

# National Transport and Logistics Information Platform in China



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# CONTENT

- Background
- Institutional Arrangement
- System Design
- Standards
- Future Plan

# Background



# Why LOGINK in China

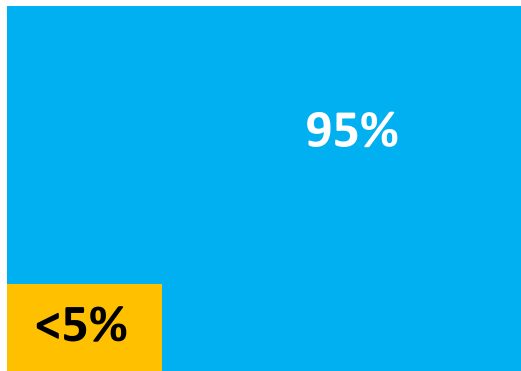
## Logistics Industry in China

### Demand

70+ Million

manufacturers and  
trading companies

■ SME ■ Others



Logistics costs  
**\$ 1700 Billion**

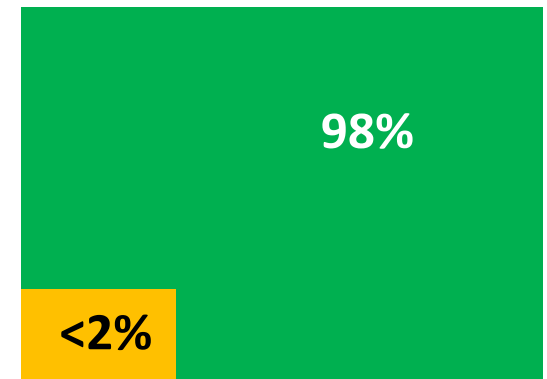
**16.6% of GDP**

### Supply

7.45+ Million

Road Transport operators

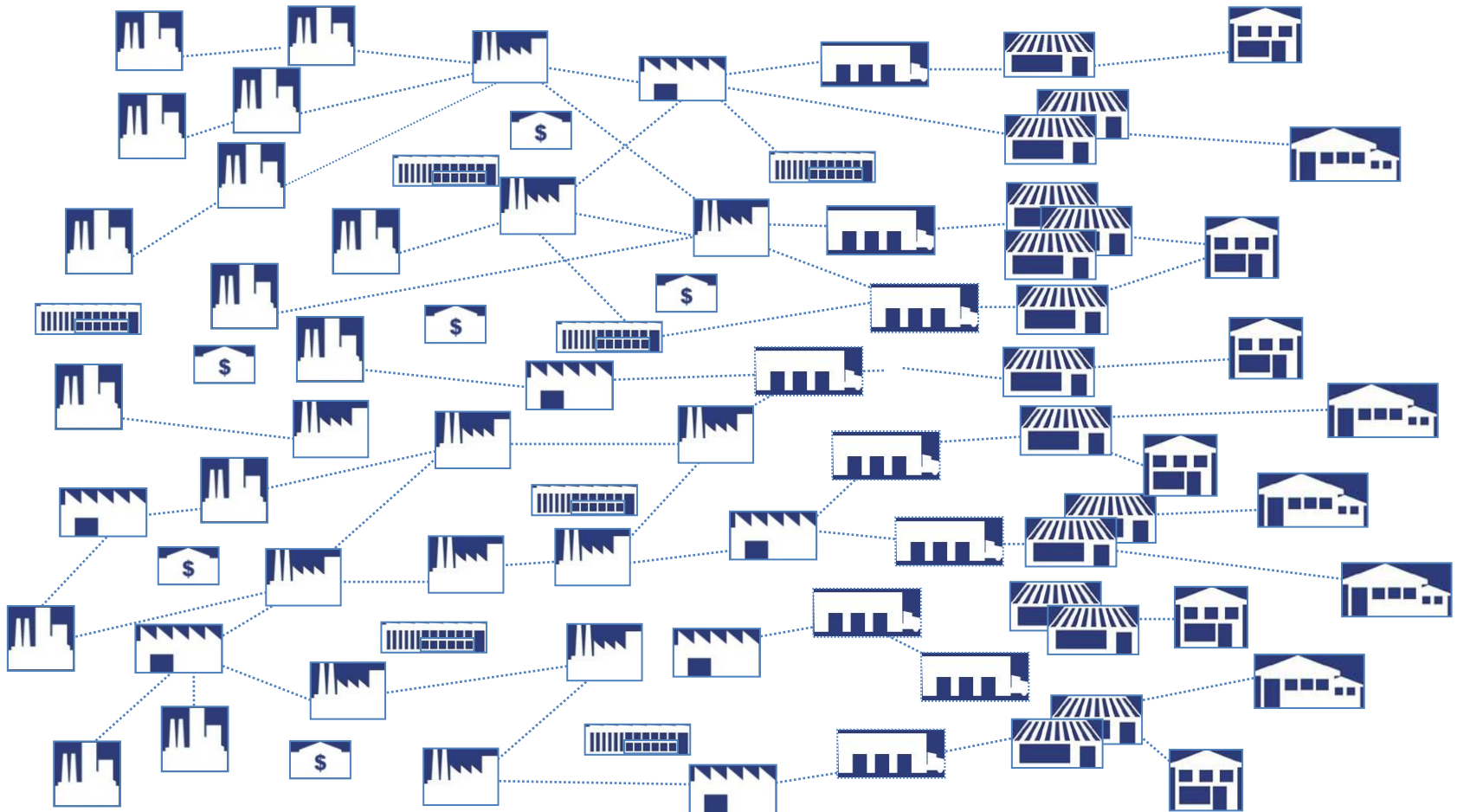
■ SME ■ Others



# Why LOGINK in China

Supply chain (high cost and low efficiency)

