Secure Vehicle Communication

SEVECOM

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# SE-cure VE-hicle COM-munication

- Mission: future-proof solution to the problem of V2V/V2I security

- Partners
  - Trialog (Coordinator)
  - DaimlerChrysler
  - Centro Ricerche Fiat
  - Philips
  - Ecole Polytechnique Fédéral de Lausanne
  - University of Ulm
  - Budapest University of Technology and Economics

Research topics

	Topic	Scope of work
A1	**Key and identity management**	Fully addressed
A2	**Secure communication protocols (inc. secure routing)**	Fully addressed
A3	**Tamper proof device and decision on cryptosystem**	Fully addressed
A4	Intrusion Detection	Investigation work
A5	Data consistency	Investigation work
A6	**Privacy**	Fully addressed
A7	Secure positioning	Investigation work
A8	Secure user interface	Investigation work

EASYS Workshp Berlin
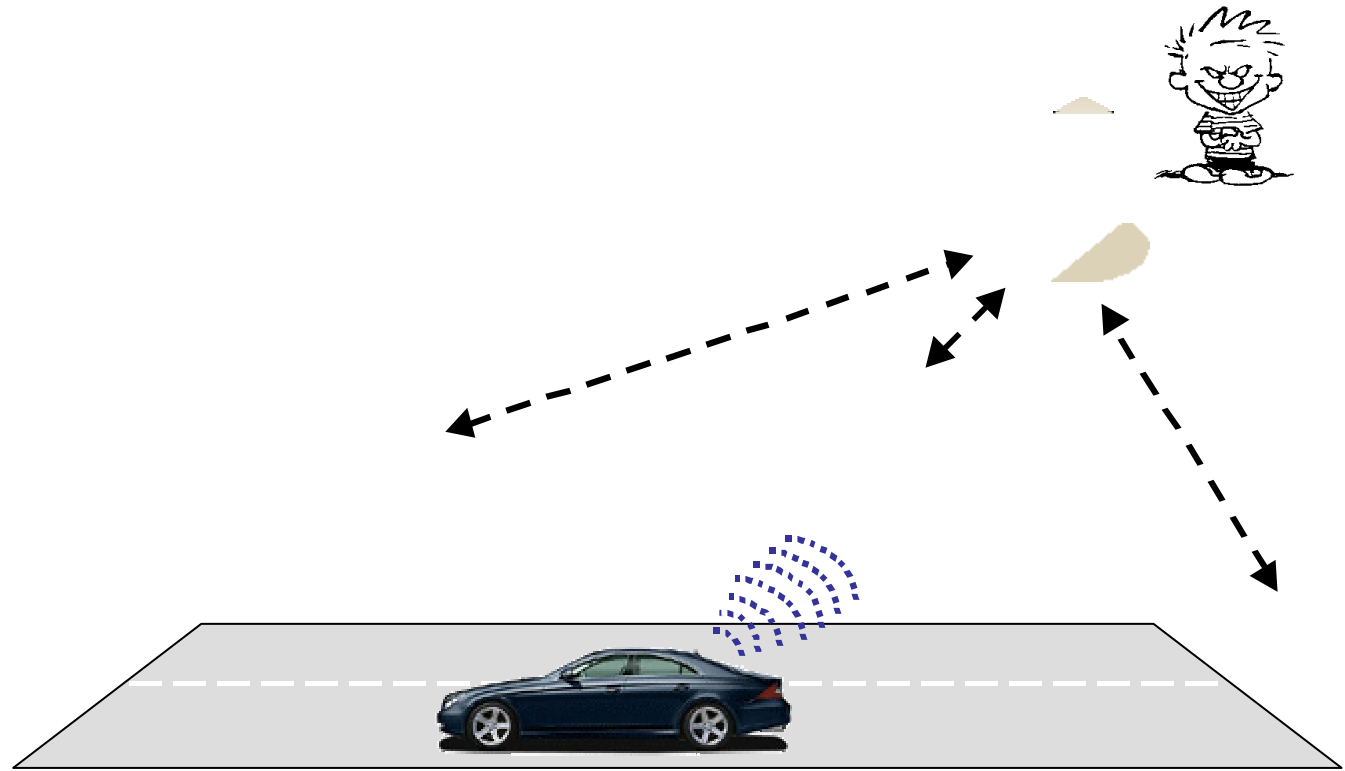
- Based on pseudonyms within a « region »
    - pseudonym changes over space/time
    - identity of a vehicle in a region unknown
    - space size/time duration is a parameter
    - cannot track a vehicle from one region to another
- Service providers can still track a given customer
    - e.g. through a fixed IP V6 address
    - secure tunnel on top of changing pseudonyms and addresses

- Must allow dynamic deployment of stronger solutions
    - similar to switching from 8 to 10 digits on telephones

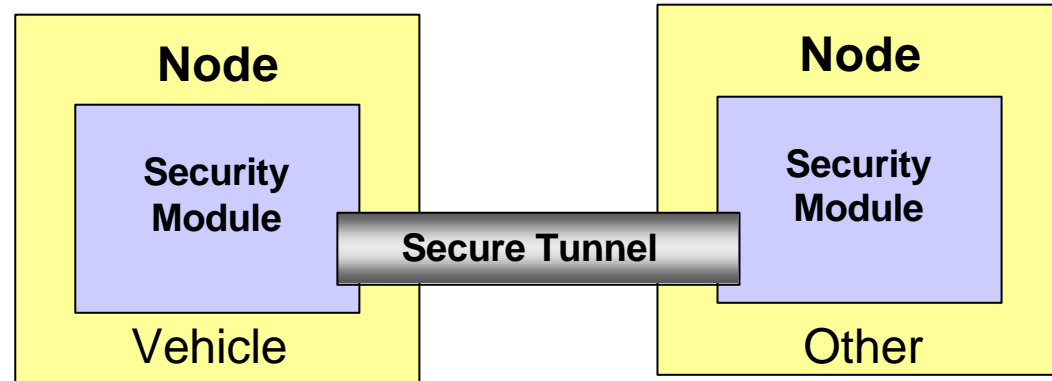**EASIS related : managing secure software download**

Security Baseline Architecture

- Starting point is GST SEC architecture

- Distributed architecture for authorisation
  - Single sign-on
  - Federated identities /circle of trust
- Architecture
  - secure tunnels
    - Insecure
    - Authenticated
    - Confidential
    - Secure
  - security modules

**Related to EASIS architecture
Starting platform is CVIS (3 processors)**

Security Working Groups

SEVECOM

- ## C2C Security Working Group
  - Dr H.J Voegel, BMW

  **White Paper
  Baseline Architecture**

- ## COMeSafety IST project
  - Dr T.Kosch, BMW

  **Impact of Security to eSafety
  Architecture**

- ## eSafety forum Security WG
  - Antonio Kung, Trialog
  - Prof. Ruland, Siegen U.

  **Code of Practice
  Recommendations
  EASIS architecture is an input**

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Thank You

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