Towards an ICT Platform for the European Freight Transport Community

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ABSTRACT
The paper identifies requirements for an Information and Communication (ICT) platform for the European freight transport sector— an e-Freight Platform. The e-Freight Platform can be used to support integrated multimodal transport and improved interoperability between freight transport and administration systems. The authors illustrate the potential of such platform for enhanced Business to Administration interoperability by using a case study of a Common Reporting Schema for freight reporting compliance.

Keywords: B2A, B2B, Common Reporting Schema, E-Freight, Single Window, SOA, XML

INTRODUCTION
E-Freight (e-Freight, 2011) is a research and development project co-funded by the European Commission under the 7th Framework Programme. It started in January 2010 and runs until June 2013. The e-Freight Consortium consists of 30 partners from 14 EU Member States and Norway.

The aim of the e-Freight project is to:

• Provide IT Capabilities supporting EU freight transport stakeholders to have a common, standard Framework for freight transport in the European Community and, as far as possible internationally, adhering to EU policy for a Single European Transport Area.
• Facilitate the use of different transport modes, on their own and in combination, to obtain an optimal and sustainable utilisation of European freight transport resources.

The vision for e-Freight, first introduced in Freight Transport Logistics Action Plan (Commission of the European Communities, 2007), aims for more efficient, greener, safer, and cost effective transport, through:

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• Zero paper documents for planning, executing and completing any transport and logistics operation within EU, independent of: the parties involved, cargo type, Transport mode or combination of modes, Loading unit, Authorities involved, Type of service demanded, Transport corridor and Liability regime.
• Zero waiting times related to administrative procedures at all border crossings within EU and for transport between EU and countries with which secure trade lanes have been established.
• Technology independent e-Freight mechanisms.

One of the objectives of the e-Freight project is to provide an ICT Platform that, according to the aforementioned e-Freight policy, will represent a mechanism for business and IT interoperability in the freight transport sector. The goal is to enable different transport stakeholders to running heterogeneous environments to interoperate on collaborative inter-organisational processes. The design strategy for the Platform is to leverage on existing technologies based on current state-of-the-art open software engineering standards such as Service Oriented Architecture (SOA) and ongoing standardization efforts on business frameworks from OASIS and other bodies.

This paper outlines the requirements that drive the design of the e-Freight ICT platform and illustrates its functionality. The paper is structured as follows. We describe the set of ICT requirements elicited from the freight transport community. We illustrate the functionality of the Platform through a Business to Administration (B2A) case study involving the use of a Common Reporting Schema for formalities reporting. We discuss plans for the Platform’s future adaptation by the freight transport community.

USER REQUIREMENTS FOR THE E-FREIGHT ICT PLATFORM

This section discusses the platform vision and the high level requirements for the Platform. It is centred on the following three goals:

1. **Alignment of EU Policy, Business and IT by:**
   a. Maintaining cohesion between EU Policy, Business Communities and e-Freight ICT and applications.
   b. Controlling complexity and change management costs in managing ICT infrastructures in freight transport companies.
   c. Supporting adaptability of the European freight transport system to economic, social and environments drivers.

2. **Efficient development and change management with respect to business models of specific transport networks including:**
   a. Customization of generic e-Freight process frameworks into specific processes between a freight company and its customers and business partners.
   b. Support for process redesign, arising from market drivers (top down strategy change) and operational improvement drivers (bottom-up).
   c. Support for learning and innovation.
   d. Formalisation of governance processes and change impact assessment.

3. **Support large scale adoption of e-Freight technologies in the EU freight logistics and transport community by:**
   a. Providing efficient distribution, integration and development of e-freight services.
   b. Providing support for interoperability between e-Freight Platform and other ICT systems deployed in freight transportation.
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