Raw material supplier   manufacturer   warehousing   logistics   wholesaler   retailer   consumer



# Why LOGINK in China

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

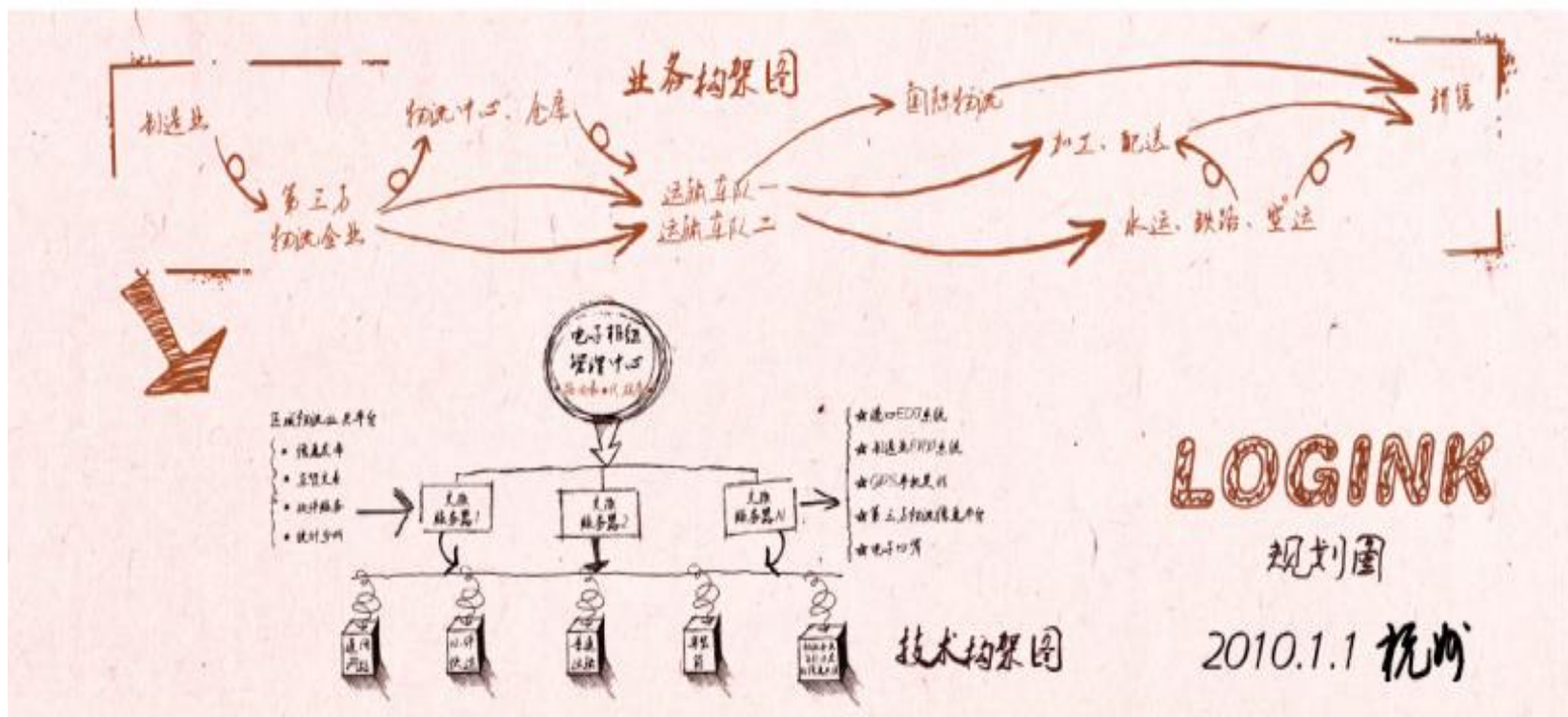


# Why LOGINK in China

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



# Timeline

- 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 LOINK, 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.

# What is LOGINK

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 3<sup>rd</sup> party.

