

# Logistical Data Platforms using RIS Information

- Requirements and Basic Concepts -

A. Matheja<sup>1</sup>, C. Zimmermann<sup>2</sup>, M. Stocksmeyer<sup>3</sup>

## ABSTRACT

Information and communication technology is the basis to collect and distribute river information, traffic data, and transport related information for setup, operation and optimization of intermodal transport chains.

Therefore a „Logistical Data Platform“ (LDP) will be introduced to have a messaging and application server to collect data from different RIS and to distribute it upon request. An easy business process model will be implemented too, to give a view to future capabilities of the system.

The business goals to be addressed by LDP:

- innovative ad-hoc transport services and business offerings,
- process optimizations within and across participating business domains,
- ad-hoc concatenation of business processes (intermodal chaining) and
- extensive software system support for process execution and information processing.

Furthermore, there is a vision and also a paradigm given for LDP: Users submit their requests to the platform and receive value-added information on-the-fly. Here, the platform acts as an information broker with an open interface but also as an intelligent user agent, capable of inherent information pooling.

The LDP process environment will act as an observer of this set and adjust its offerings dynamically. Near real time information from RIS will provide activation data, start up events, boundary conditions, etc. for the processes offered by LDP. On the contrary: If basic decisive data is fed in from remote databases and has not already been evaluated until the actual execution of a process, the platform will not show the responsiveness and the ad-hoc capabilities desired. Finally, the platform promises to be open and secure for every user, and to follow open standards. It will offer a certain degree of permanent RIS information that is maintained automatically and presented to the user - and to an inherent machine-hosted process runtime environment.

---

<sup>1</sup> Dr.-Ing. Andreas Matheja, Senior Research Eng., Tel: +49 / 511 / 762 – 3738, email: Andreas.Matheja@fi.uni-hannover.de

<sup>2</sup> Prof. Dr.-Ing. Claus Zimmermann, Director, Tel: +49 / 511 / 762 – 5481, email: Claus.Zimmermann@fi.uni-hannover.de

<sup>3</sup> Dipl.-Ing. Mark Stocksmeyer, Research Eng., Tel: +49 / 511 / 762 – 19021, email: Mark.Stocksmeyer@fi.unihannover.de

It is intended to establish a continuous data communication network between RIS and LDP, acting as a backbone messaging system, providing context loading and a steady chat at system level. The LDP will be designed as a adequate, asynchronous ebusiness application server environment, integrated with user directory services (admin, access control) and providing a FIFO (first in first out) caching server configurable by application. The server will act as a continuous flow data heater that maintains incoming RIS data on behalf of LDP.

The LDP will be a dynamic e-logistics B2B infrastructure environment. Besides the general use of distributed systems technology for object semantics, communication, and backend integration, LDP qualifies for a hosted, application server-based design, implicitly central, and in contrast to a physically distributed system, especially a distributed database solution. A combination of processes, process embedding, sub processes, and on demand loading of activities, will contribute to the powerful ad-hoc capabilities of LDP.

Application server technology, service add-ons, and common open middleware standards will provide the baseline technology needed for LDP. In addition, a variety of production scenarios need to be supported. The range covers hosting on PCs, UNIX server systems and, as a future migration path for dedicated operating with HA features, the mainframe (IBM z-Series).

This paper will give an introduction to requirements and basic concepts to develop, set up and operate a Logistical Data Platform as described.