

D41.1 Preliminary Architecture and Set of ICDs

Public Summary only (PS)

Reference SCR-WP41-D-ANS-002-PS

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Full document identification		Reference	SCR-WP41-D-ANS-002
Related SP / WP	SP4 / WP41	Dissemination Level	CO
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This document is issued in the frame and for the purpose of SECUR-ED project. This project has received funding from the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 261605.

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Public summary

The aim of the present document is to define a preliminary architecture for a Public Transport Security System that is modular and scalable. This document provides an open and interoperable framework able to support all types of Security services. The framework shall support the capacities that will be used in all the SECUR-ED demonstrations (as they are currently known) and be able to support future technology integrations. Recent previous project (PROTECTRAIL for mainlines) has achieved the objective of a sustainable interoperability framework by using Service Oriented Architecture (SOA). The SECUR-ED working group has used this reference to define global service interface characteristics. In order to specify the services used in the SECUR-ED demonstrators, all the operators have been asked to provide a short description of legacy technologies, made available for SECUR-ED project, and of the new ones which will be integrated and tested in the demos, as well as implemented in the future.

The information depicted in the document will be used to allow interactions with the other activities of the project: like for the *Definition of functional specification language* and for the *Definition of capacities (the new subsystem technologies) to apply in the demos to enhance the level of protection of the urban transport security system*. The driving line of the document has been to produce a technical survey focused on the bottlenecks that prevent easy and open implementation of the new solutions carried out from the new resources developed and of legacy services involved in urban transport security operations.

Starting from the collected information and the interoperability framework outlined in the PROTECTRAIL Project, a preliminary general architecture for demos, which integrates the requirements extracted from the demonstration scenarios, is defined; this architecture is designed to provide for:

- High level of interoperability despite the diversity of technologies, interfaces and design patterns, both legacy and future.
- High level of modularity, scalability and interchangeability ready to face different kinds of threats and situations with varied combination and correlation of capacities.
- Common understanding and management of Events, ensuring unambiguous traceability of the events, regardless of where they happen and whoever owns the system.

These requirements lead to a service oriented architecture based on services relying on standard protocols and interfaces. As a result a preliminary general architecture useful and configurable for each specific demonstrator is defined; it will be reviewed and refined in the next phases of the Project.

"In Service-Oriented Architecture autonomous, loosely-coupled and coarse-grained services with well-defined interfaces provide business functionality and can be discovered and accessed through a supportive infrastructure. This allows internal and external system integration as well as the flexible reuse of application logic through the composition of services to support an end-to-end business process."

Malte Poppensieker at the University of Trier

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