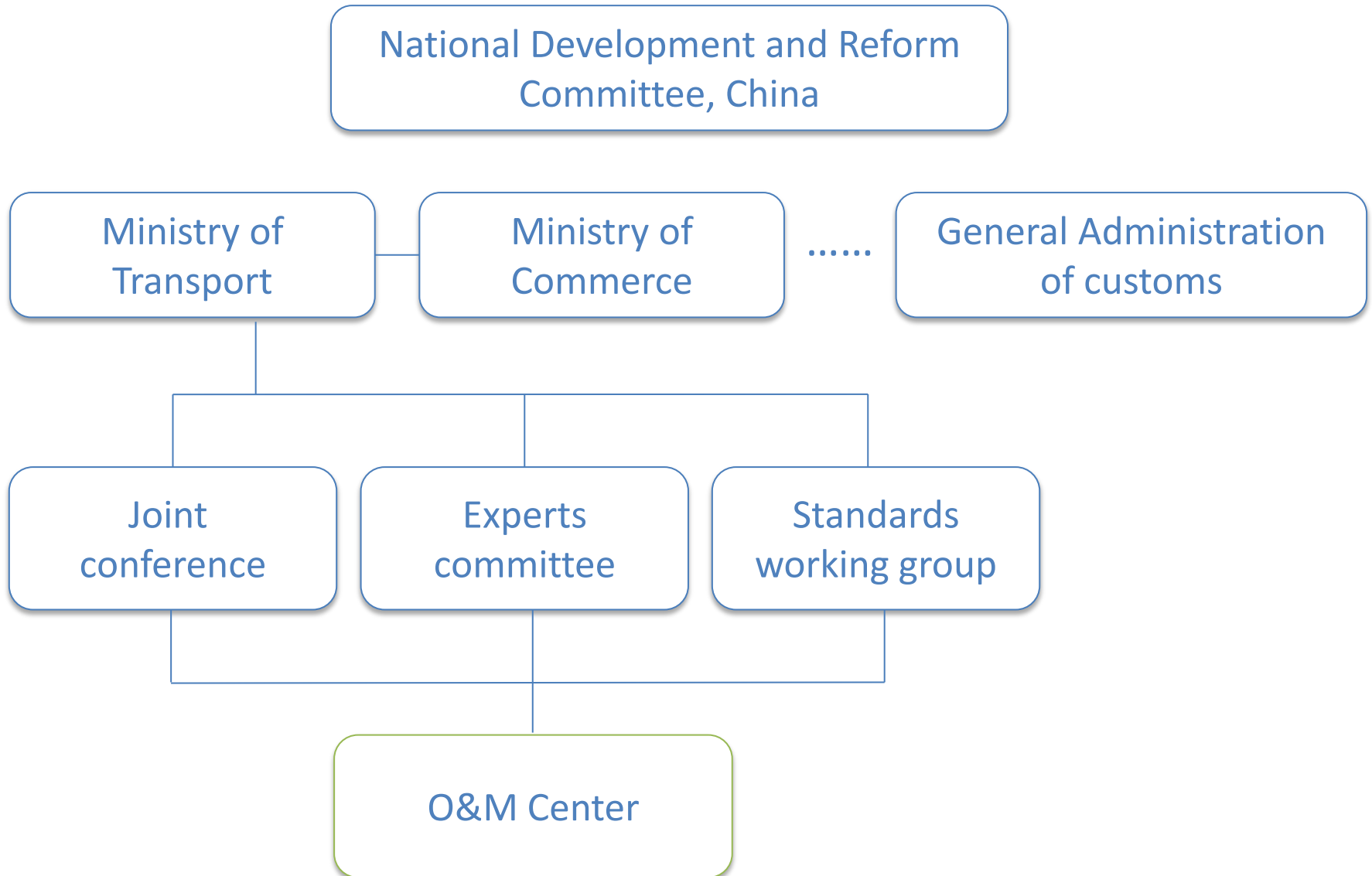
## Goals of LOGINK (2016-2020)

