Common Framework for ICT in Transport Logistics

Status of the framework development

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Contents

• Initial integration into the Common Framework
• Standardization: UBL2.1, GS1 LIM, UN/CEFACT
• Continued integration: PEPPOL, WCO, consolidation
• Continued integration: Traditional EDI messages in port communities
• Continued integration: eBSN pilot projects
• Need for Common Framework
Common Framework: Initial integration

Common Framework
- Flexible (ad hoc) combination of supply-chain services
- Include key business players (SMEs): lower entry barriers

e-Maritime
- Sea carriers, Ports, Customs, Authorities

TAF-TSI
- Railway Undertakings, Infrastructure Mgmt.

RTTI
- Vehicle-to-Infrastructure, Vehicle-to-Vehicle

City Logistics
- Fleet management, Freight traffic management

RIS
- IWT carriers, Ports, IW management

Railway Undertakings, Shippers, Forwarders, 3PL
CF concepts: Roles

Consigeror → Logistics Services Client → Consignee

Transportation Network Manager

Logistics Services Provider

Transport Regulator
CF concepts: Domains

Cooperative Systems

Transport Demand
- TSD
- TEP
- GII
- TES

Transport Supply
- TOS
- TNS

Intelligent Cargo

Supply chain security and Compliance
- CRS
- SDM

Transportation Network Manager
- Logistics Services Client
- Logistics Services Provider
- Transport Regulator
CF concepts: Messages

TSD  Transport Service Description – a standard description of transport services suitable for automatic detection

TEP  Transport Execution Plan – describing all the information needed related to the execution of a transport service.

GII  Goods Item Itinerary – providing information about the movement of the goods (possibly through a chain of services)

TES  Transport Execution Status – providing information about the progress of the transport and of the cargo condition

TOS  Transport Operation Status – assisting in establishing the best possible arrival time estimates

SDM  Security Data Message – providing information about the security of a sealed load unit.

CRS  Common Regulatory Schema – providing a unified way of informing authorities about transport such that compliance may be verified.

TNS  Transportation Network Status – nor suggested as a new standard, but a pointer to messages providing such information for the different transport modes.
CF concepts: Processes

Interoperation Agreement
Master Data Alignment
Logistics Services Conditions
Long Term Planning

Operational Planning
Execution
Completion
CF concepts: Processes
Ongoing standardization

- Change request processing
- Core components & code lists
- OASIS/UBL
- Adopt messages as part of UBL
- GS1 Logistics Interoperability Model (LIM)
- GS1 core components & code lists
- Mapping messages to GS1
- In principle, proposing new elements as Candidate Core Components
- Possibly followed up by
- ISO TC154
  Processes, data elements and documents in commerce, industry and administration
- ISO TC154
- Mapping messages to UN/CEFACT
- Common Framework
- Deviations at attribute level

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Ongoing standardization

Mapping messages to UN/CEFACT
Current status of CF within UBL 2.1

- Second public review until Sept 24th; the review is an open review where anyone may post comments
- Currently the issues list counts 30+ comments
- This release includes all the framework information packages (TEP, TES, GII, TPS and TSD)
- Most likely there will be a third public review as well, but probably only a 14 day review
- Expected final release of UBL 2.1 is Jan/Feb 2012

URIs: The prose specification document and related files are available here:

Continued integration

PEPPOL vs Common Framework

- The articulation between PEPPOL and the Common Framework has been initiated through the e-Freight project.

- The e-invoicing and e-ordering components of PEPPOL are complementary to the Planning, Execution and Completion Components of the Common Framework.

- The two initiatives will develop a common demonstrator that will show how activities within procurement logistics can be combined electronically.

