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Visibility data interchange among logistics information service providers

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO ~~documents~~document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 154, *Processes, data elements and documents in commerce, industry and administration*.

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Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

Visibility of logistics flow and a simple and trusted way to find the precise logistics information are very important for logistics in international trade.

However, the logistics data to be obtained by the logistics operator is often provided by several logistics information service providers (LISP) and other logistics parties. Although international standards (such as UN/EDIFACT) have existed for decades and many national and regional systems have been implemented based on these international standards, LISPs are often developed in isolation and fragmentation based on its own business requirements; and this leads to different interpretations of standard messages. A logistics information service framework should be specified for the visibility of logistics flow.

This document specifies a framework to clarify logistics visibility data and how it should be interchanged among different LISPs. This document can be used by LISPs for establishing data connections with other logistics information service systems and for satisfying different data providers' and data users' requirements. Logistics authorities and data users can also use this document to track the logistics flow and optimize their services.

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Visibility data interchange among logistics information service providers

~~1~~

~~2~~ 1 Scope

This document specifies logistics visibility data, data elements, interchange message, and framework of logistics information service providers (LISP) interconnection. This document is applicable to regional and inter-regional logistics data interchange services of transport means and goods management in maritime, road, air, and railway import/export transportation.

~~3~~ 2 Normative references

~~The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.~~

~~— ISO 7372, Trade data interchange — Trade data elements directory~~

~~3 There are no normative references in this document.~~

4.3 Terms, definitions and abbreviated terms

4.13.1 ~~3.1~~ Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ~~—~~ ISO Online browsing platform: available at <https://www.iso.org/obp>

— ~~—~~ IEC Electropedia: available at <https://www.electropedia.org/>

3.1.1 data provider

party that provides logistics data to a *logistics information service provider (LISP)* ~~(3.1.3(3.1.3))~~

3.1.2 data user

party that accesses logistics data from the *logistics information service provider (LISP)* ~~(3.1.3(3.1.3))~~ framework

3.1.3 logistics information service provider LISP

party that provides the services of a platform for the electronic exchange of logistics information in the supply chain for increased efficiency and effectiveness

3.1.4 logistics visibility data

data that constitute logistics event status in import/export logistics procedure, covering the event data relating to the mode of transport, cargo and means of transport, B2B, ~~(business-to-business)~~, G2B,

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~~(government-to-business), B2G, (business-to-government), public or private interests. Visibility data is sorted in each event.~~

~~Note 1 to entry: Visibility data is sorted in each event.~~

3.1.5 logistics visibility data interchange

data interchange for accurate and efficient logistics tracking and traceability

3.1.6 interconnection

~~connected status between logistics information service providers (LISPs) (3.1.3 relation of the)~~

~~Note 1 to entry: The visibility data interchanged between among LISPs is are interconnected, so the connected status between LISP among LISPs is interconnection.~~

3.1.7 other receiver

~~party that receives a copy of a message when a document sender sends a the message to a document receiver, the other receivers are the document copy parties.~~

~~4.23.2~~ 3.2 Abbreviated terms

API	application programming interface
CCS	cargo community system
IMO	International Maritime Organization
PCS	port community system
UN/CCL	United Nations Core Components Library
WCO	World Customs Organization

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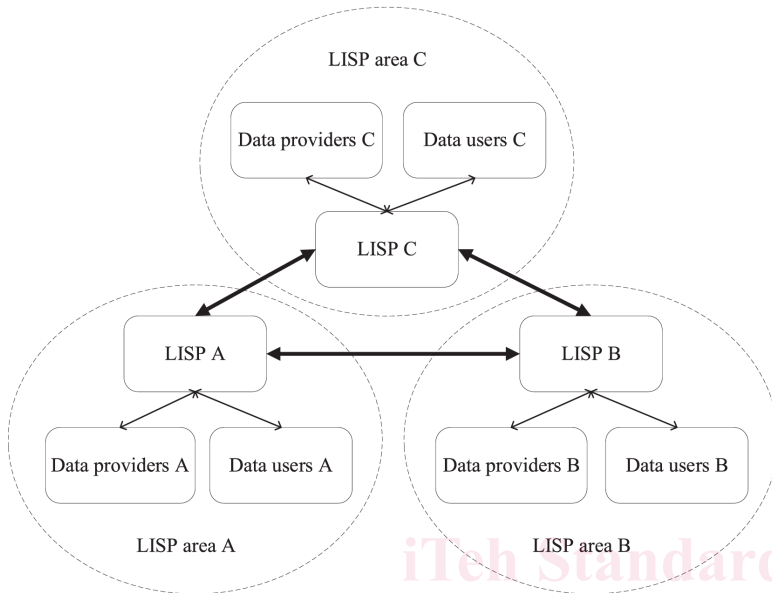
~~54~~ 4 Framework of logistics information service providers interconnection

~~5.14.1~~ 4.1 Interconnected relations

~~5.1.14.1.1~~ 4.1.1 Overview

As it is shown in ~~Figure 1~~ ~~Figure 1~~, ~~The, the~~ framework of LISP interconnection consists of regional LISP interconnection and inter-regional LISP interconnection.