- 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



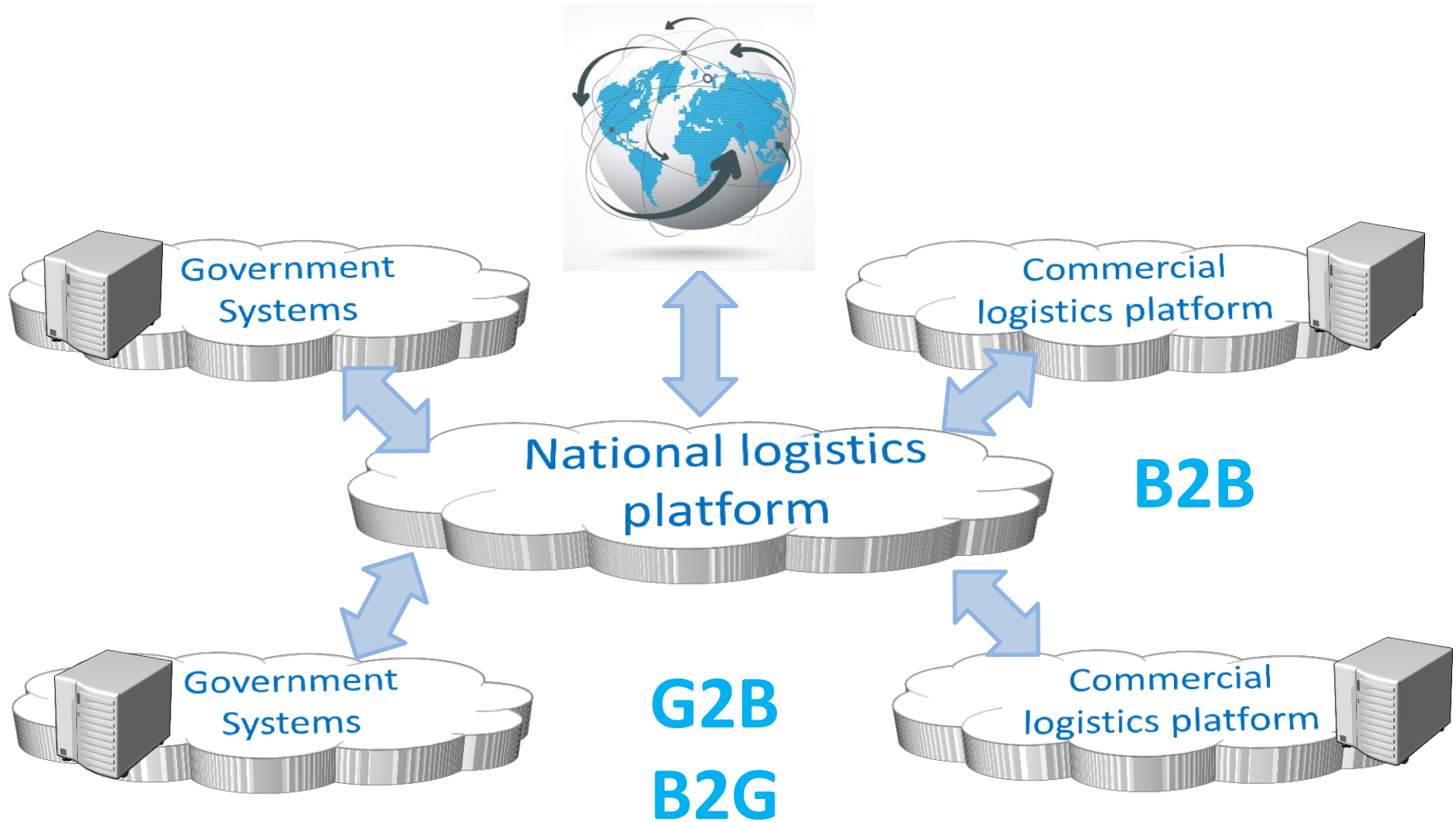
# Institutional Arrangement



# System Design



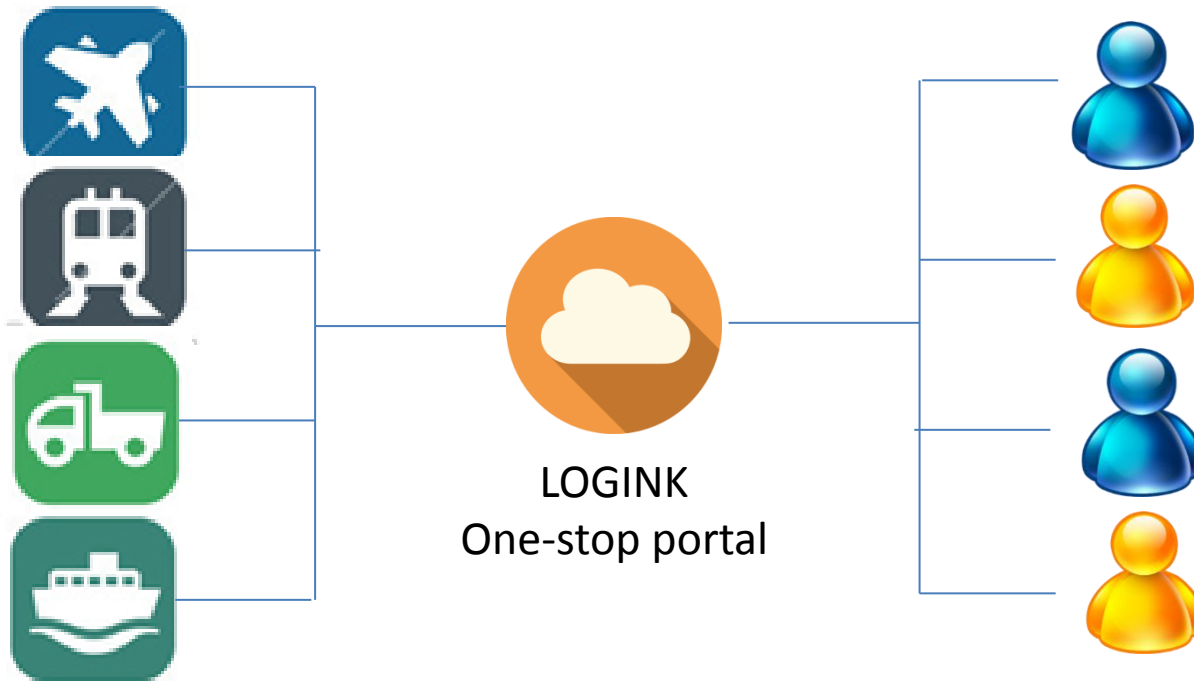
# Architecture





# Services on LOGINK

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

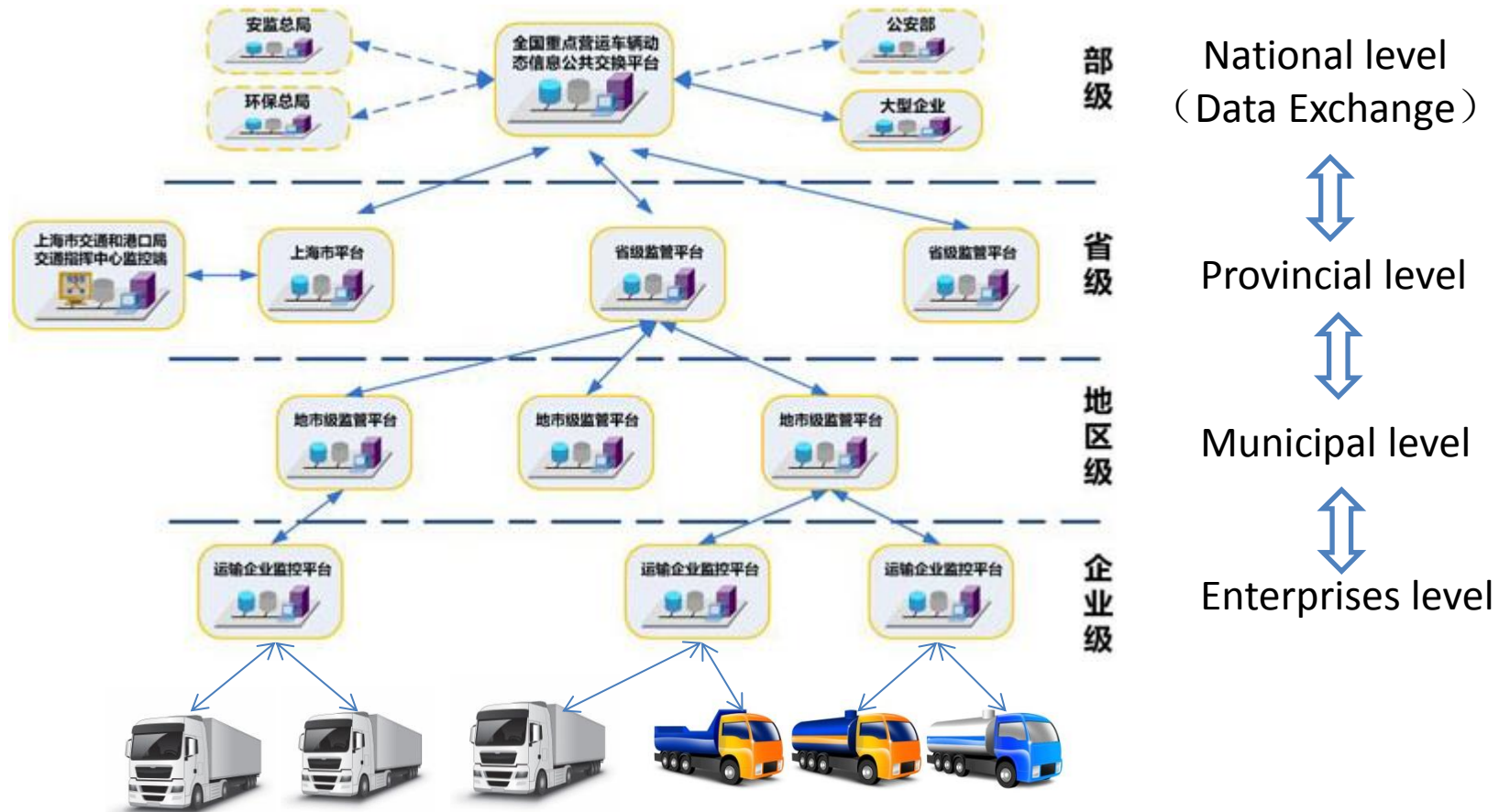


# Services on LOGINK

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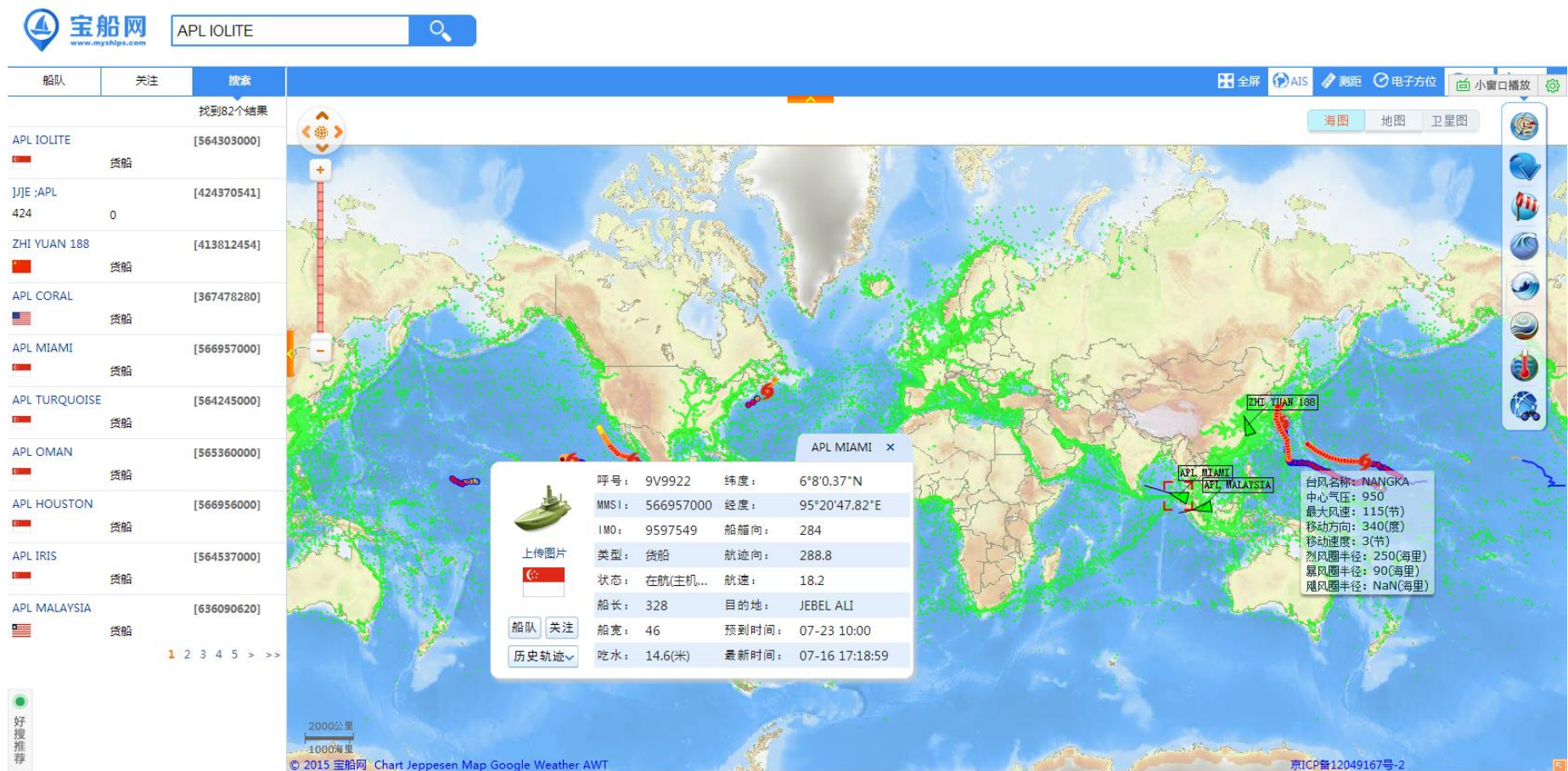
- **Public information Services (G2B)**
  - Road transport: Carrier Registration, regulation compliance and violation information, truck tracking information etc..
  - Shipping : Shipping tracking information etc..
  - Air (China Cargo Sky Portal): e-booking, electronic waybill, eCustoms, etracing, efreight,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

