## Service Development Environment (SDE)

The SDE supports the development of secure software. It provides a service-oriented tool workbench. SDE main characteristics are:

- tools provide arbitrary functionality
- tools are wrapped by a service layer
- tools can be used as-is, or combined to a toolchain
- a graphical editor is used to specify toolchains

The SDE is based on Eclipse and is freely available to both researchers and practitioners.

## **NESSoS** project

NESSOS aims at constituting and integrating a long lasting research community on engineering secure services

and systems.

The project addresses security concerns during the early phases of the development life cycle of software services and systems, thus contributing to reduce the amount of vulnerabilities and enabling the systematic treatment of security needs through the engineering process.

**Tool Browser Function Browser** lists available tools. lists functionality available in a tool ordered by category 😳 Palette demoEunction 0 ç 🔍 🔍 📁 • Iocal: Local Core 0 O Analysis Function Core: local A IF Model Checking options:List Basic information about this tool Link AVANTSSAR Orchestra be kuleuven os distrinet verifast, side, ni Input Pin CI-AtSe tool analyze VariEnel 📚 VeriFast Output Pin Description: Averification tool for Java and C program 4 1= OCL AVANTSSAR Orch... Section 2018 Example 2018 Example 2018 > CI-AtSe tool 4 Te Remote Service Function: string:St analyze The Remote service serve Available functions path:Strin 1: Runtime Enforcement String verifyProgram(String path) - Coras tool 🐀 Jalapa Verifies the specified program EOS Evaluator a 🔚 Risk analysis void openProgramInVeriFastIDE(String path) MagicDraw UML ... Coras tool I sunches the VeriEast IDE and onens the sneri > Remote service se... E SDE SDE Core Registry Service string:Strin SDE Core Service SDE Core Service SDE UI Service SDE UI Service Security Requirent UML4PF-SDE SUML4PF-SDE lool Infi VeriFast IF UML Modelling 1 MagicUWE (in MagicDraw) SDE Shell ome to the SDE Scripting Shell Shell Orchestration Blackboard defines data flow allows direct access stores data in-between to tool functions between tool functions tool function calls

Examples of SDE tools

- Cl-Atse is an engine based on constraint logic searching for attacks on security protocols and services
- CORAS is a model-driven approach to risk analysis
- Jalapa is a tool suite for the development of Java applications secured with local policies
- VeriFast is a verifier for single-threaded and multithreaded C and Java programs.

and more, as e.g. AbsInt, Avantssar Orchestrator, EOS, MagicUWE, PRRS, UWE2XACML, X-CREATE, ...

Do you think your tool should also be available within the SDE?

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Security Requirements

Development

for

Security

Assurance

**Future Internet** Application Scenarios

Risk and

cost aware

Software







Network of Excellence on Engineering Secure Future Internet Software Services and Systems



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## Service Development Environment NESSoS tool workbench



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