

# INTEGRISANI PRISTUP TOKOVIMA U LANCU SNABDEVANJA

## AN INTEGRATED APPROACH TO THE FLOWS IN SUPPLY CHAINS

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### Summary

Big commercial chains intensify the use of modern tools and methods for supplying the integrated services and, in that way, meet the customers' needs and improve the quality of their own service using the integrated information systems which take part in the realization of 'high-end' (highly technological) transport. A unique plan of communication and information is offered and thus a simple tracking and tracing through the shipments of different operators by different aspects of transport is enabled. The key idea is to provide a commonly open, standardized interface among all the system components. The existing solutions are usually based on the bar code where the identification is performed at control spots. The key idea of 'ParcelCall' is to provide the required services of standardized communication protocols, including the potential, e.g. GSM/GPRS, ISDN, UMTS and TCP/IP. The integration into the existing IT structures is sine-qua-non (elementary action), figure 1, and it shows a generically designed model which can be used in the future for the integration of the tracking functions and tracing the shipment, as well as for the other applications.

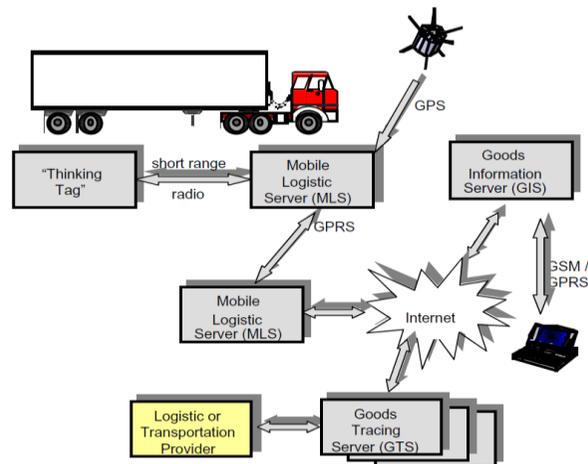


Figure 1: «The ParcelCall» structure

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The information, including the position and the status, are gathered by Mobile logistics Server (MLS) which is placed in a vehicle. Through the Global Positioning System (GPS) the ad-hoc nets, which can be used for tracing of the active status of the shipment, will be formed. MLS sends the collected information to the Goods Tracking Server (GTS) – Server for tracking the goods. Each company taking part in the delivery process must install at least one GTS which also serves as an interface between the corresponding IT system and track&trace service. GTS forms a highly distributed data base which contains the information available to the filna users. The individual servers are mutually connected by the public networks (e.g., Internet or ISDN). It should be mentioned that small companies which don't have their own 'tracking and tracing' system can use the ParcelCall service, as GTS (via the PC).

The improvements in the new system can have an important role in eliminating one of the problems the internet trade is faced with, and that is the timely reliable delivery adjusted to customer's requests. Although they are not strictly connected with Internet shopping, significant expectations of buyers with internet/WAP access serve as a possibility for improving the users' service by using a more precise 'parcel' tracking technology. Almost equally important, there is no need to modify the current corporative IT infrastructures. The only thing which must be performed is the specification and implementation of interface between the infrastructure and GTS. If neccessary, the incoming information (from the MLS) can first be internally processed and then made public (for example, if the information about the location is correct, it mustn't be available for security reasons).

The internal details, as the changes of the traffic aspects or engaging of the subcontractors, are hidden from the final users, to whom the virtual delivery system is presented. The final users (that is, the senders and the recipients) can get the information about the shipment from the «Goods Information Server» (GIS) which has the individual users' profiles, checks and verifies the user's identity, forwards the inquiry to the corresponding GTS and answers back to the current user's system. Generally, there is a key strategic choice about the information which can be transferred within the system and which model should be applied. A complete model implies the support of complex needs of different sets of participants in the chain which will receive the data in the packages during the delivery. A simpler model implies that only certain data will be exchanged within the system itself and that this will be completed by the information provided by the internal systems and procedures of different participants in the chain which has more advantages because a complete model bears more risk through the rigorous safety protocols concerning the issuing of information.

However, it is most probable that the final success of the system will be determined by the actions of the companies which influence the logistic process the most. If the number of large, integrated, express/logistic companies included in the process is big, it will develop the impulse for the «Parcelcall» in two directions. Firstly, these big companies can insist on the compatibility of their negotiators. Secondly, an additional level of services given by the system will raise the expected industrial standard , pressuring the others to do so. The implementation requires that the companies should possess six crucial components in E-services:

1. E-mail response management system (a responding RMS system).
2. Interactive chat,
3. A highly frequent communication (inquiry-answer).
4. Frequently asked questions.
5. voice-driven command.
6. Coolaborative tools (Co-browsing, web-baseds).
7. Self-services or self-help.

It is considered that only about 45% e-service traders use at least three components.

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When using the internet technologies (online data base and cloud technology), the possibility of access to the data base is considerably facilitated. The most noticeable application of the mentioned technologies can be noticed in the biggest world messenger services (UPS and FedEx). They actively use the given IT and internet technologies for a number of years to facilitate the tracking and tracing of shipments. The internet and IT technologies can significantly help the final user in buying, tracking and tracing of parcels and different other products or services. The internet services must continually develop according to the trends, but, at the same time, they must adjust to the final user.

**Keywords:** supply chains, approaches, flow, organization, protocol