# National Commercial Vehicle Monitoring Network System



Based on GPS/Beidou technology, Over 1 million commercial (Long Distance coaches and DG trucks) vehicles are monitored by the system.

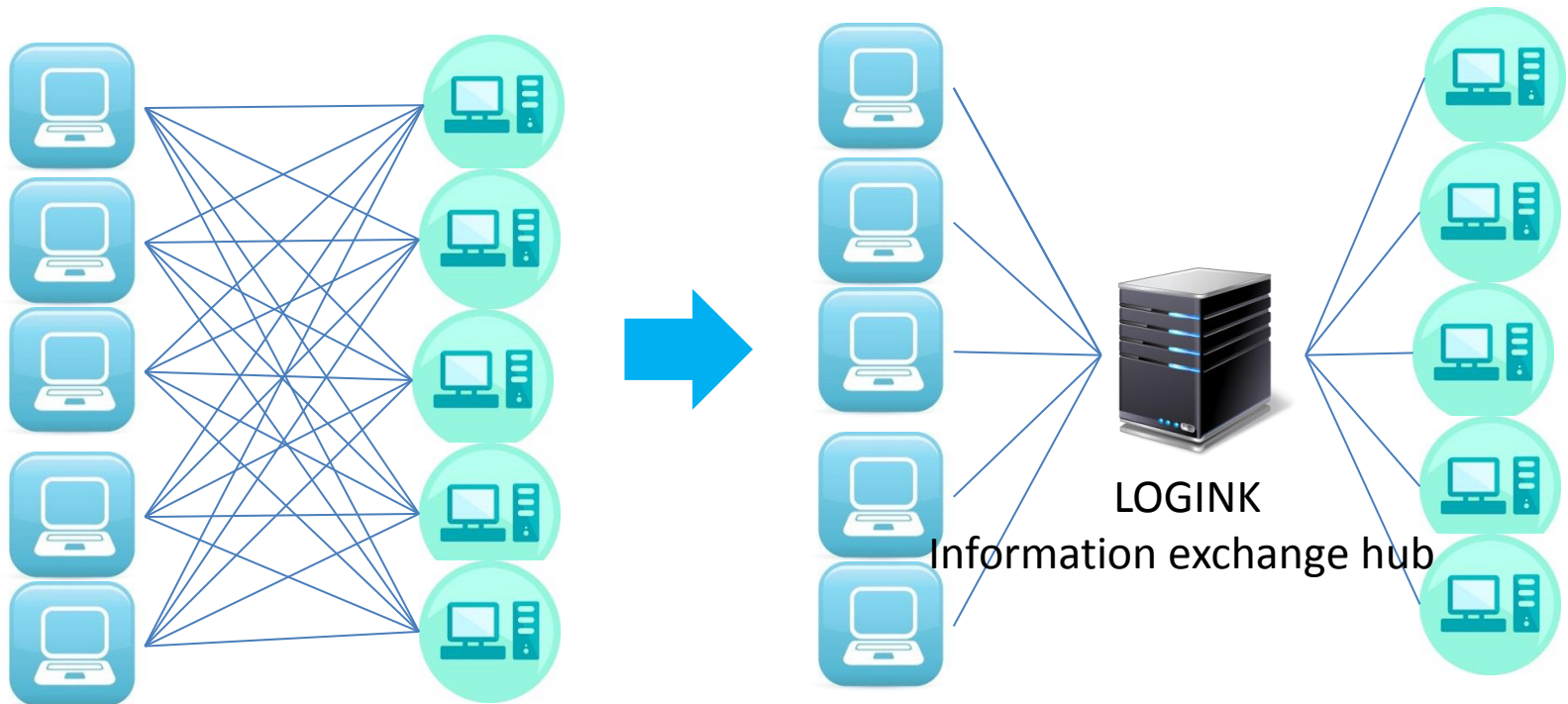
# International Shipping Tracking System