- ~~—~~ A single LISP provides regional LISP interconnection.
- ~~—~~ Multiple LISPs provide inter-regional LISP interconnection through APIs.



NOTE The connecting lines refer to APIs.

Figure 1 – Framework of LISP interconnection

5.1.24.1.2 4.1.2 Regional LISP interconnection

Regional LISP interconnection includes:

- LISP
- Data providers
- Data users

Data providers are connected to a LISP in the same region and provide the logistics data to the LISP. Data users are connected to a LISP in the same region and access logistics data from the LISP. For example, there are three regional LISP interconnections in Figure 1: LISP area A, LISP area B and LISP area C. In LISP area A, data providers A provide the logistics data to LISP A, and data users A access logistics data from LISP A.

5.1.24.1.3 4.1.3 Inter-regional LISP interconnection

Inter-regional LISP interconnection includes:

- Multiple LISPs
- Data providers in different regions
- Data users in different regions

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Inter-regional LISP interconnection can be provided by multiple LISPs through APIs. Data users connected to a LISP can access logistics data from other regions by inter-regional LISP interconnection. For example, as it shown in [Figure 1](#) ~~Figure 1~~, data users A can access logistics data from LISP area B and LISP area C, which are provided by data providers B and data providers C.

5.1.44.1.4 4.1.4 Classification of parties in LISP framework

The parties in LISP framework are shown in [Table 1](#) ~~Table 1~~.

Table 1 — Example of Parties in LISP Framework

Party	Example of parties
LISP	a) PCS and CCS b) Logistics data exchange platform
Data provider	a) Maritime carrier b) Freight forwarder c) Port/Terminal operator d) Single window e) PCS and CCS f) Logistics data exchange platform
Data user	a) Maritime carrier b) Freight forwarder c) Port/Terminal operator d) Single window e) PCS and CCS f) Logistics data exchange platform

5.24.2.4.2 Features

The framework of LISP interconnection should include 7 features.

- a) ~~a)~~ Openness: Any of LISPs can participant in this network to provide and acquire logistics status information mutually. They are information contributor, at the same time, they are information consumer.
- b) ~~b)~~ Confidentiality: To protect sensitive information of participated parties, information exchange shall be conducted with ~~the~~ prerequisite of data providers' consent.
- c) ~~c)~~ Systematicness: APIs are used for authentication and providing/querying logistics status information mutually. This feature reduces the cost of system implementation for both data providers and data users.

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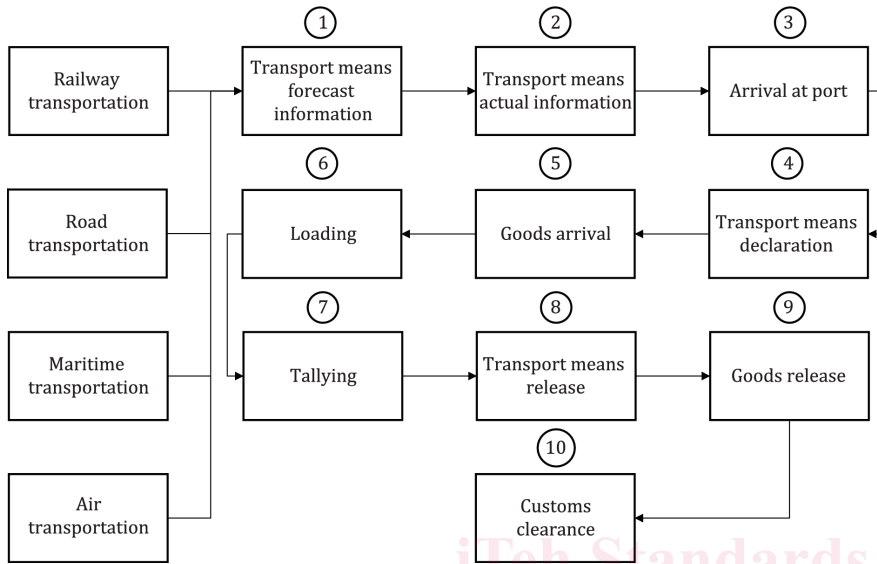


Figure 2 – Import process

