Annual review FLORENCE 2013

Major Findings

Goal

Point out and introduce the major achievements of nSHIELD project during its second year

Major Achievements

- Enhancement of SPD metrics

- How to cope with legacy components?

- Protection Profile: a step towards ES certification & standardization

- Development of new technologies' prototypes

- Demonstrators definition

Enhancement of SPD metrics

Multi-metric approach

- Based on metrics already identified in D2.5

- Requires normalisation of the different values obtained

- Compose heterogeneous metrics through an expert system

- Simpler than 2nd method proposed and more intuitive

Attack Surface approach

- Quantifies how much a nSHIELD system is resistent to ATTACKS to its SURFACE

- Basic concepts: Porosity, Controls and Limitations

- Formally modeled through I/O Automata

- Provides a SPD level expressed by a cardinal number combining 3 different methods: attack surface, Common Criteria and Open Source Testing Methodology Manual

How to cope with legacy components?

- Reusability is particularly important in industrial contexts

- Often it is not possible to discard legacy components when designing complex ES, also for interoperability reasons

- A gateway has been proposed and developed in order to allow using legacy components in the framework of nSHIELD compliant ES

- This gateway can increase the possibilities of adopting nSHIELD framework in future ES

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Protection Profile: a step towards ES certification & standardization

- Protection Profiles (PPs) are documents defined in Common Criteria context

- Their aim is to define security objective and requirements for families of products (Operating Systems, DBMS, Firewall, Smart Card, etc)

- They are technology independent and can be used to define standards and laid the basis for security certification of products

- A PP has been defined as far for nSHIELD middleware

Development of new technologies' prototypes

- Several new technologies in the framework of SPD have been investigated during the first year of nSHIELD project

- Based on these technologies a number of prototypes have been developed and are now available or in progress

- Most of the developed prototypes will be integrated in the demonstrators that are going to be presented at the end of nSHIELD project

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Demonstrators definition

- Three demonstrators has been defined as far related to the following scenarios:
  - ✓ Railway
  - ✓ Avionic
  - ✓ Voice/facial recognition
- Each demonstrator will integrate several prototypes and a mapping to highlight this topic has been provided
- Methodologies for testing and integrate prototypes has been defined too

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