Based on AIS, Satellite communications , electronic chart, over 300+ thousands 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

Basic switching  
network management  
system

Standards conformity  
test system

Standards  
maintenance and  
upgrading system

Unified authentication  
management system

**Management systems**

System monitoring

Platform monitoring

Center monitoring

**Monitoring systems**

- **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



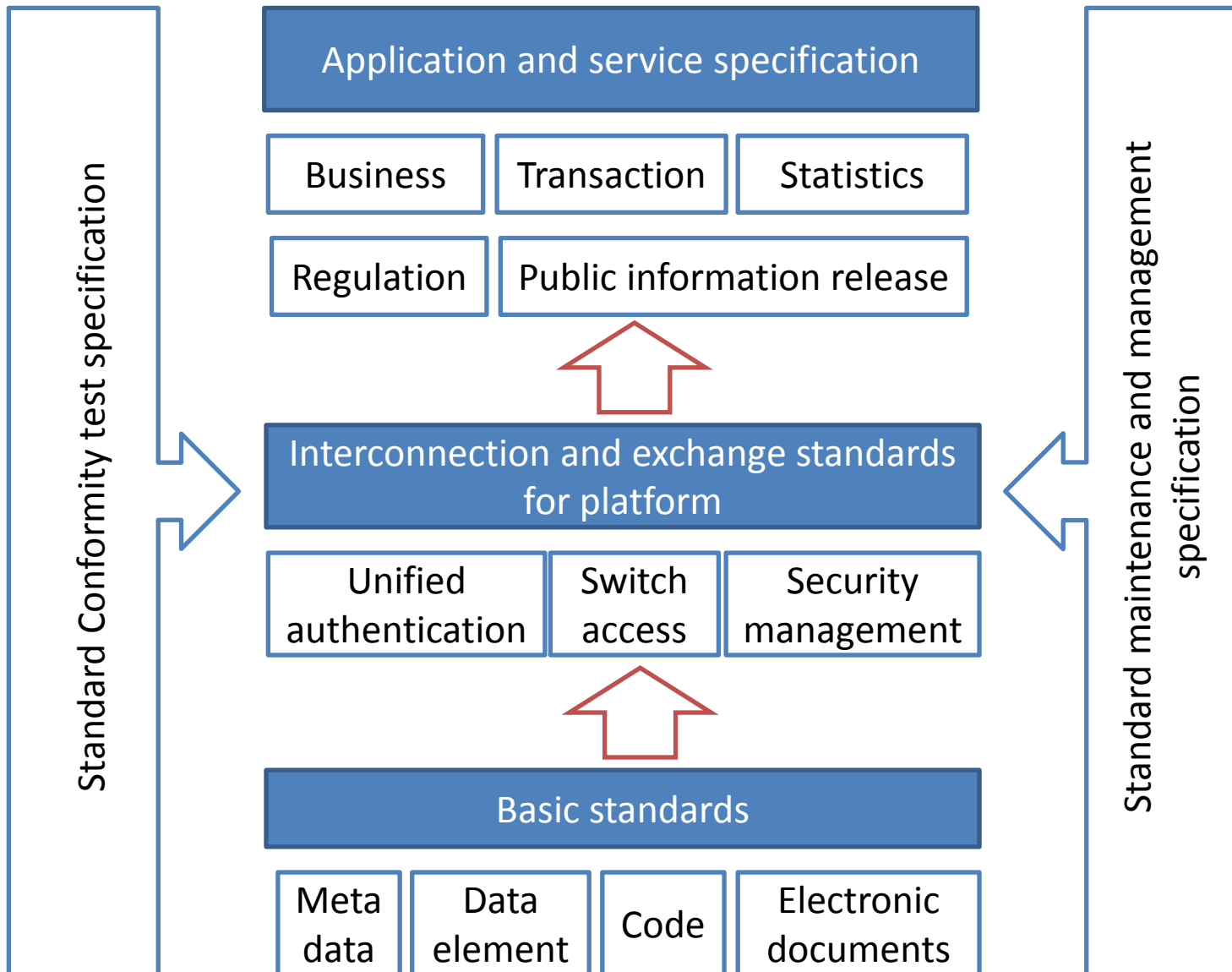
# Standards



# Standards Definition

- 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



# 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

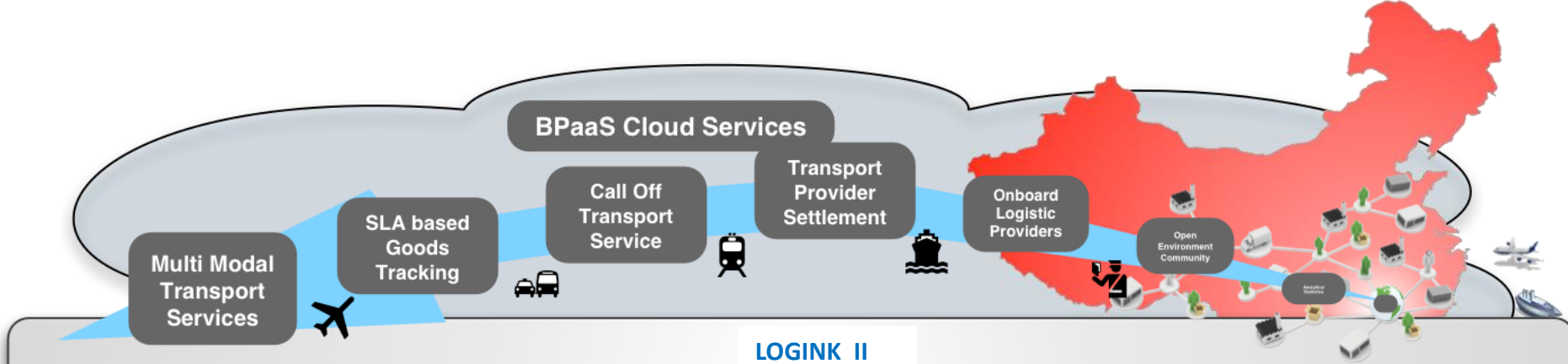
# Development methodologies of LOGINK standards

