



UNIVERSITÀ DI PISA

Verifying data secure flow in AUTOSAR models by static analysis

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joint work with

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1 AUTOSAR

- Modelling in AUTOSAR
- AUTOSAR security annotations
- Problem statement

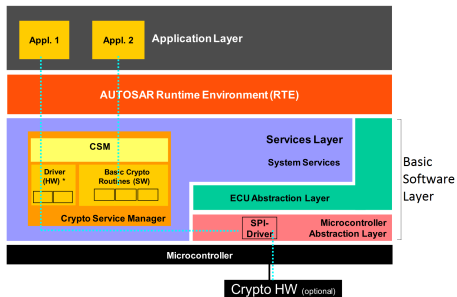
2 Information flow analysis

- Static analysis
- Abstract interpretation for secure information flow

3 AUTOSAR Secure Flow analysis

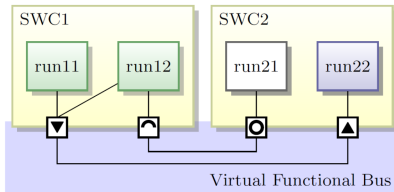
- The method
- The abstract interpreter
- An example

AUTOSAR architecture



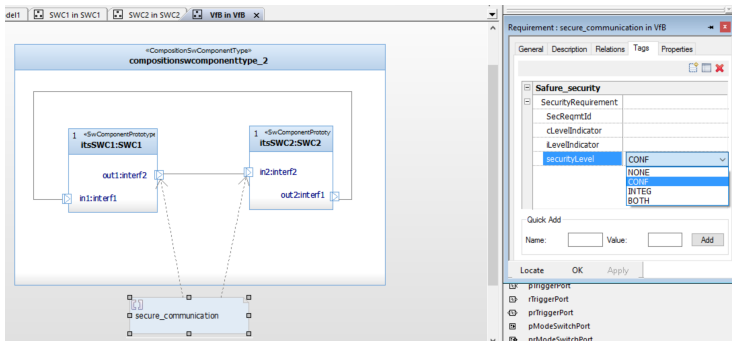
- Application SW
- Basic SW
- RTE
- CSM

Modelling in AUTOSAR



- 1 send/receive ports
- 2 Client/Server ports

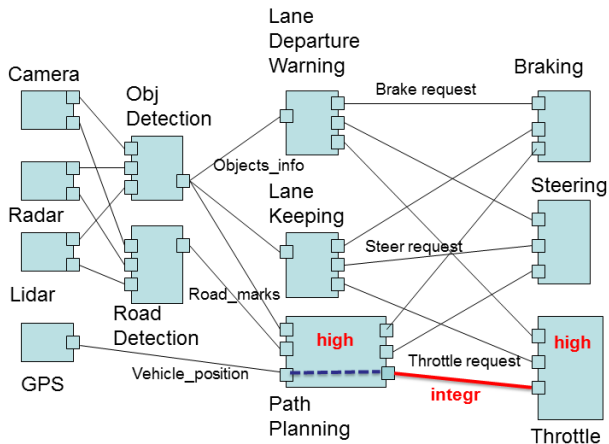
AUTOSAR security annotations



Stereotypes

- Trust level
- Security requirement level

Problem statement: an example



Table

Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table: Table caption

Theorem

Theorem (Mass–energy equivalence)

$$E = mc^2$$

Example (Theorem Slide Code)

```
\begin{frame}  
\frametitle{Theorem}  
\begin{theorem}[Mass--energy equivalence]  
$E = mc^2$  
\end{theorem}  
\end{frame}
```

Figure

Uncomment the code on this slide to include your own image from the same directory as the template .TeX file.

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This statement requires citation [Smith, 2012].



John Smith (2012)

Title of the publication

Journal Name 12(3), 45 – 678.

The End

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