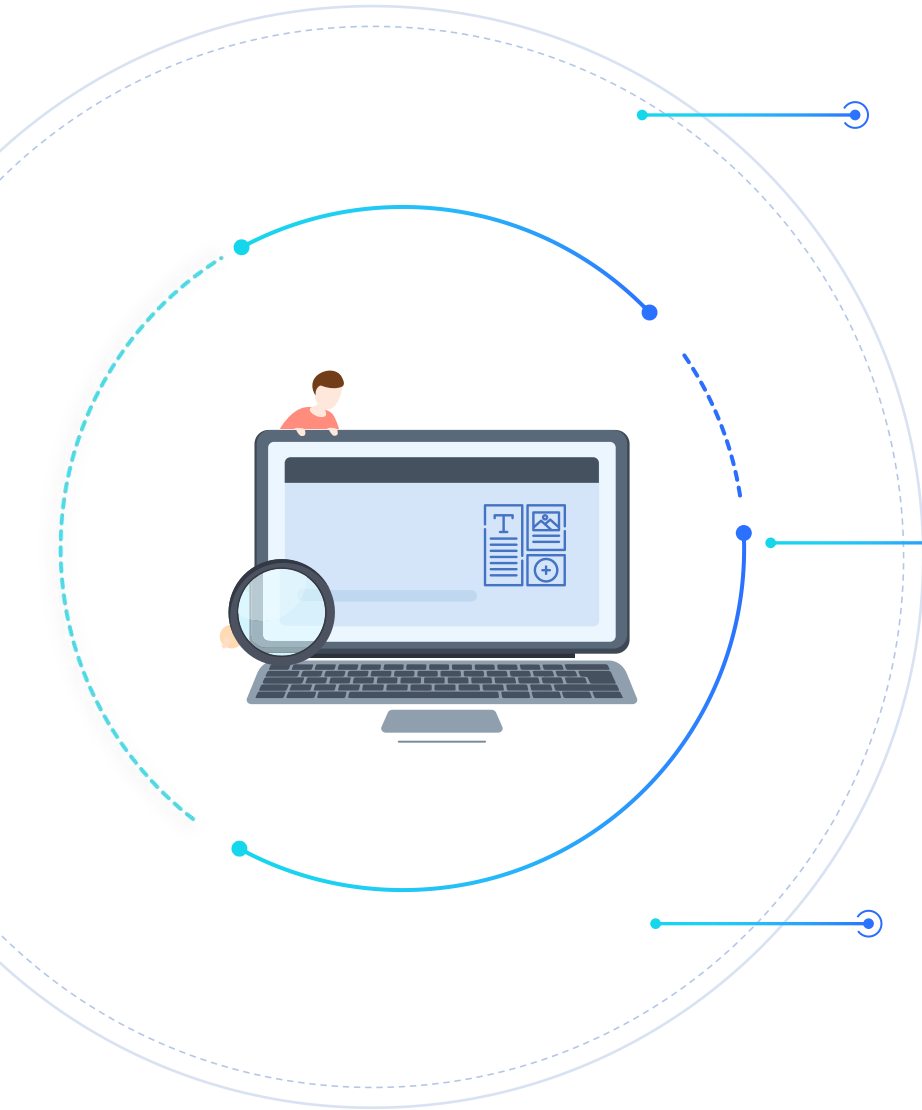
# The Goal

- Unstructured data of the market platform can be shared in the end-to-end information flow & realized unified attachment storage function.
- The contract management system can associate with attachments, reduce the repeated upload work of different nodes on different platforms and optimize storage space.
- Upload and retrieve data on the personal mobile device at any time and anywhere.
- Supports on-demand query and comprehensive query of different dimensions, e.g. business type and attachment content.





# Benefit Analysis



## Cross-system and platform file sharing

Based on **File Storage Middle-end Platform**, the file attachments uploaded by each business system can be shared across systems, platforms and according to user access rights. It provides a platform foundation for the end-to-end data flow of the business chain.

## Improve system efficiency

The **File Storage Middle-end Platform** provides full-text retrieval and advanced classification retrieval of documents. It is quickly for users to locate attachments accurately and improve work efficiency.

## Improve system performance reduce operation & maintenance costs

The **File Storage Middle-end Platform** replaces the existing mode of storing files in the database. It can avoid performance problems and operation and maintenance costs caused by rapid database growth.



1000+ Excellent customer cases



More Secure, More Reliable, More Convenient

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