- **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







#### 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 Srvc	Message Mapping Srvc

#### Technical Services

Integration Dashboard	Integration Reporting	Rules Mgmnt.	Integration Config	Data Transform	Integration Testing	Integration Admin	Single Point Entry	Service Hub
Service Packaging	Service SDK	Process Mgmnt.	Service Marketplc	Knowledge Mgmnt.	Integration Monitoring	Partner/Appl Mgmnt.	Service Farm	Security

#### Supporting Services

### LOGINK

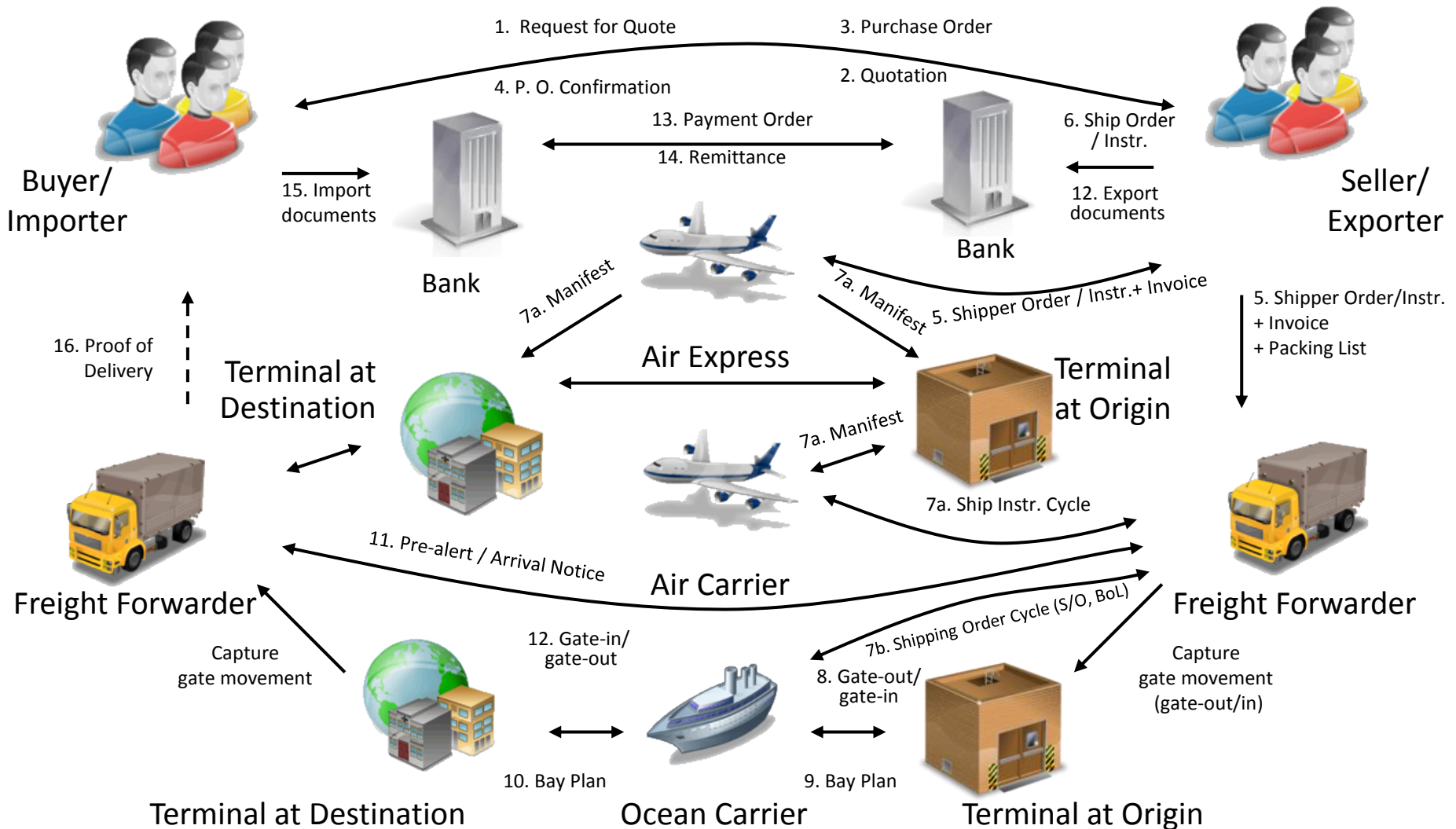
Integration Projects	Support
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#### Technical Services

Routing	Services			Standards
Message Transport		Monitoring	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

[www.Logink.org](http://www.Logink.org)

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