National Transport and Logistics Information Platform in China

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• Background
• Institutional Arrangement
• System Design
• Standards
• Future Plan
Background
Why LOGINK in China

Logistics Industry in China

**Demand**
70+ Million manufacturers and trading companies

- **SME**: 95%
- **Others**: <5%

**Supply**
7.45+ Million Road Transport operators

- **SME**: 98%
- **Others**: <2%

*Logistics costs $1700 Billion
16.6% of GDP*
Why LOGINK in China

Supply chain (high cost and low efficiency)

- Raw material supplier
- Manufacturer
- Warehousing
- Logistics
- Wholesaler
- Retailer
- Consumer

[Diagram showing supply chain with various nodes and connections, indicating high cost and low efficiency.]
1. Information Isolated Island exist in supply chain in China.
2. Commercial platforms exist in China but no unified standards.
3. Point to point connection lead to high cost and low efficiency.
4. Tight connection with Global trading system needs single window platform to promote trade facilitation
Why LOGINK in China

eliminating the re-keying of data in existing fax- and paper-based supply chains
Timeline

2007
Start Building

2008
Inter-provincial Platform

2009
MOT Platform

2010
International Platform

2014
National Platform
• 2007, LOGINK platform was launched by Zhejiang Provincial Transport Department and by 2008, Zhejiang provincial platform was established

• 2008, 16 provinces signed MOU to co-construct LOGINK, which greatly enlarged coverage of LOGINK.

• 2009, Ministry of Transport of China and Zhejiang Provincial Government signed MOU to co-construct LOGINK, and upgraded it to MOT Public Information Sharing Platform for Transportation & Logistics

• 2010, China, Japan and Republic of Korea governments signed MOU to establish Northeast Asia Logistics Information Sharing Network to improve trans-national logistics information sharing among Northeast Asia area

• 2014, Long Term Development Planning of Logistics Industry (2014-2020) was published by the State Council, LOGINK upgraded to National level platform.
National Transport & Logistics Public Information Platform (LOGINK), is an open, public and sharing Logistics Information Exchange Network, which is financed by Ministry of Transport of the People’s Republic of China & The People’s Government of Zhejiang Province. Road Transportation Administration Bureau of Zhejiang Province established O&M center to construct and maintain LOGINK, and participated the construction of Northeast Asia Logistics Information Service Network (NEAL-NET) on behalf of China MOT.
Mission of LOGINK

– To establish China logistics information standard system referring international standards.
– To construct logistics information catalog system and exchange system based on unified standards, all cost will be covered by government.
– To develop one-stop portal connected with global logistics information systems.
– To organize logistics information interconnection and sharing demonstration project.
– To provide value added service based on data mining and data fusion supported by 3rd party.
Goals of LOGINK (2016-2020)

– To integrate logistics related information from government and open to public.
– To construct 5 information exchange hubs covering road, shipping & port, railway, air and postal courier.
– To carry out logistics information interconnection and sharing demonstration projects base on co-constructing with 50+ commercial logistics information platforms.
– To exchange information with 10+ international ports based on NEALNET mechanism.
Institutional Arrangement
Institutional Arrangement

National Development and Reform Committee, China

Ministry of Transport  Ministry of Commerce  General Administration of customs

Joint conference  Experts committee  Standards working group

O&M Center
System Design
Architecture

- Government Systems
- Commercial logistics platform
- National logistics platform
- G2B
- B2G
- B2B
Services on LOGINK

- Public information Services (G2B)
  Government provides information query services to public
Services on LOGINK

• **Public information Services (G2B)**
  - Road transport: Carrier Registration, regulation compliance and violation information, truck tracking information etc..
  - Shipping : Shipping tracking information etc..
  - Air (China Cargo Sky Portal): e-booking, electronic waybill, eCustoms, etracing, efreight, etc..
  - Railway (95306): ebooking, freight rates inquiry, tracking, electronic waybill, etc..

