Experimentation of emergency call in the GST test sites

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The GST project

- European R&D project, FP6

- Objective: create an open and standard architecture for end-to-end telematics

- 50 partners involved: car makers, telecom operators, equipment suppliers, service providers, insurance and assistance companies, research labs

- 7 test sites: Aachen/Russelsheim, Gothenburg, London, Munich, Paris, Stuttgart, Torino

- Roadmap:
kick-off	March 2004
use cases and system requirements	2004
architecture and specifications	2005
implementation and field tests	2006
validation and dissemination	2006/2007

- 7 R&D subprojects in GST for technologies and services

➡ **RESCUE** subproject: emergency call service

The Rescue subproject (1/2)

- Objectives:
  - provide faster and more effective response to the emergency call
  - realize an experimentation in 2006 in the GST test sites
  - provide inputs for standardization

- GST context:
  - one IVS in each vehicle: "GST compliant" TCU including a SIM
  - end user supposed to have subscription(s) to service provider(s) of GST compliant services
  - creation of "new business opportunities" => existence of sustainable business model for the service providers

The Rescue subproject (2/2)

■ Experimentation:

➢ **Orange** and France Telecom involved in the chain: IVS => PSAP

➢ implementation of a first mock-up by France Telecom in 2005

➢ experimentation made in 5 GST test sites:

o Aachen

o Gothenburg

o London

o Munich

o Torino

The Rescue mock-up: specifications for emergency call

- transfer data from IVS to the PSAP

- fast and effective response time

- experimentation in several European test sites

Supplementary specifications:

- operates with standard GSM equipments and standard telecom protocols (proprietary candidates out of the scope)

- simple and standard interfaces: to the vehicle and to the PSAP

- open to future evolutions of the transmitted data (size, content)

- identification of the caller (authentication purpose, …)

- protocols: independence between application & transport layers (state of the art)

The Rescue mock-up: interfaces

- "simple" interface to the vehicle:
  - standard GSM equipment including a SIM card
  - data to be transferred: binary in text encoding format
  - benchmark results for application/payload layer:
    TCAP/ASN.1 has been selected
- "simple" interface to the PSAP:
  - benchmark results for transport layer: TCP/IP
  - benchmark results for application/payload layer:
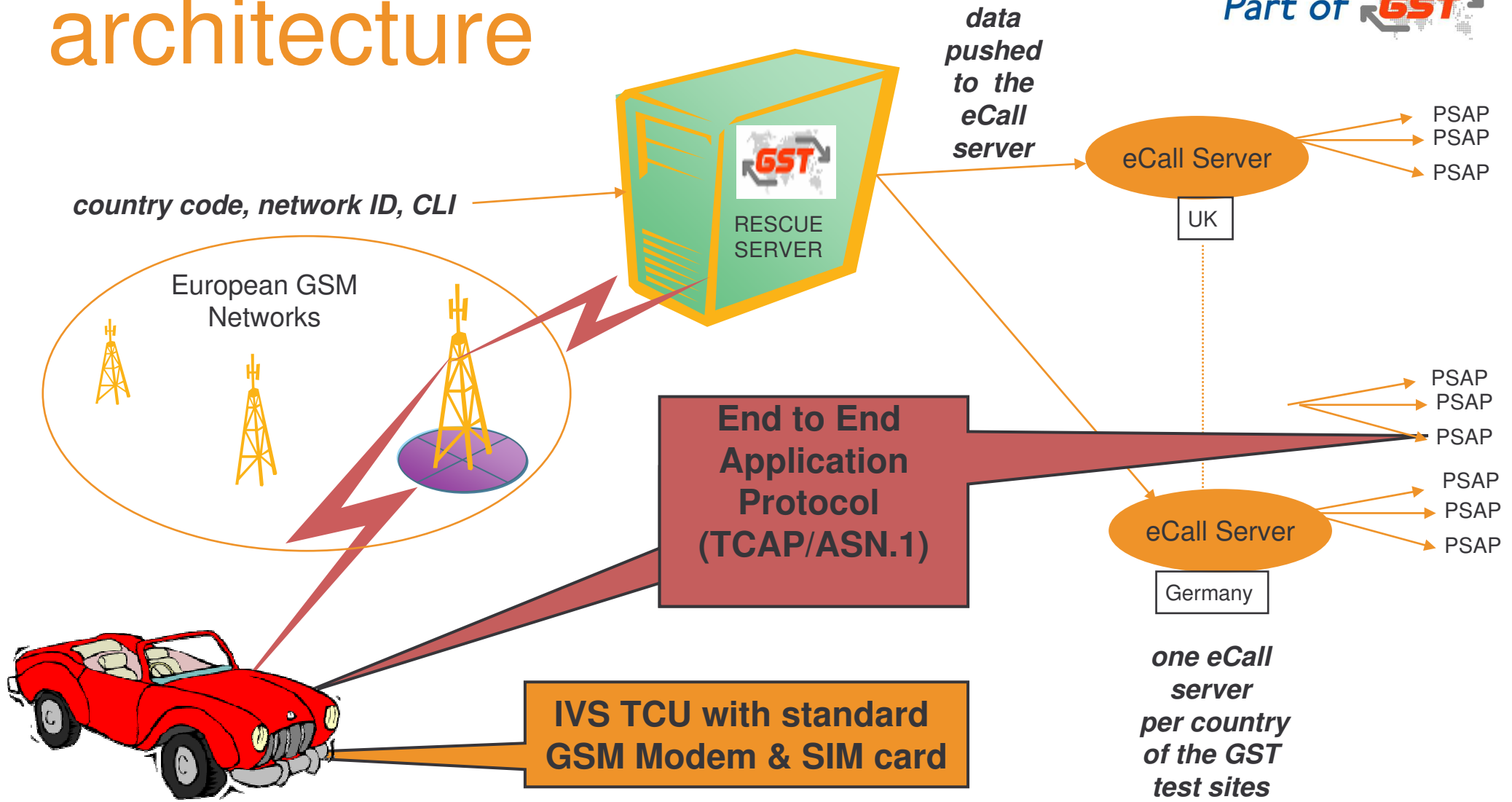   *TCAP/ASN.1 over SOAP/HTTPS* has been selected