- eCatalogue could be used for presenting offered products from a supplier. eOrder could be used for ordering these catalogued products.
- eInvoice can be used to invoice the ordered products.
- Another relevant component for the Common Framework may be the Transport Infrastructure (eDelivery mechanism).
• The WCO Customs Data Model (WCO CDM) consists of a set of harmonized data sets which provide identified business requirements for each of its various (customs) procedures for use by Customs and its trade partners. For each required data element the data sets provide a detailed set of information (metadata). The WCO data sets have been aligned with the United Nations Trade Data Elements Directory (UN/TDED) as far as possible. The DiSCwise Flemish pilot validates the use of the Common Framework in customs clearance.

• The DiSCwise Polish pilot validates the use of the Common Framework in consolidation of cargo flow within the Polish ECR (Efficient Consumer Response) working group. The Common Framework allows for a low-cost implementation for consolidation approaches involving SME shippers, forwarders and transport operators.
Continued integration

Common Framework vs EDI messages
Continued integration

Common Framework vs EDI messages

(Shipper/ integrator or virtual integration platform that enables info flow on process level, based on tracking request + PL)

Customs agent

Sea carrier

Inland transport operator

Terminal (PnL, PoD, hinterland)

VTMIS or ship reporting service

Vessel

CSD (Neutral layer)

Customs

Port of origin

Point of loading

DSS

Point of discharge

Point of delivery

Status reports

Notifications

Transport demand

Transport supply

Cooperative systems

Intelligent cargo

Security message

Supply chain security and compliance

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Continued integration

Common Framework vs eBSN pilots

- Ongoing action: Investigate synergy between DiSCwise and other eBSN pilots

Transport & Logistics

Textile Supply chain

Automotive Supply chain

Agro food Supply chain

Publishing availability, contracting, executing of transport & logistics services

Transport service from A to B

Vs

Product X available at A

Publishing availability, purchasing, delivery of products
Continued integration

Common Framework vs eBSN pilots

- Ongoing action: Investigate synergy between DiSCwise and other eBSN pilots

Product X available at D as a result of manufacturing/warehousing and transport activities:

- Product X available at A
- Transport service from A to B
- Transport service from B to C
- Transport service from C to D
**Long term** benefits based on improvement of reliability:

Savings potential is in the magnitude of +/- 300 Euros per imported container of value 100,000 Euro.

Most of these (70-80%) are financial gains as a result of reduced pipeline & safety stocks, directly depending on the average container value. This reduces working capital requirements gradfly, as improved reliability is proven step-by-step.

This applies mostly to the shipper or beneficial cargo owner (BCO). If realized by the logistics integrator, he may be able to sell his services with a premium to shipper or BCO.

This requires true visibility, i.e. not only knowing where the load unit is, but also the impact on the end-to-end logistics process.

**Short term** benefits are in the magnitude of +/- 5 Euros per container as a result of efficiency gains for individual transport & logistics service providers around the sea/hinterland interface:

- **Less waiting times**
- **Less container moves**
- **Shorter stay in port**

**Best applicable to containers of less average value (10,000 Euro)**

These savings are very relevant to the terminal operators, which from their side can provide reliable actual terminal events, for sea and inland terminals.
A **bundled offering of product components** that ensures inclusion of data & value added services, but impairs interoperability;
Providers of specialized product components are few;
The users needs to buy in into a specific ecosystem offered by the provider;

E.g.:
- CSD provider
- Terminal network
- INTTRA
An **interoperable market** in which value added services establish **coalitions** (and agreements) with multiple data source owners to provide rich consolidated information;

This enables **specialization** but at the same time ensures them of sufficient **distribution channels** to enable them to invest in further development of their specialized products;

As time goes by the interfaces between the individual product components will be more and more **standardized**, reducing switching costs and risk;

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**Sample implementation:**

![Sample implementation](image-url)
An **open and decentralized market** in which value added services (VAS) can be used to **discover** intelligent load and cargo units, data sources and applications, **configure** which to use for which client or shipment, **settle on the terms** of using them, and complete the cycle by enabling aggregated **billing** to the end-user;