• **Single Window (B2G)**
  - Provide a single window to submit process or clearance information data to meet regulations requirements from government
Based on GPS/Beidou technology, Over 1 million commercial (Long Distance coaches and DG trucks) vehicles are monitored by the system.
Based on AIS, Satellite communications, electronic chart, over 300,000 vessels Real-time position and historical track can be searched.
Services on LOGINK

- **Logistics Information exchange hub (B2B)**
  - Enterprises and their partners develop interface to LOGINK based on unified standards, and they can interconnect and exchange information based on LOGINK **Basic Information Exchange Network**.
Basic Information Exchange Network

• Consists of root server and data exchange servers
• Root server manages users of Basic Information Exchange Network
• Data exchange service provides 2 Core Functions
  ✓ Basic data exchange function (EDI)
    1. Define data exchange standards to exchange business documents
    2. Provide data exchange services
  ✓ Information query function
    1. Define logistics information nodes
    2. Define status and information query standards of each node
    3. Provide Catalog Services & Index Services
Function of Management and Monitoring system

- User management
- Interchange code management
- Server and service management
- Data synchronization and router management
- Application maintenance management
- Operational diagnostics service

Management systems

- Basic switching network management system
- Standards conformity test system
- Standards maintenance and upgrading system
- Unified authentication management system

Monitoring systems

- System monitoring
- Platform monitoring
- Center monitoring
Security

• **Data confidentiality**
  – Network segmentation with multi layer architecture.
  – Secure integration protocols supported.
  – Information security and IT policies in place.
  – Physical and logical security proven by multiple customer audits.

• **Data availability and integrity**
  – Disaster recovery, business contingency and risk management planning
  – 2 site ‘active-active’ architecture with data mirroring and advanced backup features
Standards
Defined a framework for logistics information exchange between logistics entities
Including:
• data element
• code set for data element
• business documents
• query parameters (Information query function only)

Enterprises can access Basic Information Exchange Network to use data exchange service, public service and value add service by implementing LOGINK Standards

Information service providers can construct and provide information service base on Basic Information Exchange Network by implementing LOGINK Standards
Standards Framework

Application and service specification
- Business
- Transaction
- Statistics
- Regulation
- Public information release

Interconnection and exchange standards for platform
- Unified authentication
- Switch access
- Security management

Basic standards
- Meta data
- Data element
- Code
- Electronic documents

Standard Conformity test specification

Standard maintenance and management specification
Development process of LOGINK standards

- **standards v1.0, 2009**
  - Data elements

- **standards v2.0, 2010**
  - Data elements, Code
  - Transport documents: shipping note, dispatching note

- **standards v3.0, V3.1, V3.2, 2011~2013**
  - Revised Data elements, Code
  - Revised documents: shipping note, dispatching note, logistics park, warehouse
  - Application and service specifications

- **standards 2014**
  - Data elements, code, documents revised
  - Data exchange interface, service invocation interface
LOGINK standards updates

• Documents revised
  – Road transport documents: added cold chain related data

• New Document developed
  – Intermodal documents of Sea-rail transport, air-road transport
  – Documents about insurance, inspection and quarantine

• Unified Identity Authentication standards
  – Users apply for token
  – Token validation
  – Identity encryption
  – Data synchronization

• Guidelines for standard implementation
LOGINK standards updates

• **Progress of the technical assistance project funded by ADB**
  – LOGINK standards reviewed in process
  – Data and document mapping and comparison
  – LOGINK documents are advised to develop XML Schema version, based on UN/CEFACT Specifications:
    - Business Requirement Specifications (BRS)
    - Requirements Specification Mappings (RSM)
    - Core Component Technical Specification
    - Core Components Data Type Catalogue

• **Cooperation with ISO TC 204 and TC 154**
  – Invited to joint the work of standard harmonization
Conformity with international and national standards
- UNTDED (United Nations Trade Data Elements Directory), UN/CEFACT

Refer to international business standards and other framework
- UN/EDIFACT, ebXML, etc.

Refer to Web-EDI architecture
- Based on XML, EDI structural documents
- SOA, Web service
Future Plan
LOGINK II

Customer Facing Services
- Self Service Onboarding
- Partner Lifecycle Mgmnt
- Self Service Monitoring
- Network BI Service
- Knowledge Portal Service
- "App Store" Service
- Scenario Services
- Master Data Service
- EDI/B2B Web/Mobile Srvcs
- Message Mapping Srvcs

Technical Services
- Integration Dashboard
- Integration Reporting
- Rules Mgmnt.
- Integration Config
- Integration Testing
- Integration Admin
- Single Point Entry
- Service Hub
- Service Packaging
- Service SDK
- Process Mgmnt.
- Service Marketpic
- Knowledge Mgmnt.
- Integration Monitoring
- Partner/App Mgmnt.
- Service Farm
- Security

Supporting Services
- Integration Projects
- Support

Technical Services
- Routing
- Services
- Monitoring
- Standards
- Message Transport
- Master Data
- Tools

LOGINK Technical Platform
- Infrastructure
To provide support for intermodal demonstration projects in China
To provide support for international logistics systems interconnection
Open, Sharing and Public

Thank you

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