The Rescue mock-up: routing issues

- specification
  - initiate end-to-end dialogue between the vehicle and the right PSAP of the visited country
- experimentation context
  - dialogue routed via the Orange home network
  - country code, network ID, CLI provided by the network
- architecture based on two levels of service providing:
  - one RESCUE server in the Orange network
  - one eCall server per country of the GST tests sites, in charge of routing the data to the right PSAP

The Rescue mock-up: architecture

RESCUE Part of **GST**

data pushed to the eCall server

RESCUE SERVER

country code, network ID, CLI

European GSM Networks

eCall Server

UK

→ PSAP
→ PSAP
→ PSAP

End to End Application Protocol (TCAP/ASN.1)

→ PSAP
→ PSAP
→ PSAP

eCall Server

Germany

→ PSAP
→ PSAP
→ PSAP

one eCall server per country of the GST test sites

IVS TCU with standard GSM Modem & SIM card

RESCUE: experimentation of emergency call in the GST test sites

The Rescue mock-up: characteristics

The RESCUE mock-up fully complies with the specification of emergency call in the GST context:

- improving response time and security of transmission
- experimentation in 2006 at the European level
- operating with standard GSM equipments and protocols
- simple and standard interfaces: to the vehicle and to the PSAP
- open to future evolutions of the transmitted data (size, content)

Moreover, it opens the door to:

- creation of "new business opportunities" for providers of added value assistance services, …
- possible development of "filtering" functions to limit junk calls, …

The Rescue mock-up: limits

Due to it specification, the RESCUE solution has some limits.

➡️ It is not designed for covering all use cases inside the scope of the "public" eCall service, i.e.:

- public service for all European vehicles
- vehicles without "GST" TCU or without TCU at all
- without subscription by the end user to telematics service
- without sustainable guaranteed business model for service providers
- …

➡️ which makes a quite different specification !

RESCUE can provide inputs, but research of a solution for "public" eCall is out of the scope of RESCUE

Conclusion and next step

Deployment of a "public" eCall service for all European vehicles requires:

- consensus from European telecom operators
- definition by European telecom operators of a "preferred solution"

Standardization bodies will achieve optimal outcome when starting from the "preferred solution" of European telecom operators.

thank you for your attention

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