

# Secure Intelligent Transport Systems

## Secure Information Exchange for Intelligent Transport Systems (ITS)

### Complex, Safety-Critical IT Infrastructure

Intelligent transport systems comprise many different systems and concepts. The main benefits are reduction of congestion and improved safety, but can also include road usage charging, vehicle tracking etc. Many intelligent transport systems (ITS) are designed to optimize transport by providing situational awareness to the traveler.

Information security plays a critical role in ITS because it protects travelers and adds to the robustness of the system. Depending on the particular requirements, ITS and logistics services include many aspects such as:

- Traffic planning and coordination using up-to-date traffic information, guiding passengers on their optimum route through traffic.
- Road congestion reduction often includes road usage charging and some travel information services. If the goal of road charging is to reduce congestion, the charging needs to depend on the location, time of day, and other factors. One purpose of travel information services is to give real-time route advice to travelers in order to avoid congestion, which also depends on the location and many other factors.
- Vehicle safety improvements often include better real-time communications to travelers, such as automatic on-board speed limit displays and road condition warnings, as well as automatic reaction to safety-critical events such as cars within the safety-critical zone and obstacles.
- Public safety improvements often include better real-time, context-sensitive alerting of travelers, for example about road accidents, closed airports, terror attacks etc.
- The environmental impact of transportation can be reduced if travel is optimized, if multi-modal public transport can be made more attractive through better real-time information, if accidents hazardous goods vehicles are minimized etc.

The complexity of IT security in such complex, interconnected environments is a major challenge. Many efforts are currently undertaken to design and build a

common architectural standard for a joint-up, agile business-driven technology architecture. Service Oriented Architectures (SOAs), process-centric architectures (BPM), as well as data-centric architectures (e.g. DDS) are all being deployed alongside more traditional application integration platforms such as JavaEE, JMS, CORBA/CCM.

### ITS Security is a Key Enabler

Security and secure interoperability are critical, especially if services and road usage are charged for and if driving offences are identified via these new services. In addition, transport systems are safety-critical and part of the critical national infrastructure, and therefore need to be protected well. ObjectSecurity's technologies and services can form an integral infrastructure part of most ITS solutions, especially for security policy management.



ObjectSecurity OpenPMF lets you intuitively select business-centric security & compliance policies, which are then automatically enforced across your IT landscape (using a "model-driven security" approach). You can conveniently manage your policies at run-time, and even change your software applications and workflows without extra administration. OpenPMF reduces costs, improves security, and enables agility. Available as a packaged product and as an integrated turn-key solution.

### Products & Services

- OpenPMF (packaged product & turn-key solution)
- SimulateWorld 4D synthetic environment toolkit
- SecureMiddleware: secure open source middleware
- Services: security policy management, Web 2.0 / SOA / Cloud / SaaS Security, middleware security, training workshop, tech. support, R&D
- Studies: in-depth documents about hot topics in security, e.g. model-driven security & SOA

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