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Digital supply chain - System architecture

数字化供应链 体系架构

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Foreword

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Future industrial competition will not only be between individual companies, but also between industrial and supply chains. This is driven by the new generation of information technology. Deeply integrated with the manufacturing industry, the supply chain is accelerating its digital transformation, undergoing a comprehensive and systemic change from top-level architecture to underlying logic. The system architecture has evolved from a "chain-like" to a "network-like" structure, and the strategic goal has shifted from increasing corporate economic benefits to creating overall value for the supply chain. The driving force... The transformation is shifting from business-driven to data-driven, and technological means are upgrading from single-enterprise supply chain management systems to cross-enterprise industrial internet platforms. A new form of digital supply chain has emerged. Digital supply chain is a complex systems engineering project encompassing strategic transformation, organizational restructuring, business upgrades, data mining, and technology adoption. In the process of researching, designing, building, and managing digital supply chains, the industry still faces challenges such as unclear conceptual understanding, incomplete grasp of key elements, and insufficient regulations. The lack of systematic planning and outdated management methods are pain points. Therefore, there is an urgent need to provide a standardized set of measures covering the entire digital supply chain. The conceptual model and general reference architecture of the elements and the entire process help the industry clarify basic concepts, master design methods, and define implementation paths. Effectively promote the transformation and upgrading of the industrial chain and supply chain. This document focuses on the characteristics and core concepts of digital supply chains, and elaborates on the constituent elements and interrelationships of the digital supply chain system architecture. This system provides a top-level framework and conceptual model for enterprises, research institutions, industry organizations, and others to scientifically understand and systematically build digital supply chains. Digital supply chain architecture

1 Scope

GB/T 46887-2025 is the Chinese national standard covering the architecture of a digital supply chain - the layers from the physical goods and their identification through the platforms to the planning and analytics, and the interfaces between the companies that share it. First edition, and it is the frame the traceability, procurement and security parts of this series sit in. It was issued on 31 December 2025 and has been in force since 1 April 2026, as a first edition. The document is under the responsibility of the Ministry of Industry and Information Technology. This page is published from the official record of the 2025

edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document establishes the overall framework for the digital supply chain system architecture, from strategic view, organizational view, business view, data view, and technology view. The paper proposes the constituent elements and interrelationships of a digital supply chain based on technical views and other aspects. This document applies to industry organizations, enterprises, and research institutions researching, designing, building, managing, and applying digital supply chains, and provides a framework for digital... This provides a reference for supply chain consulting service agencies and technology service providers.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 23050-2022 Guidelines for Digital Supply Chain Management within the Integration of Information Technology and Industrialization Management System

GB/T 45403-2025 Digital Supply Chain Maturity Model

3 Terms and Definitions

The terms and definitions defined in GB/T 23050-2022 and GB/T 45403-2025, as well as the following terms and definitions, apply to this document.

3.1 Digital Supply Chain In the digital age, supply is centered on customers (consumers), guided by value creation, driven by data, and based on platforms. Multi-line connections among supply chain partners, including merchants, manufacturers, distributors, service providers, and customers (consumers), enable efficient collaboration of data, resources, and capital. A new form of supply chain characterized by flexibility and adaptability. [Source: GB/T 45403-2025, 3.1]

4. Abbreviations The following abbreviations apply to this document. APP. Application AR. Augmented Reality